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Entitled THE HOLISTIC DEVELOPMENT OF COLLEGE STUDENTS:
PSYCHOSOCIAL AND EMOTIONAL DEVELOPMENT OF COLLEGE
STUDENTS IN RELATION TO PRO-SOCIAL CHARACTER DEVELOPMENT

For the degree of Doctor of Philosophy

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For the degree of Doctor of Philosophy

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THE HOLISTIC DEVELOPMENT OF COLLEGE STUDENTS:

PSYCHOSOCIAL AND EMOTIONAL DEVELOPMENT OF COLLEGE

STUDENTS IN RELATION TO PRO-SOCIAL CHARACTER DEVELOPMENT

A Dissertation

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of

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T.J. Jenney

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West Lafayette, Indiana
I wish to dedicate this work to the two individuals who have had the most positive impact on my life: my mother, Ramona A. Jenney, whose strength of character and caring heart have been a constant encouragement and inspiration to me, and my daughter, Savannah Alexis Bolinger Jenney, who I hope will find a firm foundation in strength of character to aspire to a fulfilled life and the inspiration to tackle the challenges she chooses . . . and whose generation will inherit the world to which we now tend . . .
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GLOSSARY

Values: for the purposes of this study, values are principles or standards of behavior, along with those relationships, goals and things that are deemed of greatest worth and good in life. Although values can change, the change typically is gradual and over time. Values are related strongly to beliefs and attitudes.

Beliefs, for the purposes of this study, simply means loosely held convictions of right or wrong as well as the overall convictions of how life should be lived, which may or may not include religious beliefs.

Attitudes are a settled way of thinking or outlook toward people, groups, and may include a general outlook on life.

Behavior, for the purposes of this study, is simply a person’s way of acting, and more broadly speaking, a general or habitual way of acting. Simply put, a person’s behavior is the actions that we take and the way in which we live out our lives in a day-to-day fashion. There are times when a person’s behavior does not match the values they claim to hold or were raised to believe. The influences and reinforcement of key individuals and groups is a significant factor in either modifying their behavior or changing their values.

Character: for the purposes of this study, is the more over-arching pattern of behavior of a person over time and would include how a person lives out their values and beliefs in day-to-day life. Character can be said to be the overall value and behavior patterns that a person displays. The more congruent an individual’s behavior patterns are with their values the stronger and more consistent their character can be said to be. When taken together, character and values form much of the way people live their day-to-day lives. Values and beliefs are the more cognitive component, while character is the term most commonly used for our long-term behavioral patterns. Values and character taken together give an in-depth view of individual’s long-term behavior.
Character development has become a topic among college administrators and student service professionals as well as parents and students. Although a laudable and much-needed area of investigation, there is a lack of data measuring the impact and efficacy of factors that might support pro-social character development in college students. The purpose of this study is to discover what factors best predict and therefore promote pro-social character in college students including faculty-student interactions, peer relationships, community service, and spirituality. This study will also examine how these same four major areas correlate with standard collegiate program measurements, including satisfaction with campus community, satisfaction with interaction with other students, and overall satisfaction with college. Secondarily, within the context of these four major factors, this study will also examine the influence of gender, institutional characteristics, residential status, and major field of study in predicting pro-social character development. This research utilizes a longitudinal study which examines the relationship between character self-ratings by students on the CSBV2003 (College Students Beliefs and Values Survey) and aforementioned variables in the CSBV2003, the SIF2000 (Student Information Form), and the CIRP (Cooperative Institutional Research Program) higher education institutional characteristics regarding type, control, and selectivity, using the database maintained by the Higher Education Research Institute (HERI) of UCLA. The design of the study employs Causal Analytic Modeling with Blocked Regression Analysis (CAMBRA) on quantitative data derived from the SIF (2000) and CSBV (2003) surveys on a representative sampling of college students comprising the cohort of entering first-year students in fall 2000 at forty-six
colleges and universities. The data from the two surveys are linked by students’ and institutional CIRP anonymous identifiers assigned by HERI. This study will use CAMBRA within the IEO model (Input-Environment-Outcome) developed by Astin and colleagues at the HERI to utilize advantages of CAMBRA and best allow for sequential modeling and causal analysis for studying what factors best support certain outcomes. The goal is to better understand and highlight the variables that support pro-social character development in college students so that college administrators and faculty, as well as parents and students, can promote pro-social character development. The hypotheses include that predictors of pro-social character development include quality faculty-student interactions, particularly outside the classroom, positive peer relationships and peer group involvement, positive student spirituality, and involvement in community service.
CHAPTER 1. INTRODUCTION

1.1. Objectives
The overall goal of this research is to discover what factors most predict and therefore promote pro-social character in college students including faculty-student interactions, positive peer relationships, community service, and spirituality. This study will also examine how these same four major areas correlate with standard collegiate program measurements, including emotional health, physical health, satisfaction with campus community, satisfaction with interaction with other students, and overall satisfaction with college. Secondarily, within the context of these four major factors, this study will also examine the influence of gender, institutional characteristics, residential status, and major field of study in predicting pro-social character development.

1.2. Organization
This dissertation covers numerous aspects of the development of pro-social character within the context of the psychosocial development of college students. It has chapters that include introduction, background of the study, methods and procedures, and finally results and interpretations.

1.3. Introductory Remarks
Meno: “Can you tell me,” Socrates, “can virtue [arête] be taught? Or is it not teachable but the result of practice, or is it neither of these, but men possess it in some other way?” (Meno, 70a)

“as it is in other inquiries, the attainment of theoretical knowledge; we are not conducting this inquiry in order to know what virtue is, but in order to become good, else there would be no advantage in studying it—Aristotle
The statements of Socrates and Aristotle strike a responsive chord in many hearts and minds and shed light on the fact that the field of education has struggled with the place of the holistic side of human development for hundreds of years. Moreover, the endeavor to develop young people in positive and productive ways has been at the very heart of education and educational theory since the inception of education. Yet little is understood about such development and the practices of education that promote such holistic development.

The purpose of this study is to examine the holistic development of college students focusing on the development of pro-social values and character during the college years and to discover what factors most predict and therefore promote pro-social character in college students including activities and related goals and values with relationship to faculty-student interactions, peer relationships, community service, and spirituality. This study will also examine how these same four major areas correlate with standard collegiate program measurements, including emotional health, physical health, satisfaction with campus community, satisfaction with interaction with other students, and overall satisfaction with college. Secondarily, within the context of these four major factors, this study will also examine the influence of gender, institutional characteristics, residential status, and major field of study in predicting pro-social character development. This research also includes exploring the related fields of motivational and moral development within education that shed light on such a study, as well as examining some of the philosophical and theoretical underpinnings of these programs and how they relate to extant studies.

Building character has long been a theme among many colleges and universities. Many institutions of higher education promote character development as one of the features that make their educational institution stand out as one that not only educates the minds of young people, but also develops character and civic responsibility. More than forty major colleges and universities promote programs to cultivate character in some way or another.

This field received renewed attention when President Clinton placed character education on the national agenda in 1997 as a high priority goal for the nation and our education system.
In subsequent years, the White House sponsored a number of conferences on the topic, although the content was often more popular than scholarly in nature. A number of books have received attention including the publication of such popular books as William Bennett’s, “Book of Virtues,” and other subsequent works in the field. Between 1993 and 2004, twenty-three states passed various laws recommending or mandating some form of character education (Hanson, 2009). Diverse programs have sprung up across the country in elementary and secondary education, as well as at the collegiate level; however, little academic study has been given to the actual efficacy of the various programs or the strategies involved. Although there is much to be lauded in the programs, much work is yet to be done in the field.

There are possible civic benefits of character programs. Our society has seen pressure from a number of arenas which point to the shortcomings in moral conduct and social consciousness including the perpetration of hate crimes, increased violence in the workplace, and even increased violence in educational institutions. College and university campuses, normally serene settings, have on occasion witnessed scenes of violence and rage, such as the incident in which a student at Virginia Tech killed innocent students and faculty before turning the gun on himself. This heinous act of violence is not the only such disheartening incident; other campuses have suffered similar tragedies. Campuses have also been a setting for hate crimes.

In less dramatic fashion, yet with dire consequences, we have also seen a number of ethical breeches in high profile business leaders in top level businesses such as Enron, Arthur Anderson, MCI, Tyco, and Martha Stewart. More recently, Bernard Madoff shocked the world by bilking millions of dollars from individuals and charitable organizations. There are serious allegations of misconduct in misleading analysts and investors in respect to the financial reporting of top executives at Lehman Brothers prior to its dissolution. Senior Management of Merrill Lynch has also been under scrutiny for similar intentional misleading of analysts and investors. In the wake of the murder of Iraqi families by certain US soldiers, the military has stated it intends to implement character training (USA Today, June 2, 2006). In a less dramatic fashion but no less important, researchers and practitioners in science and
medicine face increasingly complicated ethical and moral decisions regarding research in a broad range of fields. Colleges have also reported increases in plagiarism, intolerance, prejudice, and other ethical shortcomings among students, according to an advertising campaign against cheating jointly conducted by the Educational Testing Service and the Ad Council Joint Campaign to Discourage Cheating factsheet, “While about 20% of college students admitted to cheating in high school during the 1940's, today between 75 and 98 percent of college students surveyed each year report having cheated in high school (2009).

A number of colleges have made character development one of their mainstays of their advertising. However, most colleges lack clear character objectives or well-defined programs for character development; and for those colleges and universities that do have programs or goals regarding character, there is a lack of clear metrics on how to measure the efficacy of such programs on character development.

Although the needs and benefits of character programs seem broad and diverse, little is understood about the efficacy of such programs, and the factors that promote long-term support of pro-social character development in adolescents and young adults. This study cannot answer all of these questions. However, a better understanding is needed of the psychosocial development of college students and what factors have predictive relationships with pro-social character development in college students.

1.4. Statement of the Problem
Character development has become a topic among college administrators and student service professionals as well as parents and students; although a laudable and much-needed area, there is a lack of data measuring the impact and efficacy of factors that might support pro-social character development in college students. A better understanding is needed of how young people grow and develop psychosocially during the college years in areas such as values and character to better assist them in developing into young adults who lead positive productive lives that contribute to society. This study aims to explore and analyze the holistic development of college students, focusing on the development of pro-social character.
The purpose of this study is to discover what factors most predict and therefore promote pro-social character in college students, including activities and related goals and values with relationship to faculty-student interactions, peer relationships, community service, and spirituality. This study will also examine how these same four major areas correlate with standard collegiate program measurements, including emotional health, physical health, satisfaction with campus community, satisfaction with interaction with other students, and overall satisfaction with college. Secondarily, within the context of these four major factors, this study will also examine the influence of gender, institutional characteristics, residential status, and major field of study in predicting pro-social character development. The goal is to better understand and highlight the variables that predict and therefore promote pro-social character development in college students so that college administrators and faculty can promote involvement in those relationships and groups which best predict pro-social character development. The hypotheses include that predictors of pro-social character development include positive faculty-student interactions, quality peer interactions, community service, and spirituality. It is also possible that smaller, private institutions may be more conducive to these factors in student’s lives. This research will help better understand the psychosocial development of college students and what factors have predictive relationships with the development of pro-social character.
CHAPTER 2. BACKGROUND OF THE STUDY

2.1. Introductory Remarks

The emphasis on character building as part of education is by no means something new; it has a long and rich history. Early Greek philosophers such as Socrates, Plato, and Aristotle emphasized the importance of developing character in order for an individual to be part of society. Character was also part of the emphasis of renaissance writers such as Locke and Rousseau, and was a strong component in early American education, which often which often emphasized moral development as an integral part of intellectual development. Leslie Laud (1997) traces educational themes from 16th century America to the 1800’s in respect to moral education as an integral component of American education (Cf. McClellan, 1992). Early textbooks for American education such as the “New England Primer” and “McGuffey Readers” taught general moral principles as part of the basic curriculum.

Although the focus of this paper is on psychosocial development of college students and pro-social character development, it is helpful to view this against the larger backdrop of character development in the 20th century.

2.2. Character Themes in Twentieth Century American Education

The character education programs in twentieth century America until the present can be divided roughly into three eras: the character education of the early decades particularly the 20’s and 30’s, the values clarification and cognitive moral education focus of the 70’s and 80’s, and the character education emphasis of the 90’s which continues into the present century.
The first three decades of the twentieth century were filled with change: technological changes swept the nation, forever changing workplace and home with the industrial revolution where factories replaced farms, and homes were modernized with electricity. New waves of immigration and urbanization changed the social landscape of the nation increasing diversity and urbanization. Political corruption and crime were heated issues along with the perceived erosion of family values. The new power of media in radio and the globalization of newspaper stories along with a much broader access to travel, gave people a national and even global perspective. With such social flux and transformation, there was an increase in the perceived need for education that included a character component.

Much of the popular character education in the first three decades focused on codes of conduct as well as group activities at schools and clubs. The “Children’s Morality Code” was widely drawn upon and emphasized “ten laws of right living”: self-control, good health, kindness, sportsmanship, self-reliance, duty, reliability, truth, good workmanship, and teamwork (Hutchinson, 1917, cf. Leming, 1997, p.12). Schools attempted to integrate such codes into all aspects of school life. Student clubs were created in order to provide opportunities to emphasize such rules of living in peer contexts. Warren (1996) details the concurrent rise in interest in religious education among both Protestant and Jewish leaders in the 20’s and 30’s. Protestant and Jewish leaders were brought together by their common interest in transforming religious education with a keen interest in character education, both as part of a concern for the religious life lived-out in the everyday world, as well as the interest in educating citizens for a liberal democracy.

Opinion is divided on the reasons behind the waning of the character movement of the 20’s and 30’s. One blow to the movement was in research done by “The Studies in Nature of Character Inquiry” (Hartshorne & May, 1928-1930), which found that character education programs had little impact on character formation. However, McClellan suggests that the character education movement was simply transformed by both the Second World War and the Cold War. (McClellan, 1992; Leming, 1997, p.12). Regardless of the transformation, initiatives such as student clubs, homerooms, and student conduct/citizenship grades continued to the present time.
A leading proponent of character education who made a lasting contribution in respect to education theory and practice was John Dewey, who expounded his theories in influential works such as “The School and Society” (1899) and “Democracy and Education” (1916). Dewey supported his ideas with the developmental psychology of G. Stanley Hall and William James and called for a focus on the child in providing education for a democratic life, making the school the nursery of social reform and progress. For Dewey this meant democracy and education must have a pluralist character (Warren, 1996, p. 192).

At first glance, Dewey’s time may seem far removed from the present; it was after all the turn of the 20th century. However, there are interesting parallels between Dewey’s time and our own. The turn of the 20th century was impacted by a number of changes that had dramatic and far-reaching consequences on society. Dewey writes about a number of changes that had a tremendous impact on society of his day: scientific advancement had burgeoned and changed society, most notably with the advance of electricity, and the scientific method itself. Industrialization had changed society in countless ways, moving people toward larger urban areas and industrial plants and away from neighborhood environments, automating much of life and work, and placing an ever-increasing number of people in front of and in relation to machinery. Communication had advanced to the point that one could communicate with relative ease with people in other parts of the world, as well as keep abreast of events all over the world. Society faced challenges of diversity with increased immigration and the change from a rural landscape to a more urban landscape. The extended family was breaking down as people immigrated, or moved to the city, or simply called into question traditional authority. Travel was rendered easy and relatively inexpensive and more accessible to more people of different social-economic levels. Knowledge had become fluid and ever-changing; and education was now more than ever open to more and more people (1899, revised 1915, Cf. p.25). “The obvious fact is that our social life has undergone a thorough and radical change, writes Dewey. “If our education is to have meaning for life, it must pass through an equally complete transformation (Dewey, 1915, p.28). At the turn of yet another century, many of these changes could be said to be mirrored in the present. Instead of the industrial revolution, our society and world has been changed dramatically by the technology and
information revolution. The family continues to see new transformation with the impact of higher divorce rates and single parent or blended families. Communication has increased even more dramatically through television, e-mail, cellular phones and broadband communication on the web. We face challenges of immigration and diversification. To hear Dewey speak of a new global awareness is reminiscent of today’s emphasis on the “global village.”

These great social changes may give renewed emphasis for the relevance of Dewey’s insights for education today. Commenting on how industrialization has broken down the connection between the neighborhood working community where real-life learning takes place and the children in the classroom, Dewey writes: “We cannot overlook the factors of discipline and of character-building involved in this kind of life: training in habits of order and of industry, and in the idea of responsibility, of obligation to do something, to produce something in the world (Dewey, 1915, p. 11).

Dewey advocated an interactive role of classroom and curriculum with the community. For Dewey part of the problem with the education system of that time was that so much of the curriculum as well as the architecture of the schools and layout of the classroom were set up for the child to learn passively merely through listening (Dewey, p.33ff). “A society, “claims Dewey, “is a number of people held together because they are working along common lines, in a common spirit, and with reference to common aims (p.14). All of this impacts the inability to teach character: “Upon the ethical side, the tragic weakness of the present school is that it endeavors to prepare future members of the social order in a medium in which the conditions of the social spirit are eminently wanting (p.15). According to Dewey, in order for education itself to become effective, it needs to be more community oriented and more active rather than passive in nature. Teachers should guide the students through the process as they grow and develop as whole persons mentally, physically, emotionally and socially.

Writes Dewey:

“The introduction of active occupations, of nature-study, of elementary science, of art, of history; the relegation of the merely symbolic and formal to a secondary position; the change in the moral school atmosphere, in the relation of pupils and teachers – of discipline; the introduction of more active, expressive, and self-directing factors –all these are not mere accidents, they are necessities of a larger social evolution . . . .To do so means to make each one of our schools an embryonic
community of life, active with types of occupations that reflect the life of the larger society and permeated throughout with the spirit of art, history, and science. When the school introduces and trains each child of society into membership within such a little community, saturating him with the spirit of service, and providing him with the instruments of effective self-direction, we shall have the deepest and best guaranty of a larger society which is worthy, lovely, and harmonious (p.29).

Dewey’s emphasis on character development and education has been critiqued for being unclear and underdeveloped. Although there are some quintessential elements of character development such as discipline and general moral principles, Dewey never fully clarifies a complete list of values and character traits that are to be inculcated. However, it is possible that Dewey saw this as more the role of individual communities and schools. Nevertheless, character remains an important theme in Dewey’s educational thought and emphasizes the need for character within the context of education and the development of the student. Dewey’s writings as a whole seem to promote reflection, truth, appreciation of nature, concern for humanity, discipline, creativity, and moral rectitude.

1966 was a watershed year in character education due to the inauguration of two highly influential moral education models: values education and moral reasoning. “Values and Teaching” co-authored by Simon, Raths, and Harmin, inaugurated the theory and practice of values clarification. The moral reasoning movement has its inception in an article by Kohlberg in the “School Review.” These two approaches to character education dominated education for the next twenty years. Values clarification had an enormous impact on teachers, with one handbook on values education selling over 600,000 copies (Kirschenbaum, 1992).

Although different in many ways, the two approaches had in common the teachers’ role as facilitator. At least early on, both approaches also held at arms length parents and community, emphasizing that the child should transcend more conventional social norms with character or moral education best done by trained educators (Leming, 1997, p.12). Both approaches held that moralizing was not part of the teachers’ role; rather the teacher was a facilitator. The goal of the cognitive developmental model was for the individual to transcend traditional moral norms to principled moral reasoning. With the values
clarification approach, the teacher was to facilitate a seven-step process that would help clarify the individual’s own values. The teacher was to be an “objective” facilitator that did not influence the student’s values.

Although an over-simplification, both approaches over time suffered from similar criticisms of moral relativism, lack of critical thinking on character itself, and an inability to develop community with such an individualistic emphasis on only the individual process rather than the importance of character and values within the context of community. Much of the present more popular character education movement has distanced itself from these approaches and has more in common with the character education programs of the earlier part of the twentieth century.

However, there are valuable insights from both values clarification and Kohlberg’s theory of stages of moral development, the latter in particular continues to be refined and developed and has seen a significant usage in academics along with the use of the Defining Issues Test (DIT) based largely on Kohlberg’s stages of moral development. This study will examine more closely Kohlberg’s stages later in the study in respect to college students.

2.3. Early Childhood and Elementary School Character Education
Character education has gained support in early childhood development and elementary schools. Concerning early childhood education, Berkowitz and Grych (2000) in “Early character development and education,” examined what is known about character development in early childhood (aged 18 mo-6 yrs), in order to suggest how we can effectively promote character development in early childhood education. Central among the challenges to character education, is the fact that we do not have a clear empirically-grounded sense of what teachers need to do in the early childhood classroom to promote character development. This work addresses some of those inadequacies by drawing from the literature on teaching for child development and on the literature on parenting for character development. Bridges between the two literatures are suggested by Berkowitz and Grych (1998) who reviewed this literature and identified five core parenting strategies that
collectively foster character development: induction; nurturance/support; demandingness; modeling; democratic family process. The authors examine how these strategies can be applied in early childhood classrooms, and then considers five additional strategies derived from the educational literature: facilitating understanding; teaching human values; fostering caring relationships; helping children handle emotions; respecting children. Finally, the authors offer some suggestions from a more clinical perspective on how early childhood teachers can deal with character dysfunction in students (Berkowitz & Grych, 2000, p.55-72).

Many elementary schools, encouraged by programs and legislation, have begun instituting character development programs. Schaps, Battistich, and Solomon (1997) in “School as a caring community: A key to character” note this same sort of response among elementary school children. These authors discuss two sets of conditions that schools should provide if they are to foster long-term learning and growth in the domains of intellectual development and social and ethical growth. These conditions are: (1) opportunities for membership in a caring community of learners; and (2) important, challenging, engaging learning opportunities. The Child Development Project (CDP), a comprehensive reform aimed at enhancing student’s pro-social development, and its implementation in elementary school communities is described and evaluated (p. 196).

In an attempt to give a thoughtful overview of popular character building programs in elementary schools, Leming gives a representative sampling, which offer some practical possibilities that incorporate inculcating character and values along with curriculum in the classroom each of which have as an essential component a core of character traits or core values (1997): AEGIS- Acquiring Ethical Guidelines for Individual Development, a K-6 character education program developed by the Institute for Research and Evaluation (Salt Lake City, UT, Weed & Stanchy, 1996). The program focuses on six fundamental and universal ethical standards: worth and dignity, rights and responsibilities, fairness and justice, effort and excellence, care and consideration, and personal integrity and social responsibility. The program emphasizes a five step model called SMILE- Stimulating interest, Modeling the concept, Integrating the concept, Learning ling with parents, and Extending to real life. Character Education Curriculum put forth by the Character Education Institute, 1996, focusing
on 12 universal values: honor, courage, convictions, honesty, truthfulness, generosity, kindness, helpfulness, justice, respect, freedom and equality. In addition seven critical components are reinforced through topic lessons: responsibility, self-esteem, conflict resolution, respecting the rights of others, obeying rules and the law, service learning and cooperative learning. The program is taught based on three components: knowledge—awareness, self-knowledge, and decision-making; feeling-conscience, respect, caring and empathy; and action—good habits, behavior, and determination. *Lessons in Character-a K-5* character education program (Young People’s Press, 1996). The program focuses on “Six Pillars of Character” of the Character Counts Coalition: trustworthiness, respect, responsibility, fairness, caring, and citizenship. The teaching methodology focuses on four levels of learning 1) defining the theme, 2) applying the concept, 3) committing to the character trait, 4) applying the character trait at home and in the community. The program also utilizes the STAR problem-solving model: Stop long enough to think about what they should do, Think about the ABC’s of responsible problem-solving, Act based on the choices made, Review the action. *Lions-Quest: Skills for Growing-a K-5* curriculum designed to bring parents, community and educators together to teach children important life and citizenship skills (Quest International, 1990). The program focuses on four main areas: self-discipline, responsibility, good judgment, and getting along with others. The program focuses on providing a caring and supportive environment. Children are also taught both thinking skills and social skills. Strategic lessons focus on discovering, connecting, practicing and applying the skills and traits. *The Responsive Classroom*-developed by the Northeast Foundation for Children (Charney, 1991) with a primary focus of classroom management, where teachers have intensive interaction with students “reinforcing, reminding, and redirecting” their behavior. Six components are encouraged that attempt to integrate teaching, learning, and caring: “classroom organization featuring active interest areas and a mix of instructional methods; morning meeting where social skills are practiced, rules and logical consequences that are generated, modeled, and role-played; choice time where children take control of their own learning in some meaningful way; guided discovery of learning materials; and assessment and reporting to parents” (Leming, 1997, p.52). Overall these programs emphasize the community and parents much more than the previous programs of the 60’s and 70’s, which found their roots primarily in the values clarification theories and
methodologies, which tended to be value neutral and had little involvement from parents or communities. Leming’s work is helpful in its breadth and gives a very helpful cross-section of the programs offered today which are presently being used by various schools systems. Furthermore, its review of the programs underscores that there is in fact a strong interest in character education programs. However, it also demonstrates the clear need for research into how programs really do impact the lives of children and youth and their character development along with clear and consistent metrics which might measure the efficacy of such programs.

2.4. Early Adolescence and Character Development

Diverse programs focusing on early adolescents and character exist ranging from the more popular character counts program to programs focusing on at-risk youth or public offenders. Character counts focuses on six pillars of character and offer programs for elementary to adults, and also provide programs for sports, academics, business, public service, and general society. Like the program for elementary school students, this program focuses on “Six Pillars of Character”: trustworthiness, respect, responsibility, fairness, caring, and citizenship. The teaching methodology focuses on four levels of learning 1) defining the theme, 2) applying the concept, 3) committing to the character trait, 4) applying the character trait at home and in the community. Character Counts has the Josephson Center for Youth Ethics and also sponsors a national character counts week in October (www.charactercounts.com).

Research has indicated that high school students respond positively to a broad program consisting of moral discussions, psychological education, and assertiveness training, which together resulted in a positive development in character, moral reasoning, ego development, and assertiveness (Kessler, 1986).

However, Nucci (1997) has claimed that there is a tension between those systems of character education focusing on social convention and those focusing on the moral reasoning process that Kohlberg investigated. Some advocates such as Nucci express concern for possible confusion created by putting together the more serious nature of moral
and legal obligations with social virtues or conventions. Furthermore, reasoning at the level of Kohlberg’s higher levels of moral reasoning is not fully possible until the middle to later stages of adolescence (Nucci, 1997; cf. Turiel, 1983).

Other advocates have endorsed teaching values that distinguish between moral values that reflect justice and rights, and values that reflect personality traits or social values, yet include both in education at school and at home. Research has suggested that children, early adolescents, and college age students can all distinguish between the differences of those two sets of values (Prencipe, A. & Helwig, C., 2002).

Still other research has focused on high risk youth such as Roeser, Eccles, and Sameroff (2000) in “School as a context of early adolescents’ academic and social-emotional development,” which examines how early adolescents perceive the nature of the opportunities provided by teachers and staff in middle school and how such opportunities are related to changes in their academic and social/emotional functioning over a 2-yr time period. Data were obtained from school records and from interviews and surveys of 1,480 middle school students and their caregivers in the MADICS program (Maryland Adolescent Development in Context Study) conducted in and around Washington, D.C. among high risk students. The study is a longitudinal study, which began in 1991 with 7th graders, along with other studies focusing on high-risk teens and the impact of education. The findings indicate that specific instructional, interpersonal, and organizational dimensions of middle school life were associated in important ways with the quality and character of their education- and non-education-related development during the years of early adolescence (Roeser et al, pp. 443-471). The study again underscores that quality teacher-student relationships as well as relationships in positive group experiences enhanced learning and positive personal development.

Another program focused on high-risk teens is Social Responsibility Training (SRT) which is a system that seeks to provide teacher training, character development, and life skill curricula, and claims to enhance student decision-making and improve moral reasoning.
(website www.characterdevelopmentsystems.com). Several studies support these claims (Lasater, Robinson, Willis et al, 2004).

On the other end of the spectrum, there has been some insightful research on adolescents in relation to adolescent offenders. Research on youth offers insight on character and moral development in respect to blameworthiness, competence to stand trial, and the potential for adolescents to change character. Recent research suggests that juvenile’s developmental maturity makes them less blameworthy than adults because adolescents have limitations in respect to decision making. Compared to adults, adolescents focus more on short-term consequences, have a lower risk-rewards threshold than adults (Steinberg & Scott, 2003), are less likely to think about the future consequences of their behavior (MacArthur Foundation Research, 2006), and are more susceptible to peer pressure and coercion (Gardner & Steinberg, 2005).

However, research also suggests that adolescent’s character can change. Programs such as the Multisystemic Therapy (MST) use diverse techniques including caregiver discipline, stronger family relations, change socialization patterns with delinquent or high-risk teens, and develop a new social network to reinforce positive behaviors (Lloyd & Berlin, 2008). These techniques are not dissimilar to the range of character development techniques used by a broad range of character education programs for a broad range of age groups.

Most of the work on later adolescence over-laps work with college students, so let us turn to that body of research that is the focus of this research.

2.5. General Theories of College Student Development

Because college students have completed most of their physical development, it is sometimes tempting to think that other dimensions of development such as their psychosocial development have almost entirely matured as well. Administrators have often been tempted to view college students as either older adolescents or simply younger adults.
In some sense both are true, yet neither provide adequate insight into the unique environment, experiences and development of college students.

However, over the past several decades a number of leading researchers have shed new light on the psychosocial development of college students that provides an important backdrop for this research. Such research has the potential of helping colleges provide an optimum environment that is conducive to both the positive psychosocial development as well as the intellectual development of college students.

Research by Winston and Miller (1987) has offered insights into how education environments can influence the development of college students. Chickering (1981) has asserted that the main goal of higher education should be to encourage intentional psychosocial developmental changes in students.

Important changes do occur as students progress through their college education (Chickering, 1981; Brown, 1972; Winston & Miller, 1987). These changes touch not only the intellectual realm of development, but also include affective and psychosocial dimensions of development.

Chickering’s widely accepted theory of psychosocial development of college students (1969, 1993) claims that college students are impacted along seven vectors of development and help to establish their self-identity. Chickering uses vectors instead of stages because there is no set time or sequence for students to develop in the various areas. Although there is the notion of lower and higher vectors of development, there is no sequential mandate, nor is a level of mastery at one level required prior to moving to another vector. Rather students develop to some degree in each area at differing rates. According to Chickering, the term “vector” better conveys “direction” and “magnitude” than other terms, without conveying the need to follow a sequential time or the notion of mastering one area before moving to the next (Chickering, 1993, p.xv). Chickering’s earlier seven vectors theory (1969) was later revised by Chickering in 1993 to provide a more contemporary version of his earlier theory. The following are the updated seven vectors of college student development: developing
competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, clarifying purpose, and developing integrity.

Chickering also claimed that the first-year students year in college was particularly formative because the first three vectors typically showed major development during the first year in college.

College student’s first year is also very important in respect to student retention, which has received substantial critical attention in the last several decades and involves a number of critical psychosocial issues. Colleges face a very difficult time retaining students in the critical first year. Retention also has broader social implications for a society that requires a higher level of education and training in more technically oriented careers in an ever more complicated society and global community. With college retention rates less than seventy percent at most colleges and universities (Astin & Oseguera, 2005), college student retention ought to be one of the vital concerns of institutions of higher learning.

Tinto’s (1993) influential work concerning student departure contends that for students to successfully acclimate to college life, they must first make a significant transition in leaving behind their relationships with family, previous friends, and community in order to successfully interact with the new institutional setting. According to Tinto’s model, students who are unable to let go of ties and values that are at deep odds with the institution, and who are unable to successfully integrate into the institution are far more likely to withdraw. In Tinto’s student interaction model both academic and social integration are essential for students to successfully complete their academic tenure at residential colleges. Numerous researchers have studied and confirmed the essential role of student involvement and commitment to the new institution in integration and the critical role it plays in persistence, competence, and feelings of belonging (Astin, 1977; Kuh, Schuh, & Whitt, 1991; Pascarella & Terenzini, 1991).
Combining the emphases of Chickering and Tinto provides a broad overview of the two major categories of student development: differentiation and integration. Both Chickering and Tinto emphasize that the first-year students year is critical for student development and integration into college life.

Chickering (1975) provided a theoretical foundation for including the processes of differentiation and integration, arguing student development requires both differentiation and integration of college experiences. **Differentiation** is introducing and cultivating a variety of academic disciplines, augmenting academic experiences with rich and diverse experiences outside the classroom, and encouraging students to interact with other students different from themselves. **Integration** is the process where students are able to see relationships among diverse experiences and to draw on those various experiences in different contexts and combinations to solve complex and varied problems.

In support for the need for differentiation, research has confirmed that a broad range of college experiences influences student’s cognitive and social development. In reviews of research Astin (1993), Feldman and Newcomb (1969), Kuh, Vesper, Connolly & Pace (1997), and Pascarella and Terenzini (1991) all concluded that cognitive and social development of college students is influenced by a variety of factors including academic coursework, student effort, involvement in out-of-class experiences, and interaction with faculty and peers.

Research on integration though less common is no less impressive. Studies have supported the importance of integration in the cognitive development of college students. For example, studies by Davis and Murrell (1993) and Pike (1995, 1999) provide evidence for the importance of integration in cognitive development. Pike (1999) also found that integration was strongly influenced by the effects of differentiation; and that integration mediated many of the effects of differentiation on cognitive development. Research by David and Murrell (1993) again supported the notion that optimum growth occurs when studies in the classroom find expression in other aspects of the student’s lives outside the classroom.
Social integration is the level of relatedness and “fitness” a student feels with the institution, its broader culture, and any subcultures or groups of which the student is a part, and is inversely related to a student’s feelings of isolation (Tinto, 1975, 1993; Kuh & Love, 2000). Social integration affects student’s perception of acceptance and self-perception of being part of the college community. Students who feel a strong sense of belonging and who have a sense of social integration with peers as well as faculty are more likely to grow and develop academically and personally (Kuh, Schuh, & White, 1991). Students who are more integrated into the social system of university life also develop in psychosocial skills (Hagedorn, Pascarella, Edicson, Braxton, Nora, & Terenzini, 1999).

Chickering and Reisser (1993) summarized much of this work in claiming there are seven key influences on student development: 1) Clear and Consistent Objectives, 2) Institutional Size, 3) Student-Faculty Relationships, 4) Curriculum, 5) Teaching, 6) Friendships and Student Communities, 7) Student Development Programs and Services. These seven factors all influence in some way the seven vectors of student development.

2.6. Moral Development of College Students

Although moral development is not the same as pro-social character development, it is an integral component of character development. Pro-social character typically connotes a broader set of social and life skills than moral development. However, moral development is an essential component of character development. Therefore, it is important to understand some of the important advances in the moral development. However, it is important to note that theorists often differ over whether the focus of moral development should be moral cognition, moral affect, or moral behavior; it would seem that there is much to be gained from an approach that is able to embrace insights from each of these areas. Greek philosophers such as Plato and Aristotle often emphasized teaching that engaged students intellectually, emotionally, and socially, focusing on the three aspects from Greek educational thought: logos or critical thinking, pathos or the emotional make-up including moral empathy, and ethos or the connection between word and action, which might be thought of as modeling and mentoring action of teachers and parents. A more comprehensive view has much to offer.
The college years are an important time for students to develop morally as an integral part of their more broad psychosocial development. Experiences outside the classroom also have a notable impact on the moral and social development of students. Substantial work has been done on the moral development of adolescents and college students. Moral reasoning, as defined by Rest, is the “process by which a person arrives at a judgment of what is the moral thing to do in a moral dilemma” (1990, p.18).

Cognitive-developmental theorists such as Piaget (1932) and Kohlberg (1971) have developed and expanded the notion of stages of moral reasoning and development. Some theorists have criticized this view, claiming they are less than objective by putting forth the notion that it is desirable for persons to move to a higher stage or moral reasoning (Loevinger, 1976; Margolis, 1978). Kohlberg (1981) has responded to such criticism stating that critics in part have an inadequate epistemology in the behaviorist child psychology field, claiming such cognitive processes involve knowledge (Ibid., p.101); he further claims that the concept of morality itself is a philosophical and ethical concept rather than a behavioral concept, and that such developmental research needs to orient itself to philosophical concepts of morality (Ibid., p.102).

Naturally, one does not need Kohlberg’s defense of higher level of moral reasoning to be desirable. The roots of principled autonomous moral reasoning are as old as civilization itself and are championed by the likes of the great philosophers such as Socrates, Plato and Aristotle, and by scores of later philosophers throughout European history, and well beyond those boundaries as well. According to such advocates, at it’s very best, ethics should not simply be a classroom discussion or an exercise in theory, but also an experience in moral growth and development. As Aristotle has eloquently put it, the ultimate purpose of the study of ethics is not “as it is in other inquiries, the attainment of theoretical knowledge; we are not conducting this inquiry in order to know what virtue is, but in order to become good, else there would be no advantage in studying it” (Aristotle, 1953, 1103b, 26-29). Moral reasoning is certainly related to one’s actual behavior (Rest, 1984) and the study of ethics
ought to have as its goal more than theoretical knowledge, but also aspire to life application and psychosocial moral development.

Studies have revealed that college education can help young adults advance to a higher level of moral reasoning (Rest, 1988; Colby et al., 1983). Studies have also found that college programs in ethics can be relatively ineffective in facilitating students moving to a higher level of moral reasoning and development (Rest, 1988). Often students can memorize material on ethics theories without integrating that further into their life (Rest, 1984). Educational psychologist Howard Gardner has found that scholastic knowledge often seems bound by the confines of school settings, and that when confronted by moral dilemmas, students often revert back to earlier forms of moral reasoning (Gardner, 1991, p.122).

Although college education can be an important variable in enhancing moral development, according to Kohlberg and followers of his theories, only a small number of students actually advance to Kohlberg’s post-conventional stages of principled reasoning. Instead, most college students hold to a higher level of conventional reasoning with their college experience tending to enforce this kind of status quo reasoning. According to Clinchy, most students tend to learn to conform to societal standards rather than become independent thinkers (1990).

According to studies on how college education and experience facilitates student’s moral development, Rest (1988) concluded that the development is not attributable to classroom education. Rather it is the result of 1) “dilemma discussion interventions” that engage students in actual problem solving of controversial moral issues; and 2) personality developmental interventions that engage students in service experiences that engage them with needy people. Also important are methods to integrate those experiences through discussions concerning personal meaning that relate their personal development to developmental psychology. Rest (1984) claimed that gains made in moral reasoning tend to be retained and are applied to new decision-making and problem-solving in new life experiences.
Boyd (1976, 1980) designed an introductory course in psychology with the objective of moving students from conventional moral reasoning to the higher stage of principled moral reasoning by supplementing readings in moral philosophy with intense discussions of both hypothetical and real-life dilemmas. His research indicated that by the end of the class students had progressed almost one-third of a stage in their moral reasoning. Blatt and Kohlberg (1975) found similar results in a similar study; although their courses did not move students to principled stages of moral reasoning but to a higher level of Stage four reasoning.

Some researchers claim that it is not so much cognitive disequilibrium brought about by moral dilemmas or an introduction to higher levels of reasoning, but rather social disequilibrium in confronting the experiences and needs of others that is the most important factor in facilitating moral development (Haan, 1985; Walker, 1986). Social disequilibrium, according to Haan, is a “holistic, emotional and interactive experience wherein participants expose themselves to others’ complaints and even to the possibility that they themselves may be found morally wanting or even wrong” (Haan, 1985, p.997). Haan further argues that more emphasis should be placed on “the emotional interactive experience of moral-social conflict on moral development” (Haan, p.1005).

Dewey (1939) championed the role of actual experience in confronting moral issues, including outside the classroom experiences. Kohlberg (1971) later supported this same concept of engaging in the real world outside the classroom. Most college courses on ethics ignore this component of moral development. Research of elementary and secondary education has also supported the notion that the best programs for moral education and development are those which emphasize the role of community-based volunteer work or community experiences (Heller, 1989; Rozenweig, 1980; Honig, 1990). Research by Nucci (1985) further supported the notion that moral issues are most effective when focused on real life issues enhanced by actual social action.

Research by Boss (1994) further supported the claims of Kohlberg (1971) and Dewey (1939) as well as Gardner (1991) regarding the fundamental importance of real life experience in confronting moral dilemmas and stimulating moral development.
Boss’s research (1994) also supported the notion of Haan (1985) and Walker (1986) that social disequilibrium rather than cognitive disequilibrium is more important for moral development of college students. She also gives an alternate explanation that it is the combination of social disequilibrium and cognitive disequilibrium through discussion of moral dilemmas, especially those dilemmas that arise out of community service work, that facilitate a move from conventional to post-conventional principled moral reasoning; which would also be in keeping with the findings of Rest (1988) as well as Gilligan’s (1982) suggestion that the fullest potential of development comes from a successful integration of Kohlbergan justice or cognitive functions and the more feminine care or social affective perspectives.

Ability to reason well is not the only component of moral development; moral sensitivity or empathy as well as moral motivation and the ability to follow through are also components of moral development (Rest, 1984), which are again enhanced by community service learning. Hoffman (2000) also claims that empathy is the primary moral emotion and foundational for moral development. Chickering and Reisser (1993) claim that empathy develops as part of mature interpersonal relationships and that college students learn to balance and manage emotions.

In respect to medical education Robert J. Levine (1997), in his article regarding graduate medical education, “Some reflections on postgraduate medical ethics education,” notes the importance of ethical training in medical education. He gives three goals of teaching medical ethics to physicians are reviewed: to improve character, to improve behavior, and to convey a sense of what it means to become a member of the medical profession. Components of a basic course in medical ethics are described with special attention to the roles of case conferences, ethics rounds, and role modeling. Obstacles to teaching ethics are also addressed in the article (p. 15-26). One could easily go on and argue that this is not only necessary for medicine, but also law school and a host of other professions and careers including business, engineering, biochemistry and virtually every career. Ethics and morality touch our lives at every level and certainly have a profound impact in the career world where we have ill-equipped professionals facing complex problems. However the foundation for
ethics would best be nurtured during undergraduate education and then continued in graduate schools in areas specific to the particular discipline.

2.7. Major Factors Influencing College Student Development

Chickering and Reisser (1993) noted seven key influences on student development: 1) Clear and Consistent Objectives, 2) Institutional Size, 3) Student-Faculty Relationships, 4) Curriculum, 5) Teaching, 6) Friendships and Student Communities, 7) Student Development Programs and Services. These seven factors all influence in some way the seven vectors of student development.

Broadly speaking, involvement is positively related to cognitive and psychosocial development (Astin, 1977, 1993; Kuh, Vesper, Connolly, & Pace, 1997; Pascarella & Terenzini, 1991). Involvement can take a number of different forms, including involvement with faculty, peer groups, or student organizations.

Faculty interaction is an important avenue of a sense of belongingness as well as academic and psychosocial development (Terenzini & Wright, 1987; Pascarella & Terenzini, 1978). Other research has supported the notion that positive faculty-student interaction has a positive correlation with students developing in broad and diverse manners including competence, autonomy, interdependence, identity, purpose, values, maturity and integrity (Erwin & Love, 1989; Chickering, 1969, 1993; Endo & Harpel, 1982; Org & Brasskamp, 1988; Stakenas, 1972). Such faculty interaction is most significant and meaningful outside the classroom instruction format.


Student communities and peer friendships have a profound impact on student development. Chickering (1974) states emphatically, “student culture either amplifies or attenuates the
impact of curriculum, teaching and evaluations, residence hall arrangements, and student faculty relationships.” Chickering and Reisser claim, “when students are encouraged to form friendships and to participate in communities that become meaningful subcultures, and when diversity of backgrounds and attitudes as well as significant interchanges and shared interests exist, development along the seven vectors is fostered” (Chickering & Reisser, 1993, p.316). Research by Kaufman and Creamer (1991) supports the notion that positive peer interaction correlates with personal and intellectual development. Pascarella and Terenzini (1991) further supported the notion that student peer interaction has a strong influence on psychological and attitudinal change and development.

A number of studies have examined specific kinds of student communities, many of which have focused more narrowly on fraternities and sororities, or Greek communities, on campus, attempting to study the impact of fraternities and sororities on student’s psychosocial and cognitive development. According to some studies Greek organizations can have both a positive and negative impact on student development (Kuh, Pascarella & Wechsler, 1996; Pascarella, Whitt, Nora, Edison, Hagedorn & Terenzini, 1996; Terenzini, Pascarella & Blimling, 1996). (See Pascarella, Edison, Whitt, Nora, Hagedorn, & Terenzini, 1996 for a comprehensive review of this literature.) Student affiliation with Greek organizations has been linked with increased levels of satisfaction at college (Pennington, Zvonkovic, & Wilson, 1989; Pike & Askew, 1990); continued persistence in college or higher retention rates and a greater probability of subsequent degree completion (Astin, 1975); and an increased ability to function in groups (Pike and Askew, 1990). On the other hand, Greek affiliation has also been linked to increased alcohol consumption (Tampke, 1990; Wechsler, Kuh, & Davenport, 1996); lower levels of principled moral reasoning (Sanders, 1990; Kilgannon & Ervin, 1992); higher levels of academic cheating (Kirkvliet, 1994; McCabe & Bowers, 1996); and less ability to respond positively to increased levels of racial and ethnic diversity at college (Pascarella, Edison, Nora, Hagedorn, Terenzini, 1996). However, other studies have shown that Greek affiliation can support the development of teamwork, interpersonal relationships, personal identity, and enhanced learning opportunities (Astin, 1977; Byer, 1998; Dollar, 1966; Pike 2000; Winston & Sanders, 1987). Pike (2000) found that Greek affiliation has a direct influence on social involvement and
integration at college, and an indirect influence on cognitive development. It should be noted that both college administrators and Greek organization leaders at many academic institutions have been working hard to respond to these challenges of substance abuse and diversity within these organizations by working toward diversity awareness in fraternities and sororities and promoting alcohol and substance abuse awareness programs, and an increased emphasis on academics as well as philanthropic activities. The field may well benefit from new studies in these areas to measure progress, but it is beyond the scope of this study to address these issues. What does seem clear is that residential living status can impact the psychosocial development of college students.

In sum, there is a general consensus and body of research consistent with the work of Chickering and Reisser (1993) that endorses that the seven key influences on student development: 1) Clear and Consistent Objectives, 2) Institutional Size, 3) Student-Faculty Relationships, 4) Curriculum, 5) Teaching, 6) Friendships and Student Communities, 7) Student Development Programs and Services. These seven factors all influence in some way the seven vectors of student development.

2.8. Additional Factors Influencing College Student Development

Although it would be possible to group them within the previous seven major factors impacting the psychosocial development of college students, two additional factors have not received much academic attention until the past decade and therefore they are worth separate treatment and have a growing body of scholarly support, namely community service and spirituality. Therefore a thorough discussion and research would be incomplete without taking into account their impact on college student psychosocial development.

Community Service: Research into the moral development of college students highlighted that moral development in college students appeared to be stimulated more from social disequilibrium than cognitive disequilibrium. It should not be surprising then that community service, particularly when coupled with a reflective component, has an impact on the psychosocial development of college students. A growing amount of research has shed
light on the positive impact of volunteer community service and service learning on psychosocial development of college students. Growing numbers of colleges and universities have been actively encouraging students to participate in volunteer service (Cohen & Kinsey, 1994; Levine, 1994; Markus, Howard, & King, 1993; O’Brien, 1993). A service component has been increasingly a part of college courses (Cohen & Kinsey, 1994; Levine, 1994). While most colleges do not require volunteer service, there is a growing number doing so or contemplating such a requirement (Markus, Howard, & King, 1993). The Campus Compact, a consortium of colleges and universities now numbering over 500, is dedicated to promoting community service among students and faculty.

Contemplation over a community service requirement has caused a crescendoing debate over the aims and efficacy of such a requirement. However, empirical evidence has been mounting over the benefits of community service (Astin, 1993, 1999; Astin & Astin, 1996; Hesser, 1995; Pascarella & Terenzini, 1991; Batchelder & Root, 1994; Giles & Eyler, 1994; Eyler, Giles & Braxton, 1997; Eyler & Giles, 1999; Markus, Howard, & King, 1993; Rhoads, 1997). Research conducted by Astin & Sax (1998) suggests that community service positively affects student’s short-term cognitive and affective development. Among other things community service positively affects student’s commitments to their communities, helping others in difficulty, promoting racial understanding, and to influence social values. In their 1999 longitudinal study, Astin, Sax, & Avalos (1999) also found that a number of these outcomes had long-term effects lasting five years after graduation. Even though the effects were mitigated over time, there were long-term lasting effects on student’s affective, cognitive and behavioral outcomes. This study was further enhanced by Astin’s (2000) research on the effects of service learning in college education. Service learning is community service with an added element of academic reflection and discussion that positively enhances the impact of the experience on student’s lives. One might add that the latter is also enhanced by the feelings of self-efficacy and self-confidence that accomplishing tasks can bring about such as the results of community service.
Identifying oneself as a moral agent is again an important component of motivating one to engage in moral action (Rest, 1984; Blasi, 1983). Engagement in community service helps students identify themselves as moral agents (Boss, 1994).

According to Rest (1984) it is also important for students to meet role models who are successful in their fields and who are concerned about moral issues and are furthermore “active moral agents in a wider social world” (Rest, 1984, p. 26). The broader experience of community service particularly with mentoring individuals is a valuable resource and relationships for such an experience (Cf. Boss, 1994). It is also important for moral development, according to Rest, for students to meet role models who are happy and successful in their fields, and who are concerned about moral issues and are "active moral agents in a wider social world" (Rest, 1984, p. 26).

The bottom line in much of the study is that classroom learning alone will not provide the stimulus needed for development in psychosocial dimensions such as moral development and civic-mindedness. Community service is one valuable avenue of learning that provides the kind of engagement students need for optimum psychosocial development in areas such as morality, social responsibility, character and values. Programs such as the EPICS (Engineering Programs In Community Service) program at Purdue, which engages students in digging wells or irrigation systems or other creative programs for under-served people, provide a valuable community service as well as engage students in problem solving, cross cultural communication, and global understanding. Similar programs at colleges and universities engage students in creative and meaningful ways not only intellectually, but also emotionally, socially, and morally. Similarly, community service programs such as building homes for the under-privileged with Habitat for Humanity also have a positive impact on the development of pro-social values and character.

Spiritual Development: Recent work by Astin and other researchers (Astin & Astin, 2003) has shed light on the spiritual development of students during their college years and adds weight to the idea that this dimension should be included in the list of factors impacting the psychosocial development of college students. Given the significant studies on the
psychosocial, emotional, and moral development of college students, it is not surprising that recently studies by Astin & Astin (2003) have found significant spiritual change and development in college students. This spiritual development is also inter-related to moral, affective and psychosocial development of college students.

Research by Astin & Astin (2003) reflects notable development during the college years, and much more is to be learned. Survey results show that students experience substantial spiritual change and development in the college years and are actively engaged in a spiritual journey or quest. Results shed light on development of spirituality in college students and the importance of spiritual concerns and development for college students. Students report substantial spiritual change and development during college years, but indicate there is little support from college programs, professors, and classroom engagement (Astin, 2003).

According to research by Astin (2003), over half of all students place a high value on “integrating spirituality into my life” and substantial numbers of 3rd year students express a strong interest in spiritual matters. More than two-thirds of all students report that they have had a spiritual experience and three-fourths of students believe that “we are all spiritual beings.” Students also affirmed that people can reach a higher plane of spiritual consciousness through meditation and prayer (72% agree). Fifty-eight percent of students rated as essential or important integrating spirituality into their life and forty percent indicated they were seeking opportunities for spiritual growth. More than half (51%) believed in the sacredness of life. More than two-thirds of all third-year students demonstrate a substantial level of religious engagement and commitment, with 77% indicating they prayed and 70% attended a religious service in the past year. Seventy-eight percent indicated they had discussed religion or spirituality with a friend (Astin, p.1,2).

Students further indicated that their religion or spiritual beliefs helped them personally, socially, and emotionally with seventy-three percent indicating faith helped them develop their identity, and seventy-four percent indicating that their faith provided them with strength, support and guidance. Sixty-seven percent indicated that spirituality gave them meaning and purpose to life (Astin, p.3).
Despite these findings on religious commitment, students also expressed a high degree of religious tolerance with eighty-eight percent of students indicating that non-religious people can lead lives that are just as moral as those of religious people and seventy percent indicating that most people can grow spiritually without being religious. About one student in five expressed a high degree of religious skepticism (Astin, p.3).

Spiritual development correlated highly with a number of important areas of civic and social responsibility: In terms of civic responsibility, results strongly supported charitable involvement ($r=.37$) and social activism ($r=.40$). In terms of empathy or understanding of/caring for others, results again strongly supported: “Spirituality is positively associated with the importance of “Reducing pain and suffering in the world” ($r=.43$); “Feeling connected to all humanity” ($r=.41$); and compassionate self-concept ($r=.30$) (p.4).

Racial and ethnic awareness and tolerance also had a strong positive correlation to spirituality. Results of Astin’s study strongly supported spirituality being positively associated with promoting racial understanding, attending a racial/cultural awareness workshop, and ability to get along with people of different races/cultures.

Substantial numbers of students rated themselves at least “above average” on various pro-social qualities such as compassion (74%), kindness (74%), helpfulness (71%), generosity (62%), forgiveness (59%), empathy (57%) (p.2).

However, the educational environment according to student’s responses is not so conducive to religious or spiritual development. When asked how they had changed since entering college, fewer than one student in nine (9%) reported that their “religiousness” is “much stronger,” and approximately one in eight students (13%) report that their “spirituality” is “much stronger”. However, there is a dramatic change in attendance at religious services (-22.7%) so even religious organizations struggle for captivating young people who are interested in spiritual issues and growth (p.4).
In general, Astin’s study emphasizes that students experience substantial spiritual change and development in the college years and are actively engaged in a spiritual journey or quest; however students report little support for spiritual change, development and growth during college years. According to the findings, colleges programs, professors or classroom engagement do not seem to provide much support for the questions students have during these years: Over half the students report that their professors never encourage discussion of religious/spiritual matters (62%); and 56% report that their professors never provide opportunities to discuss the purpose/meaning of life (p.3). These results shed light on development of spirituality in college students and the importance of spiritual concerns and development for college students, and suggest the need for further study. Astin’s work demonstrates that spirituality is an important area of many college students’ lives and seems to have a correlation with pro-social character and values. Therefore it seems to be an important factor to include among other factors in our study.

In sum research in diverse fields of student development has done much to illuminate the theme of the holistic development of college students, but more research is needed to come to a more comprehensive understanding of college student development and to design programs and educational environments that facilitate the holistic development of college students. It is for these reasons that this study seeks to take a closer look at holistic development of college students, involving psychosocial development of pro-social character. The study seeks to understand the holistic development of college students in order to help facilitate an educational environment and culture in which college students can be supported and affirmed in their growth and development of pro-social values and character in their lives, with the further hopes they will be better able to integrate values and character in their post-college professional and civic lives, and in the broader context of the global community.

A better understanding is needed of how young people grow and develop psychosocially during the college years in areas such as character and values to better assist them in developing into young adults who are a vital and productive part of society, while respecting the diversity of our culture.
Using the major factors that are key influences on student development this research seeks to discover to what degree they predict the development of pro-social character in college students. Some of the major questions guiding this research are: What are the important factors that predict the development of pro-social character during the college years? Do faculty-student interactions predict the development of pro-social character of college students? Do relationships with student peers and peer groups predict the development of pro-social character in college students? Does involvement in community service predict the development of pro-social character in college students? Does student spirituality predict the development of pro-social character in college students? And secondarily, within the context of these major factors, do institutional characteristics predict the development of pro-social character of college students? Do student’s residential plans or planned major predict the development of pro-social character of college students? Does gender play a role in predicting pro-social character development in college students?
CHAPTER 3. METHODS AND PROCEDURES

A better understanding is needed of how young people grow and develop psychosocially during the college years in areas such as character and values. This understanding can be used to better assist college administrators and faculty, as well as parents and students, in promoting involvement in programs and environments that best assist students in developing into young adults who are a vital and productive member of society, while respecting the diversity of the culture in which we live.

The purpose of this study is to discover what factors most predict and therefore promote pro-social character in college students including activities and related goals and values with relationship to faculty-student interactions, peer relationships, community service, and spirituality. This study will also examine how these same four major areas correlate with standard collegiate program measurements, including emotional health, physical health, satisfaction with campus community, satisfaction with interaction with other students, and overall satisfaction with college. Secondarily, within the context of these four major factors, this study will also examine the influence of gender, institutional characteristics, residential status, and major field of study in predicting pro-social character development. The goal is to better understand and highlight the variables that have a predictive relationship with pro-social character development in college students so that college administrators and faculty can promote involvement in those relationships and groups which best predict pro-social character development. The hypotheses include that predictors of pro-social character development include positive faculty-student interactions, quality peer interactions, community service, and spirituality. It is also hypothesized that smaller private institutions are more conducive to these factors having an impact on student’s lives.
This longitudinal study will use character self-ratings by students on the CSBV2003 (College Students Beliefs and Values Survey) against aforementioned variables along with the SIF2000 (Student Information Form) and the CIRP (Cooperative Institutional Research Program) higher education institutional characteristics regarding type (2 year colleges, 4 year colleges, universities), control (public/private), and selectivity using the database maintained by the Higher Education Research Institute (HERI) of UCLA. The design of the study employs Causal Analytic Modeling with Blocked Regression Analysis (CAMBRA) on quantitative data derived from the CSBV(2003) and SIF(2000) surveys on a representative sampling of college students comprising the cohort of entering first-year students in fall 2000 at forty-six colleges and universities. The data from the two surveys are linked by students and institutional CIRP identifiers assigned by HERI. This study will use CAMBRA within the IEO model (Input-Environment-Outcome) developed by Astin and colleagues at the HERI to utilize advantages of CAMBRA and best facilitate sequential modeling and causal analysis for studying what factors best predict certain outcomes. The goal is to better understand and highlight the variables that predict self-ratings of pro-social character development in college students so that college administrators and faculty, as well as parents and students, can promote involvement in those relationships and groups which best support pro-social character development. The hypotheses include that predictors of pro-social character development include positive ratings of faculty-student interactions, quality peer interactions, community service, and spirituality. It is also hypothesized that smaller private institutions are more conducive to these factors in student’s lives.

3.1. Research Hypothesis
The purpose of this study is to discover what activities and related goals and values best predict and therefore promote pro-social character development in college students including positive faculty-student interactions, quality peer relationships, community service, and student spirituality. This study will also examine how these same four major areas correlate with standard collegiate program measurements, including emotional health, physical health, satisfaction with campus community, satisfaction with interaction with other students, and overall satisfaction with college. Secondarily, within the context of these four
major factors using the blocks of the CAMBRA analysis, this study will also examine the influence of gender, institutional characteristics, residential status, and major field of study in predicting pro-social character development. The hypotheses include that predictors of pro-social character development include positive faculty-student interactions, quality peer interactions, community service, and spirituality. It is also hypothesized that smaller private institutions may be more conducive to these factors in student’s lives. The goal is to better understand the variables that best predict pro-social character development in college students so that college administrators and faculty, as well as parents and students, can promote involvement in those activities, relationships and groups that predict pro-social character development.

Major hypotheses:
1) Faculty-student interactions
Hypothesis: Positive faculty-student interactions and related goals and values predict higher self-ratings in pro-social character.
In addition, positive faculty-student interactions and related goals and values will also predict positive outcomes in evaluation of collegiate program evaluations including: satisfaction with sense of community on campus, satisfaction with interactions with other students, overall satisfaction with college.

2) Positive student peer relationships and involvement in various peer groups
Hypothesis: Positive student peer relationships and involvement in various peer groups and related goals and values predict higher self-ratings in pro-social character.
In addition, positive student peer relationships and involvement in various peer groups and related goals and values will also predict positive outcomes in evaluation of collegiate program evaluations including: satisfaction with sense of community on campus, satisfaction with interactions with other students, overall satisfaction with college.

3) Involvement in community service
Hypothesis: Student involvement in community service/service learning and related goals and values predict higher self-ratings in self-rated pro-social character.
In addition, student involvement in community service/service learning and related goals and values will also predict positive outcomes in evaluation of collegiate program evaluations
including: satisfaction with sense of community on campus, satisfaction with interactions with other students, overall satisfaction with college.

4) Student spirituality: individual activity & community expression
Hypothesis: Student spirituality and religious practices and related goals and values predict higher self-ratings in pro-social character.
In addition, student spirituality and religious practices and related goals and values will also predict positive outcomes in evaluation of collegiate program evaluations including: satisfaction with sense of community on campus, satisfaction with interactions with other students, overall satisfaction with college.

Secondarily:
1) Demographic variables:
Hypothesis: There is no significant relationship between gender for overall character self-ratings. However, there are some gender differences in which character self-ratings are higher.
The research does yield some interesting insights in respect to the relationship between gender and various individual pro-social character traits. However, the most important aspect of the study is to determine the variables in the environment that are most likely to promote the development of pro-social values and character in college students after controlling for demographic variables. In other words, what can colleges and universities do to help promote the development of pro-social values and character in college students.

2) Institutional Characteristics institutional characteristics regarding type (2 year colleges, 4 year colleges, universities) , control (public/private), and selectivity (SATV+M).
Hypothesis: Attending smaller, private institutions will predict higher self-ratings in pro-social character.

3.2. Survey Instruments
With the goal of finding the best survey instrument and databank available for the purposes of this study, an extensive examination of existing survey instruments was conducted with the following criteria: 1) offer questions on values, character, beliefs, and behavior to college
students, 2) provide crucial demographic information on college students surveyed, 3) provide information on type of college (private, public, small, large, religious, non-religious, etc), 4) have a history of surveying this diverse spectrum of college students, 5) offer the databank for scholarly research, 6) survey instrument and resultant data would be valid and reliable by scholarly standards.

Although there are a number of possible survey instruments available, most were either focused narrowly on ethical criteria or more broadly on college life or emotional criteria without the pro-social character qualities that are the focus of this research. Additionally, the research focuses on an extant database with a large representative sampling of college students and longitudinal data (see appendix A for overview of available instruments). With these criteria in mind, the clear choice was the College Students Beliefs and Values Survey (CSBV) in conjunction with the Student Information Form (SIF). The College Student Belief and Values Survey (CSBV) is a survey developed by Astin and colleagues at the Higher Education Research Institute (HERI) of UCLA to measure student’s beliefs and values over a wide spectrum of beliefs and values. The Student Information Form (SIF), also known as the CIRP freshmen or first-year student survey, is a survey administered to most incoming first-year students at colleges and universities across the country, which collects useful student information including background, goals, values, and behavior along with demographic information as part of the Cooperative Institutional Research Program (CIRP). The Higher Education Research Institute administers the SIF for more than 300 colleges and universities across the country, along with other surveys, and maintains a large databank for the purpose of longitudinal studies of college students, including national trends in education. The HERI of UCLA has been surveying college students and maintaining the databank for more than 50 years as part of the Cooperative Institute Research Program (CIRP). The HERI also maintains CIRP institutional data on each of the higher education institutions including extensive information on institutional type, size, and selectivity.

In researching the holistic development of college students in the area of character and values, this study seeks to analyze data collected from college students who took the CSBV (2003) representing a broad cross section of participants from both private and state colleges
and universities along with the Student Information Form for 2000 completed by incoming first-year students for that same cohort of students. The surveys are linked both by CIRP anonymous student identifiers as well as a CIRP institutional identifier. The study will focus on responses to questions that explore student’s psychosocial development with particular attention paid to character. The study will examine the influence of various demographic variables, college majors, institutional environment, faculty and peer relationships, spirituality, and community service. The HERI surveys are the most comprehensive of their kind, and provide a rich resource of information to be mined and explored.

The Student Information Form (SIF) is administered by the Higher Education Research Institute (HERI) of UCLA as part of the Cooperative Institutional Research Program (CIRP) and annually surveys incoming first-year students from public and private colleges and universities across the country. According to the Higher Education Research Institute (HERI), this annual survey began in 1965 as part of the Cooperative Institutional Research Program (CIRP). The survey was designed to provide community colleges, four-year colleges, and universities a cost-effective method of collecting comparative data on their entering students for use in institutional decision-making, research, and assessment activities. The surveys are typically administered in the first-year students orientation programs within the first few weeks of the semester and provide demographic characteristics; expectations of the college experience; secondary school experiences; degree goals and career plans; college finances; attitudes, values and life goals; and reasons for attending college. In addition to providing information on incoming first-year students, the database provides information for longitudinal studies of college students. (It is also designed to be used as longitudinal study along with the Your First College Year Survey (YFCY) as well as the College Senior Survey (CSS), which can be taken in the senior year (http://www.gseis.ucla.edu/heri/retrieved February 8, 2007). Participation and results vary, but in 2006, for example, 393 colleges and universities had incoming first-year students complete the questionnaire.

The College Student Beliefs & Values Survey (CSBV) is a survey developed by the Higher Education Research Institute of UCLA to explore and measure the attitudes and changes in college students related to spirituality. The College Student Beliefs & Values Survey (CSBV)
was developed by Astin and a diverse and distinguished group of scholars for the purpose of surveying the beliefs and values of college students (see http://www.geis.ucla.edu/heri for a complete list of scholars). Among the variables included in the survey were attitudes and behavior regarding spiritual beliefs and practices of college students. The instrument was first broadly used by the HERI in this 2003 study.

Considerable research went into the development of the CSBV including reviewing existing surveys on spirituality and working with a broad group of experts across cultural and religious lines including non-Judeo-Christian faith leaders. The basic research questions that guided the study were: What are the beliefs, values and behavior of college students? What is the spiritual development that college students experience? What are the spiritual concerns of college students? What events, people, and programs help facilitate college student’s spiritual development? The survey uses a range of response formats including Liker scales as well as dichotomous responses. Funded by the John Templeton Foundation, this research program tracks the beliefs, values, behavior and spiritual growth of students during their college years. The study employs a multi-institutional longitudinal design and is also designed to ensure that all students—regardless of their particular theological perspective or belief system—would be able to respond in a meaningful way. (http://www.gseis.ucla.edu/heri/spirituality.html retrieved February 28, 2007). The CSBV survey includes numerous demographic and behavioral questions that relate to the other family of surveys by the Higher Education Research Institute, which make it very useable and valuable for longitudinal studies.

The CSBV in conjunction with the CIRP Student Information Form (SIF) (also known as the CIRP Freshmen or First-year students Survey) provides an excellent avenue for this research into the psychosocial development of college students in relation to values and character. Of particular interest to this research are the questions that relate to values and character, such as compassion, kindness, helpfulness, generosity, forgiveness, and empathy, as well as extensive information on involvement in peer groups, relationship to faculty/staff, college majors, spiritual attitudes and behavior, and other very insightful data. The CSBV contains many behavioral questions that relate to everyday student life such as civic
responsibility, and racial/ethnic awareness and tolerance. The data from the two surveys are linked by CIRP student identifier numbers. HERI also provides CIRP data for each of the higher education institutions regarding type, size, selectivity, and geographic region.

The purpose of this study is to discover what factors most predict and therefore promote pro-social character in college students including activities and related goals and values with relationship to faculty-student interactions, peer relationships, community service, and spirituality. This study will also examine how these same four major areas correlate with standard collegiate program measurements, including emotional health, physical health, satisfaction with campus community, satisfaction with interaction with other students, and overall satisfaction with college. Secondarily, within the context of these four major factors, this study will also examine the influence of gender, institutional characteristics, residential status, and major field of study in predicting pro-social character development. This longitudinal study will use nineteen character self-ratings by students on the CSBV2003 (College Students Beliefs and Values Survey) against aforementioned variables along with the SIF2000 (Student Information Form) and the CIRP (Cooperative Institutional Research Program) higher education institutional characteristics regarding type, size, and region, using the database maintained by the Higher Education Research Institute (HERI) of UCLA.

The design of the study employs Causal Analytic Modeling with Blocked Regression Analysis (CAMBRA) on quantitative data derived from the CSBV(2003) and SIF(2000) surveys on a representative sampling of college students comprising the cohort of incoming first-year students in fall 2000 at forty-six colleges and universities. The data from the two surveys are linked by students and institutional CIRP identifiers assigned by HERI. This study will use CAMBRA within the IEO model (Input-Environment-Outcome) developed by Astin and colleagues at the HERI to utilize advantages of CAMBRA since it best allows for sequential modeling and causal analysis for examining what factors work to develop certain outcomes. The goal is to better understand and highlight the variables that predict pro-social character development in college students so that college administrators and faculty, as well as parents and students, can promote involvement in those relationships and groups that support pro-social character development. The hypotheses include that predictors of pro-social character
development include positive faculty-student interactions, positive peer and peer group involvement, student spirituality, and involvement in community service.

The measures chosen for character consist of the response variables below, which will be treated as outcome variables, and are part of the self-ratings for the CSBV2003. Students were asked to rate themselves in each of the following areas as: 1=Lowest 10%, 2=Below Average, 3=Average, 4=Above average, 5=Highest 10%

The self rated areas of character consist of: altruism, compassion, cooperativeness, courage, creativity, dependability, drive-to-achieve, emotional health, empathy, forgiveness, generosity, gratefulness, helpfulness, humility, kindness, leadership ability, loyalty, open-mindedness, patience, physical health, religiousness/religiosity, respectfulness, self-awareness, self-confidence (intellectual), self-confidence (social), self-understanding, spirituality, understanding of others. The survey also offers self-ratings in some useful areas of college outcomes which will be examined in respect to these four major factors including satisfaction with sense of community, satisfaction with interaction with other students, satisfaction with overall college experience, as well as additional questions that relate only to one of the four major areas, such as satisfaction with faculty interaction or satisfaction with opportunity for religious expression and satisfaction with respect for religious diversity. The major areas of explanatory variables are listed below along with the hypotheses.

1) Faculty-student interactions
Hypothesis: Positive faculty-student interactions and related goals and values predict higher self-ratings in pro-social character.

In addition, positive faculty-student interactions and related goals and values will also predict positive outcomes in evaluation of collegiate program evaluations including: satisfaction with sense of community on campus, satisfaction with interactions with other students, overall satisfaction with college.

2) Positive student peer relationships and involvement in various peer groups
Hypothesis: Positive student peer relationships and involvement in various peer groups and related goals and values predict higher self-ratings in pro-social character.
In addition, positive student peer relationships and involvement in various peer groups and related goals and values will also predict positive outcomes in evaluation of collegiate program evaluations including: satisfaction with sense of community on campus, satisfaction with interactions with other students, overall satisfaction with college.

3) Involvement in community service
Hypothesis: Student involvement in community service/service learning and related goals and values predict higher self-ratings in self-rated pro-social character.
In addition, student involvement in community service/service learning and related goals and values will also predict positive outcomes in evaluation of collegiate program evaluations including: satisfaction with sense of community on campus, satisfaction with interactions with other students, overall satisfaction with college.

4) Student spirituality: individual activity & community expression
Hypothesis: Student spirituality and religious practices and related goals and values predict higher self-ratings in pro-social character.
In addition, student spirituality and religious practices and related goals and values will also predict positive outcomes in evaluation of collegiate program evaluations including: satisfaction with sense of community on campus, satisfaction with interactions with other students, overall satisfaction with college.

Secondarily:
1) Demographic variables:
Hypothesis: There is no significant relationship between gender for overall character self-ratings. However, there are some gender differences in which character self-ratings are higher.

The research does yield some interesting insights in respect to the relationship between gender and various individual pro-social character traits. However, the most important aspect of the study is to determine the variables in the environment that are most likely to promote the development of pro-social values and character in college students after controlling for demographic variables. In other words, what can colleges and universities do to help promote the development of pro-social values and character in college students.

2) Institutional Characteristics institutional characteristics regarding type (2 year colleges, 4 year colleges, universities), control (public/private), and selectivity (SATV+M).
Hypothesis: Attending smaller, private institutions will predict higher self-ratings in character.

3.3. Participants and Sampling

This study uses the results of the 2000 SIF (Student Information Form)/2003 CSBV (College Student Beliefs and Values) surveys administered by the Higher Education Research Institute (HERI) of UCLA, along with the institutional characteristics of the colleges and universities regarding type, size, and selectivity also maintained by the HERI. The Higher Education Research Institute (HERI) of UCLA administers surveys for higher education institutes across the country known as Cooperative Institutional Research Program (CIRP) and is responsible for maintaining the national databank of survey results for higher education institutions across the country.

The HERI undertook the goal of surveying a representative cross section of students across the country for current college student beliefs and values with the 2003 CSBV. With the goal of developing a representative institutional sample that reflected the diverse national student population with roughly equal numbers of colleges in respect to type (2-yr, 4-yr, university) control (public, private), selectivity, and geography, representatives of approximately 150 colleges and universities were invited to participate in the study. Forty-six higher education institutes representing a diverse cross-section of colleges and universities were ultimately selected.

With the goal to randomly sample an average of 250 third-year students for each of the forty-six higher education institutions representing a diverse spectrum of colleges and universities; participating institutions facilitated a direct mail survey by providing updated mail addresses for students who met the following criteria: 1) had completed the CIRP survey at their institute as entering first-year students in Fall 2000; 2) were still enrolled in spring of 2003; and 3) had given the HERI permission when they completed the 2000 CIRP to contact them again for research purposes (Astin, “Methodology,” 2003). In order to determine the number of student names that would be needed to be sent to each institution
in order to yield 250 enrolled third year students who would actually receive the survey at their correct address, each institution’s six-year retention rate was used employing a formula devised by Astin and Oseguera (2002). Thirty-two of the higher education institutes also provided e-mail addresses of the students.

In late March 2003, a total of 12,030 students were sent postcards introducing the study and notifying the students that they would receive a survey within the next two weeks. In early April students were sent the four-page questionnaire along with a letter explaining the purpose of the study, which had information on the reverse side regarding the student’s rights as participants in the study. Additionally, to explore the effects of monetary incentives on response rate, institutions were categorized by type (public university, private university, public college, private nonsectarian college, Catholic college, other religious college) and selectivity (low, medium, high, very high); then within each type/category individuals within each institutions were assigned one of three monetary incentive groups ($0, $2, $5) and to the greatest extent possible at least one institution of each type/category was assigned each of the incentive levels. Overall, students at 13 institutions received a $5 incentive; those at 17 institutions received a $2 incentive; and the remaining participants at 18 institutions received no incentive. All incentives were included inside the envelope containing the first survey packet (Astin, 2003).

Of the 11,547 students in the sample pool whose survey envelopes were not returned as undeliverable, 3,680 students responded, yielding an overall response rate of 32 percent (ultimately one institution was dropped due to an inexplicably low response rate) yielding N=3672. However, not all students completed all of the questions and therefore the values for the total number of respondents vary slightly depending on the set of variables chosen. Women were about 50 percent more likely to respond than men. Monetary incentives did impact response rate: a $2 incentive increased the response rate by approximately one half, and a $5 incentive increased response rate by more than two-thirds (Astin, 2003). The present statistical analysis did not employ a weighting metrics for responses.
3.4. Design

The design of this study uses quantitative analysis employing Causal Analytic Modeling based on Blocked Regression Analysis (CAMBRA) within an IEO model (Input-Environment-Outcome); the emergent hypothesis is that there is a relationship between various input and environmental variables, and the development of positive pro-social character and values in college students. Among the predictor variables are demographics, involvement in peer groups, spirituality and involvement in religious groups, community service, and relationships with faculty.

The design of the study primarily employs a multiple regression framework utilizing path analysis through Causal Analytic Modeling based on Blocked Regression Analysis (CAMBRA) on quantitative data derived from the CSBV(2003) and SIF(2000) surveys on a representative sampling of college students comprising the cohort of entering first-year students in fall of 2000 at forty-six colleges and universities across the United States. The Student Information Form (SIF) is part of a national program involving more than 300 colleges and universities across the country or the Cooperative Institutional Research Program (CIRP), which maintains data on college students for trend analysis and longitudinal studies. The data from the two surveys are linked by the college student's CIRP anonymous identification numbers assigned by the Higher Education Research Institute (HERI). This study will also make use of information maintained by the HERI on each of the higher education institutions regarding institutional type, size, and region. This data is also linked by a CIRP institutional identifier.

This study will use CAMBRA within the IEO model developed by Astin and colleagues at the HERI to utilize the advantages of CAMBRA. The IEO model, standing for Input-Environment-Outcome, best allows for sequential modeling and a causal framework for studying what environmental factors can work to develop certain outcomes, in this case pro-social values and character. Astin explains the considerable advantages of the IEO model:

“In applying the IEO model to research on student development, “outcome” refers to the characteristics of the student that the educational program under study either does influence or attempts to influence as measured after exposure to the educational program, “input” refers to the characteristics of the student at the time
of initial entry to the program, and “environment” refers to the various “things” -- educational institutions, programs, practices, and policies -- that are designed to promote the desired student outcomes. Inputs and outcomes are usually characteristics of the student at different time points, and since outcomes are always influenced to some extent by inputs, it is important to control for the effects of inputs before attempting to assess the effects of environmental characteristics. The focus of the IEO model is thus on the possible effects of environments on outcomes. The environment is of particular importance because it includes those aspects of the student’s experience that can be directly controlled. The ultimate purpose of applying the IEO model is thus to learn better how to structure educational environments so as to maximize student development.” (Astin & Dey, 1996, p.5).

A further advantage of the IEO model used in conjunction with CAMBRA is the ability to treat some variables as “bridge variables.” According to Astin, “bridge variables” are variables that have the characteristics of both “input variables” and “environmental variables” in that they occur after input variables but can have a substantial impact on other environmental variables. “The student’s initial (freshman) choice of a major field of study,” according to Astin, “is a good example of a bridge variable. While this is clearly an input variable in that it represents an expression of the student’s personal preferences before any exposure to the program, it is also an environmental variable in the sense that choosing a major can affect the particular courses, professors, and peers to which the student is exposed after entering college (p.20, cf. Astin, 1991, 1993). Student’s financial aid and residential status are other possible bridge variables.

The IEO model used in conjunction with CAMBRA also allows for “intermediate outcomes.” Astin explains that the IEO model normally requires longitudinal data, where three data sets are separated in time: “student inputs are assessed prior to exposure to the environment, and the characteristics of the environment are assessed prior to the assessment of outcomes (p.5). However he goes on to explain, “As we have applied the IEO model in a variety of research problems, we have come to develop what might be termed a fourth component -- “intermediate outcomes” -- which in temporal sequence fall between environments and the outcome measure of primary interest (p.5) CAMBRA is also capable of examining “intermediate outcomes” as another step between environmental variables and
outcome variables. In studies involving higher education research these variables typically involve student beliefs, values, or involvement. Astin and Dey explain:

“One advantage of the CAMBRA approach is that it highlights such ambiguities by showing how the coefficients for all variables change as each individual variable is controlled. It is, in other words, a dynamic model that explores the entire data set in a step-by-step fashion, rather than merely producing a single final solution. It has been our experience, for example, that certain intermediate outcomes -- especially those that are measured simultaneously with the dependent variable and whose temporal ordering with respect to the dependent variable is uncertain -- substantially alter the coefficients for most other independent variables when they are added to the regression. In such instances, the most valid and trustworthy solution may well be represented by the equation at the step prior to the entry of such variables” (Astin & Dey, 1996, p.25)

In order to make the most of the considerable advantages of the CAMBRA analysis, Astin and colleagues who developed the procedure recommend that studies using the IEO model consider at least seven blocks of independent variables, in the following order, which corresponds to temporal sequence of the college student’s lives: 1) input characteristics, 2) (interactions among inputs), 3) bridge variables, 4) environmental measures, 5) (interactions involving environmental measures), 6) (input-environment interactions), 7) intermediate outcomes.

The basic steps in the causal analytic regression analysis in respect to the self-rated pro-social character outcomes for this research will be as follows: 1) Fall 2000 pretest (where available for variables on SIF2000), 2) demographic variables (SIF2000), 3) relevant input characteristics (SIF2000: activities, goals, values, behavior), 4) bridge variables (SIF2000: living arrangement/planned residence), 5) environment: institutional characteristics (CIRP institutional data), 6) college major field of study (SIF2000), 7) intermediate outcomes: CSBV2003: activities and experiences during college (involvement in groups, peer relationships, faculty/staff relationships, activities, goals, values, behavior), 8) self-rated outcomes in pro-social character (CSBV2003) as well as other collegiate outcomes including emotional health, physical health, religiosity/religiousness, spirituality, satisfaction with interactions with other students, satisfaction with sense of community on campus, and overall satisfaction with college.
The following is a basic diagram of the major blocks of the experimental design, along with the three sources of data:

![Diagram of IEO Design](image)

Figure 3.1 Overview of IEO Design

Three sources of data: 1) SIF 2000, 2) CSBV 2003, 3) CIRP Institutional Information Data linked through CIRP student identifier numbers and CIRP institutional identifier

3.5. Data Analysis

Care and scrutiny was used in analyzing the data from the surveys. The data were downloaded into Excel formats and run in the SPSS (Statistical Program for Social Sciences) software. Confidentiality was maintained on all responses and data provided by surveys as the data were linked by anonymous numeric identifiers assigned and maintained exclusively by HERI.

Data was analyzed using CAMBRA (Causal Analytic Modeling via Blocked Regression Analysis), a form of blocked step-wise linear regression on the SPSS software so that student
input variables can be used to organize and analyze data. Substantial work has been done by Astin & Dey (1996) using blocked step-wise linear regression analysis with college student research. This method uses blocked step-wise linear regression with the IEO model and is superior in accounting for effects created by the multicolinearity such as those that exist when examining variables related to student’s experiences at college. According to Astin & Sax (1999) the CAMBRA approach to causal modeling focuses “on changes in the partial regression coefficients for all variables at each step in the analysis… and provides a powerful means of decomposing and comprehending multicolinearity in a complex multivariate data set (p.192”). CAMBRA was developed by Astin and his colleagues at the Higher Education Research Institute at UCLA after decades of working with data from the Cooperative Research Institutional Program (CIRP) and analyzing data from higher education institutes. According to Astin, this form of causal modeling allows for a superior form of analysis over traditional path analysis or structural equation modeling for this type of data (Astin & Dey, 1996).

Astin and Dey summarize one of the most important advantages of CAMBRA stating: “it offers a unique way of dealing with one of the most vexing problems in multivariate research -- a high degree of multicolinearity among the independent variables of interest” (1996, p.1). Pointing out some of the difficulties in other forms of analysis, Astin writes: “Causal modeling techniques currently do not provide researchers with adequate solutions to the problems presented by the considerable degree of multicolinearity among variables that is typically found in nonexperimental data. While the computational problem posed by extensive multicolinearity in causal modeling has been addressed by Bollen (1989) and others, multicolinearity can also raise significant interpretive problems (Astin & Dey, 1996, p.2). Astin and Dey summarize the strength of the CAMBRA approach:

“It is our strong feeling that policy goals are served neither by obfuscating the multicolinearity problem nor by pretending that it doesn’t exist. In working with large data sets from the Cooperative Institutional Research Program (CIRP) over the past couple of decades, we have developed an application of regression analysis -- CAMBRA -- that not only confronts the multicolinearity problem head-on, but also incorporates many of the advantages of both causal and purely exploratory techniques. This technique yields important information about the structure of multivariate data not revealed in traditional applications of causal modeling (thus aiding in theory development) while also permitting researchers to perform
exploratory analyses. It is also possible to “test theories” within the CAMBRA framework, if the investigator so desires. We believe, however, that CAMBRA’s primary strength is in theory development. (Astin & Dey, 1996, p.3-4)

As previously detailed, this study is utilizing the IEO model or Input-Environment-Outcome, which allows analysis of the data from the surveys in a sequential format, and best utilizes the step-wise analytical advantages of CAMBRA. It also offers the ability to analyze “bridge variables” and “intermediate outcomes” as part of the IEO design.

CAMBRA demonstrates additional advantages in its ability to take full advantage of the powerful step-by-step program by analyzing variables one at a time and assessing their predictive power, as well as the added benefit of analyzing the changes in coefficients for all variables whether in the prediction equation or not. The value of this is considerable; Astin and Dey explain:

“The CAMBRA method involves an unique application of stepwise multiple linear regression. Stepwise regression is distinguished from other forms of regression analysis in that it permits independent variables to be added to a regression equation one at a time, according to which variable will add the most predictive power to those independent variables already in the equation.\(^1\) However, the most unique feature of CAMBRA is that it takes advantage of a little-used feature of these computerized regression packages: the step-by-step changes in the coefficients for all variables (those in and those not in the prediction equation). Over the years we have discovered that a great deal of highly useful information is contained in this step-by-step information; the challenge is how to organize and utilize this information in a meaningful way” (Astin & Dey, 1996, p.6).

This is even more difficult and valuable when there is a considerable amount of multicolinearity of variables as in the case in many educational studies. Astin and Dey go on to explain, “The interpretation of these step-by-step changes is critical, for it provides researchers with a means of dissecting and understanding the considerable degree of multicolinearity (confounding) that one normally finds in any real data set.\(^2\) Extensive multicolinearity not only compromises any causal inferences that the investigator attempts to make from the data, but also makes it extremely difficult to say anything with assurance about the relative ‘importance’ of different independent variables” (p.6). Astin and Dey go
on to explain that although CAMBRA does not resolve all inferential problems related to multicollinearity, it does seem to offer the best method of dealing with this issue.

An additional advantage of the CAMBRA program is its ability to generate the “Beta in” for each variable at each step of the regression and what the variable’s Beta would be if it were entered into the regression at the next step. According to Astin and Dey, the SPSS regression produces a new regression equation, with new coefficients for each variable, at each step in the regression analysis. This information alone is very useful, however he goes on to explain that the program also provides additional insight often overlooked by investigators: “after each step it provides, for each independent variable that has not yet been entered into the regression equation, something called “Beta in.” In effect, what the SPSS software is doing here is looking one step ahead. For each independent (input or environmental) variable that has not yet entered the regression, it determines what that variable’s Beta would be if the variable were to be entered into the regression at the next step. This type of information can provide a very responsive and insightful means of analysis. The ability to examine changes in “Beta in’s” as well as the helpfulness of the IEO model in blocked regression analysis yields a very fluid examination of variables as well as a powerful tool in analysis to determine how environmental factors can impact particular outcomes

Furthermore, stepwise regression analysis has an advantage over traditional path analysis in that the latter does not require an investigator to examine all possible paths between an independent variable and the last dependent variable, whereas this form of blocked step-wise regression computes all direct path to the dependent variable. Astin and Dey explain:

“As ordinarily used in published research, path analysis does not require the investigator to examine all possible paths between the independent (antecedent) variables and the last (dependent) variable in the causal chain. Instead, the investigator specifies the paths dictated by his or her theory and can ignore all others, even though they might, in fact, produce significant Beta coefficients. Stepwise regression, on the other hand, computes all direct paths to the dependent variable. Furthermore, by blocking the independent variables and by applying the CAMBRA technique to the results using SPSS, the investigator can, in fact, examine all indirect paths by following the changes in the Betas from step to step” (p.18).
In addition, CAMBRA analysis also has the ability to generate several other important statistical insights including “suppressor effects.” Suppressor effects can yield important insights in the regression process. Due to the multicollinearity of multiple variables the Betas for each variable tend to get smaller at each successive step in the step-wise regression analysis because they must share increasing amounts of predictive power with all the other variables. There are important circumstances in which the converse is true and the coefficient will actually increase. Astin and Dey write about this important phenomena which he has labeled as a “suppressor effect”: “Thus, if two independent variables are positively associated with the dependent variable but negatively associated with each other, controlling for one of the variables will actually increase the correlation between the other independent variable and the dependent variable. We use the term “suppressor” to indicate that one variable is “suppressing” the observed relationship between two other variables. When that “suppressor” variable is controlled, the relationship between the other two gets stronger. (p.12).

Using a statistical program that can identify suppressor effects is particularly useful because suppressor effects can only be identified after the fact. Astin explains: “Suppressor variables can be identified only after the fact: we know that one variable is suppressing the relationship between two other variables only when we control it and see the relationship between the other two get stronger. The suppressor effect is always symmetrical in the sense that controlling either independent variable will strengthen the correlation between the other and the dependent variable. (p.13). In other words, which one of the two variables is chosen to be labeled as the “suppressor variable” depends entirely upon the order in which they are controlled, so that if the order were switched the other variable would be the “suppressor variable.” Astin and Dey go on to explain that there are two different situations in which suppressor effects can be observed: “(1) when the two independent variables have the same relationship (both positive or both negative) with the dependent variable and a negative relationship with each other; and (2) when the two independent variables have opposite relationships (one positive and the other negative) with the dependent variables and a positive relationship with each other (p.13). The inter-relationships of these suppressor variables often can yield important insights that are otherwise often overlooked.
Finally, CAMBRA yields an advantage in identifying small coefficients that are normally ignored but in fact can have important impact on outcomes. Astin and Dey write, “Most educational researchers and social scientists have been conditioned to judge certain multivariate statistics in terms of their absolute size. This is especially true among researchers who prefer the use of $R^2$ and the “percentage of variance accounted for” approach. These investigators would, for example, be inclined to judge most of the coefficients discussed in this paper as “small,” “trivial in size,” or “statistically but not practically significant.” In applying CAMBRA in literally hundreds of analyses, we have learned that one cannot necessarily “tell a variable by its Beta” (p.25).

The advantages of CAMBRA are considerable and provide a proven form of analysis to the data. The study will use alpha equal to .05 to identify major blocks that contribute significantly to predicting the individual self-ratings as well as the individual variables within each block.

3.6. Trustworthiness of Data

Careful attention has been paid to the trustworthiness of the data as well as issues of confidentiality. The results of the SIF and CSBV can be considered strong in terms of reliability and validity. The selection process previously detailed shows the strong attention paid to gain a representative sampling that takes into account the diversity of students as well as educational institutions giving the study strong external validity. In terms of instrument validity, Colleges and universities have been using the SIF since 1965, and it is routinely administered to incoming college first-year students. The data bank maintained by the HERI makes the data bank available for research, particularly longitudinal studies. Research conducted by the Higher Education Research Institute at UCLA has an excellent record of validity and reliability. In addition to Astin and his colleagues of the HERI at UCLA, a technical advisory panel comprised of a diverse group of distinguished scholars, including A.W. Chickering a noted scholar in the field, was engaged to develop the CSBV and in the process reviewed all the present major survey instruments including all survey instruments.
measuring religiosity or spirituality as covered by Hill and Hood’s (1999) and addressed all aspects of those surveys (Cf. “The development of the College Student Beliefs and Values Survey,” 2003). All questions and constructs were rigorously reviewed by the technical advisory panel. In terms of reliability no multiple testing is available as this is the first in a series of studies; however a rigorous item analysis was done by the technical advisory panel. Results of the survey also include a factor analysis of various aspects of the survey using Cronbach’s alpha (cf. Factor Analysis of the CSBV”, 2003 (also included in the appendix).

The data bank of the HERI is used by virtually every major study of college students. It serves as the national databank for the longitudinal study of colleges and universities and the student population as well as virtually all aspects of higher education, and therefore provides the best resource of longitudinal data to use in conjunction with the CSBV. Furthermore, the IEO model of longitudinal studies for college students analyzed with the use of CAMBRA developed by Astin and his colleagues at the HERI has become the standard in the field.

The sample size of over 3,000 is well within guidelines for statistical analysis (see minimum sample size was selected from guidelines recommended by Gall, M.D., Gall, J.P., & Borg, W.R. (2003, p.143) in Educational Research (tables reference adaptation of Olejink (1984) and represents a broad cross section of colleges and universities in respect to size and type.

Data from the surveys are linked by CIRP anonymous student identifiers as well as CIRP institutional identifiers.
CHAPTER 4. RESULTS AND INTERPRETATION

Seven things that threaten to destroy us:

- Wealth without work
- Pleasure without conscience
- Knowledge without character
- Commerce without morality
- Science without humanity
- Religion without sacrifice
- Politics without principle – Mahatma Ghandi

4.1. Overview

The results of the statistical analysis demonstrate the impact on pro-social character development in college students by four main influences: faculty-student interactions, student peer relationships, student involvement in community service, and student spirituality. Activities, goals and values were selected that best embodied each of the four main areas on the SIF2000 and the CSBV2003; their impact was measured within each respective block using the CAMBRA analysis for each of the pro-social character self-ratings. The results of the CAMBRA analysis are contained in each main section with a description of each of the variables in each block. We will look at each of the main areas of self-ratings in four useful groupings: achievement-oriented, compassionate self-concept, social, and other collegiate outcomes. Many of the self-ratings could be viewed in more than one grouping, and in some sense they are all inter-related. However for the sake of manageability the self-ratings are grouped under the following:

- achievement orientation- courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intelligence)
- compassionate self-concept- altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience
• social – cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-awareness, self-confidence (social), self-understanding, and understanding of others

• other collegiate outcomes - emotional health, physical health, spirituality, religiousness, respect for diverse religious/spiritual beliefs (included only under spirituality), opportunity for religious/spiritual reflection (included only under spirituality), satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under spirituality), satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with sense of community, satisfaction with interaction with students, and satisfaction with overall college experience (not all outcomes will relate to each main category but this paper will examine those outcomes that relate to the given main area)

Following each main section is a related summary and recommendations. A number of demographic variables and other related variables of interest are also included in the appendices in crosstab tables for those factors alone including: academic performance (college GPA, SAT-ACT scores), gender, institutional characteristics (institutional control (1-public, 2-private), institutional type (1-university, 2-4 yr college, 3-2yr college, institutional selectivity (SATV+M)), race, religious preference, and planned residence.

Before proceeding it is helpful to remember that with a statistical model with so many blocks and numerous variables, the coefficients for each variable can be relatively small, however when examined they give very useful insight and analyses of the relative impact of each of the variables within the block as well as the relationship within the entire model (Astin, 1996). The method developed and refined by Astin and colleagues at HERI of UCLA has been utilized extensively over time and yielded in-depth analyses. The variables in each block were entered by stepwise regression so that only the variables with significant predictive relationships would enter the regression ($\alpha = .05$) entered in order from greatest to least and would be taken out of the regression if the subsequent variable entering the block rendered its significance in excess of $\alpha = .10$. However, once the regression has moved on to the next block of variables, all previous variables remain in the regression regardless of whether new variables entering the regression diminish their respective significance.
Before examining the results in detail, it is imperative to reiterate that the considerable advantages of putting so many variables into the statistical model in order to understand a wide range of variables on a particular outcome as well as the interactions of each variable is that the variables themselves register a diminished output due to the fact that there are so many variables sharing the predictive power in the regression analysis. Therefore researchers more attuned to using a few variables need to recognize the importance of smaller coefficients in the output. In explaining the impact of adding even a second related variable with multicolinearity characteristics, Astin and Dey explain, “In other words, the predictive power of each of these variables is somewhat diminished when the other is added to the equation. Since there is a degree of multicolinearity among these two variables, they necessarily “share” predictive power when they are both in the equation” (Astin & Dey, 1996, p.13). This effect is magnified even more when there are numerous variables with multicolinearity. In the section on “small coefficients” Astin and Dey in their seminal article on CAMBRA explains in detail the phenomena:

“Most educational researchers and social scientists have been conditioned to judge certain multivariate statistics in terms of their absolute size. This is especially true among researchers who prefer the use of $R^2$ and the “percentage of variance accounted for” approach. These investigators would, for example, be inclined to judge most of the coefficients discussed in this paper as “small,” “trivial in size,” or “statistically but not practically significant.” In applying CAMBRA in literally hundreds of analyses, we have learned that one cannot necessarily “tell a variable by its Beta” (Astin & Dey, 1996, p.25).

The initial block/s of variables are not impacted as much as variables in the later blocks because there are less variables to share the predictive power earlier in the regression analysis. However, variables in the later blocks when run by themselves would obviously demonstrate a much higher coefficient. Even so while the individual coefficients for the variables may still seem somewhat low for those used to examining variables for more traditional models where we expect a higher correlation, when taken together even given a high degree of multicolinearity, these major blocks demonstrate a significant predictive relationship with the pro-social character development of college students and other related outcomes related to student development in college.
4.2. Results of Faculty-Student Interactions Variables in Predicting Pro-social Character Development in College Students

The results of the statistical analysis demonstrate the predictive relationship of faculty-student interactions on pro-social character development in college students. Once again, the diagram of the IEO model is useful for insight and understanding:

Three sources of data: 1) SIF 2000, 2) CSBV 2003, 3) CIRP Institutional Information Data linked through CIRP student identifier numbers and CIRP institutional identifier

The individual blocks of the CAMBA analysis and the variables that were selected that best measure faculty-student interactions, and related goals and values:

Block 1: Pre-test where available (SIF2000):

Block 2: Demographic variables (SIF2000):

(Gender: 1-male, 2-female) (gender alone included here; other demographic analyses are included in the cross tab analysis including religious preference and race)
Block 3: First-year college student’s prior-year activities; goals & values upon entering college (SIF2000):

Talking with teachers outside of class as hours per week (Hours per Week 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20).
goal (not important, somewhat important, very important, essential)
communicating regularly with professors

Block 4: Fall planned residence (SIF2000):
(1=with family or other relatives, 2=other private home, apartment, room
3=college dormitory, 4=fraternity or sorority house, 5=other campus student housing)

Block 5: Institutional characteristics (CIRP institutional data):
institutional control (1-public, 2-private)
institutional type (1-university, 2-4 yr college, 3-2yr college
institutional selectivity (SATV+M)

Block 6: Student’s planned major (SIF2000):
(as this is rather lengthy, it is only reported in detail in this first section)
1=art, fine and applied
2=English (language & literature)
3=history
4=journalism
5=language and literature (except English)
6=music
7=philosophy
8=speech
9=theater or drama
10=theology or religion
11=other arts and humanities
12=biology (general)
13=biochemistry or biophysics
14=botany
15=environmental science
16=marine (life) science
17=microbiology or bacteriology
18=zoology
19=other biological science
20=accounting
21=business administration (general)
22=finance
23=international business
24=marketing
25=management
26=secretarial studies
27=other business
28=business education
29=elementary education
30=music or art education
31=physical education or recreation
32=secondary education
33=special education
34=other education
35=aeronautical or astronautical engineering
36 = civil engineering
37 = chemical engineering
38 = electrical or electronic engineering
39 = industrial engineering
40 = mechanical engineering
41 = other engineering
42 = astronomy
43 = atmospheric science (including meteorology)
44 = chemistry
45 = earth science
46 = marine science (including oceanography)
47 = mathematics
48 = physics
49 = statistics
50 = other physical science
51 = architecture or urban planning
52 = home economics
53 = health technology (medical, dental, laboratory)
54 = library or archival science
55 = medicine, dentistry, veterinarian
56 = nursing
57 = pharmacy
58 = therapy (occupational, physical, speech)
59 = other professional
60 = anthropology
61 = economics
62 = ethnic studies
63 = geography
64 = political science (gov't, int relations)
65 = psychology
66 = social work
67 = sociology
68 = women's studies
69 = other social science
70 = building trades
71 = data processing or computer programming
72 = drafting or design
73 = electronics
74 = mechanics
75 = other technical
76 = agriculture
77 = communications (radio, TV, etc)
78 = computer science
79 = forestry
80 = kinesiology
81 = law enforcement
82 = military science
83 = other field
84 = undecided

(Note: the majors order might be better, but in general the lower numbers correlate more with arts and humanities, while the higher numbers correlate more with science, engineering, business, and education. Education closer in numeric value to the liberal arts may have been a more useful grouping as education majors may reflect outcomes more similar to arts and humanities majors as opposed to science, engineering, or business; however this reflects mere conjecture the part of the researcher)

Block 7: College activities, goals, and values as reported by third-year college students
(CSBV2003):

Talking with faculty outside of class as hours per week (Hours per Week 1 = none, 2 = less than one, 3 = 1 to 2, 4 = 3 to 5, 5 = 6 to 10, 6 = 11 to 15, 7 = 16 to 20, 8 = over 20)

How often have professors at your current (or most recent) college provided you with:
Advice and guidance about your educational program
Respect (treated you like a colleague/peer)
Emotional support and encouragement
Opportunities to discuss the purpose/meaning of life
Intellectual challenge and stimulation
Help in achieving your professional goals
Encouragement to discuss religious/spiritual matters

The dependent variables which are the character self-ratings where students were asked to rate themselves in each of the areas as: 1=Lowest 10%, 2=Below Average, 3=Average, 4=Above average, 5=Highest 10%. As previously mentioned, the findings for the self-ratings will be grouped in four useful groupings: achievement-oriented, compassionate self-concept, social, and other collegiate outcomes. Many of the self-ratings could be viewed in more than one grouping, and in some sense they are all inter-related. However for the sake of manageability the self-ratings are grouped under the following:

- achievement orientation- courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intelligence)
- compassionate self-concept- altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience
- social –cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-awareness, self-confidence (social), self-understanding, and understanding of others
- other collegiate outcomes- emotional health, physical health, spirituality, religiousness, respect for diverse religious/spiritual beliefs (included only under spirituality), opportunity for religious/spiritual reflection (included only under spirituality), satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under spirituality), satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with sense of community, satisfaction with interaction with students, and satisfaction with overall college experience (not all
outcomes will relate to each main category but this paper will examine those outcomes that relate to the given main area.

The results of each block of the model available will be examined with reference to the model summary table and ANOVA table to see if there is a significant relationship of each block on the model predicting each character self-rating ($\alpha = .05$) after all of the variables with a significant relationship have entered the particular block ($\alpha = .05$). (Complete statistical information is available in the appendix including summary of model, ANOVA, and blocked regression analysis.)

4.2.1. Achievement Orientation

Courage

In respect to the major blocks of the model, gender proved to add significantly to the model predicting courage $F = 107.463 > F_{crit}(1, 3175) = 3.84$ at $\alpha = 0.05$, ($R = .181$, $R \ Square = .033$) with a negative correlation ($\beta = -.181$, $p < .001$), indicating that males were more likely to rate themselves higher in courage.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting courage $F = 46.353 > F_{crit}(3, 3173) = 2.61$ at $\alpha = 0.05$ ($R = .205$, $R \ Square = .042$). Incoming first-year student’s prior year activities and goals and values entering college in respect to faculty-student relationships reveals that the strongest correlation in respect to courage is a positive correlation with “talking with teachers outside of class” as hours per week during prior year ($\beta = .065$, $p < .001$), (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20) followed by the goal of “communicating regularly with professors” ($\beta = .057$, $p = .001$).

Student’s planned residence did not have a significant predictive relationship with courage and did not enter the regression.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 36.748 > F_{crit}(4, 3172) = 2.37$ at $\alpha = 0.05$, ($R = .210$, $R^2 = .044$). However, only one of the individual variables was statistically significant, which was institutional selectivity ($\beta = -.049$, $p = .006$), with a moderate negative correlation indicating that students at less selective institutions tended to rate themselves higher. It is however, noteworthy, that while institutional selectivity had a significant predictive relationship with courage under faculty-student interactions and community service, it was not significant under student peer relationships and student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.

Student’s probable major proved to add significantly to the model $F = 31.234 > F_{crit}(5, 3171) = 2.22$ at $\alpha = 0.05$, ($R = .217$, $R^2 = .047$) with a moderate negative correlation ($\beta = -.052$, $p = .003$), indicating that students majoring in the arts or humanities tended to rate themselves higher.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 29.327 > F_{crit}(6, 3170) = 2.1$ at $\alpha = 0.05$, ($R = .229$, $R^2 = .053$). Only one of the individual variables within the block in respect to college faculty-student interaction was statistically significant which was “talking to faculty outside of class” ($\beta = .078$, $p < .001$).

In sum, teacher/faculty-student interactions proved to add significantly to the model predicting courage in both the block for incoming first-year student’s prior year teacher-student interactions and related goals and values entering college, as well as the block for third-year college faculty-student interactions and related goals and values as reported by third-year college students.
Creativity

In respect to the results of faculty-student interactions predictive relationship with college students self-rating of “creativity” by far the strongest predictor was the pre-test which was statistically significant \( F = 1491.509 > F_{\text{crit}} (1, 3168) = 3.84 \) at \( \alpha = 0.05 \), \( R = .566, R^2 = .320 \) with a strong positive correlation \( (\beta = .566, p < .001) \).

Gender did not have a significant predictive relationship and therefore did not enter the regression.

The block regarding incoming first-year student’s prior year teacher-student interactions, and goals and values entering college in respect to faculty-student interactions did not have a significant predictive relationship.

Student’s planned residence was also not statistically significant.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 757.754 > F_{\text{crit}} (2, 3167) = 3.0 \) at \( \alpha = 0.05 \), \( R = .569, R^2 = .324 \). However, only one of the individual variables in the block was statistically significant which was institutional selectivity which had a modest negative correlation \( (\beta = -.060, p < .001) \), indicating that students at less selective institutions tended to rate themselves higher in respect to creativity.

The block with student’s probable major proved to add significantly to the model \( F = 509.425 > F_{\text{crit}} (3, 3166) = 2.61 \) at \( \alpha = 0.05 \), \( R = .571, R^2 = .326 \), which had a modest negative correlation \( (\beta = -.044, p = .003) \), indicating that students majoring in liberal arts and humanities tended to rate themselves higher.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \( F = 385.425 > F_{\text{crit}} (4, 3165) = 2.37 \) at \( \alpha = 0.05 \), \( R = .572, R^2 = .328 \). In respect to the block of college activities and faculty-student interactions the only factor with
a significant relationship was found with “emotional support and encouragement” (β = .045, p = .002).

**Dependability**

In respect to the results of faculty-student interactions impact on college students self-rating of “dependability” gender did not have a significant predictive relationship.

The block regarding incoming first-year student’s prior year teacher-student interactions, and goals and values entering college in respect to student faculty relationships was not statistically significant and therefore did not enter the regression.

Student’s planned residence did not have a significant predictive relationship with predicting self-rated dependability.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 5.946 > F_{crit} (1, 3180) = 3.84$ at $\alpha = 0.05$, ($R = .043$, $R^2 = .002$). Only one of the variables in the block with institutional characteristics entered the regression, and that was institutional type, which had a small negative correlation ($\beta = -.043$, $p = .015$) indicating students attending a university as opposed to a two-year college tended to rate themselves higher.

Student’s probable major was not statistically significant.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 8.565 > F_{crit} (2, 3179) = 3.0$ at $\alpha = 0.05$, ($R = .073$, $R^2 = .005$). In respect to faculty-student interactions impact during the college years on the self-rating of dependability only one individual factor had a significant predictive relationship which was “helping to achieve professional goals” ($\beta = .059$, $p = .001$).
Drive-to-achieve
In respect to the results of faculty-student interactions impact on college students self-rating of “drive-to-achieve,” once again the pre-test was statistically significant and the strongest predictor \( F = 689.174 > F_{\text{crit}} (1, 3174) = 3.84 \) at \( \alpha = 0.05, (R = .422, R^2 = .178), (\beta = .422, p < .001) \).

Gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting drive-to-achieve \( F = 347.010 > F_{\text{crit}} (2, 3173) = 3.0 \) at \( \alpha = 0.05 \) \( (R = .424, R^2 = .179) \). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the only individual variable with statistical significance was a small positive correlation with “talking with teachers outside of class” as hours per week during prior year \( (\beta = .033, p = .041) \), (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20).

Student’s planned residence did not have a significant predictive relationship with drive-to-achieve and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 238.320 > F_{\text{crit}} (3, 3172) = 2.61 \) at \( \alpha = 0.05, (R = .429, R^2 = .184) \). Only one of the individual variables was statistically significant, and that was institutional selectivity that had a negative correlation \( (\beta = -.067, p < .001) \), indicating that students at less selective institutions tended to rate themselves higher.

Student’s probable major did not add significantly to predicting drive-to-achieve.
The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 99.593 > F_{crit}(9, 3166) = 1.88$ at $\alpha = 0.05$, ($R = .470, R^2 = .221$).

Individual variables within the block of college faculty-student interactions and related goals and values as reported by third-year college students with the strongest significant predictive relationship include “helping to achieve professional goals” which had a relatively strong significant positive relationship ($\beta = .147, p < .001$), followed by “talking to faculty outside of class” ($\beta = .041, p = .016$), “respect” ($\beta = .054, p = .002$), “advice/guidance about education program” ($\beta = .041, p = .029$). The following had a negative relationship with drive-to-achieve: “encouragement to discuss religion/spirituality” ($\beta = -.060, p = .001$), and “opportunity to discuss meaning/purpose of life” ($\beta = -.047, p = .016$).

Leadership Ability

In respect to the results of faculty-student interactions impact on college students self-rating of “leadership ability,” as expected the pre-test was statistically significant and the strongest predictor $F = 1295.991 > F_{crit}(1, 3172) = 3.84$ at $\alpha = 0.05$, ($R = .539, R^2 = .290$ ($\beta = .539, p < .001$).

Gender was statistically significant $F = 669.082 > F_{crit}(2, 3171) = 3.0$ at $\alpha = 0.05$, ($R = .545, R^2 = .297$), with a modest negative correlation ($\beta = -.082, p < .001$), indicating males were more likely to rate themselves higher.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting leadership ability $F = 452.911 > F_{crit}(3, 3170) = 2.61$ at $\alpha = 0.05$ ($R = .548, R^2 = .300$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that only one of the two variables had individual significance which was a positive correlation with the goal of “communicating regularly with professors” ($\beta = .059, p < .001$).
None variables in the blocks with either the plan of residence, institutional characteristics, or planned college major were statistically significant and therefore did not enter the regression in respect to self-rated “leadership ability.”

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 280.393 > F_{crit} (5, 3168) = 2.22$ at $\alpha = 0.05$, ($R = .554$, $R Square = .307$). In respect to The block of college activities and faculty-student interactions, the strongest individual positive correlation was found in “talking to faculty outside of class” ($\beta = .058$, p < .001) (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20, followed by “emotional support and encouragement” ($\beta = .049$, p = .002).

**Self-confidence (Intellectual)**

In respect to the results of faculty-student interactions impact on college students self-rating of “self-confidence (intellectual)” the self-rating the pre-test was statistically significant $F = 549.026 > F_{crit} (1, 3173) = 3.84$ at $\alpha = 0.05$, ($R = .384$, $R Square = .148$), and was by far the strongest predictor ($\beta = .384$, p < .001).

Gender was statistically significant in the model predicting intellectual self-confidence $F = 296.691 > F_{crit} (2, 3172) = 3.0$ at $\alpha = 0.05$, ($R = .397$, $R Square = .158$) with a negative correlation ($\beta = -.102$, p < .001), indicating that males were more likely to rate themselves higher in intellectual self-confidence.

The block regarding incoming first-year student’s prior year teacher-student interactions, and goals and values entering college in respect to faculty-faculty relationships was not statistically significant.

Students planned residence added significantly to the model predicting intellectual self-confidence $F = 199.586 > F_{crit} (3, 3171) = 2.61$ at $\alpha = 0.05$, ($R = .399$, $R Square = .159$) with a small negative correlation ($\beta = -.035$, p = .030), indicating a slight tendency for students
living at home or in private apartment ratings themselves higher. (However, it should be noted that the difference in $R^2$ from the previous block is slight; and while planned residence was significant for self-confidence (intellectual) under community service, it was not significant under student peer relationships and student spirituality. Again this typically reflects a different number of respondents for the various areas, as well as a different set of other variables together with the relative significance of the subsequent variable entering the regression.)

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model and therefore did not enter the regression.

Students planned major a student’s probable major had a significant predictive relationship $F = 150.909 > F_{\text{crit}} (4, 3170) = 2.37$ at $\alpha = 0.05$, ($R = .400$, $R^2 = .160$) with a small negative correlation ($\beta = -.034$, $p = .039$), indicating that students majoring in the arts or humanities tended to rate themselves higher. (It should be noted, however, that while student’s planned major had a significant predictive relationship with intellectual self-confidence under faculty-student interactions and community service, it was not significant under student peer relationships or student spirituality. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 96.120 > F_{\text{crit}} (7, 3167) = 2.01$ at $\alpha = 0.05$, ($R = .419$, $R^2 = .175$). In respect to The block of college activities and faculty-student interactions the individual variables with the strongest positive correlation were found in “respect” ($\beta = .077$, $p < .001$), followed by “helping to achieve professional goals” ($\beta = .061$, $p = .001$) and “talking to faculty outside of class” ($\beta = .034$, $p = .041$), all of which had a significant individual impact on the model and indicate how important faculty-student interaction is in terms of intellectual self-confidence.
4.2.2. Compassionate Self-Concept

Altruism

In respect to the results of faculty-student interactions impact on college students self-rating of “altruism” gender did not have a significant predictive relationship.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting altruism $F = 23.827 > F_{\text{crit}} (1, 2891) = 3.84$ at $\alpha = 0.05$ ($R = .090$, $R^2 = .008$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the only significant factor in respect to altruism was a positive correlation with the goal of “communicating regularly with professors” ($\beta = .090$, $p < .001$).

Students planned residence did not have a significant predictive relationship and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 18.962 > F_{\text{crit}} (3, 2889) = 2.61$ at $\alpha = 0.05$, ($R = .139$, $R^2 = .019$). Two of the variables in the blocks with either the plan of residence, institutional characteristics, or planned college major entered the regression, and that was a positive predictive relationship with institutional selectivity ($\beta = .069$, $p = .002$) indicating students at more selective colleges and universities tended to rate themselves higher, and institutional control with a positive correlation ($\beta = .055$, $p = .010$) indicating that students at private colleges and universities tended to rate themselves higher with respect to altruism. (However, it should be noted, that while institutional control had a significant predictive relationship with altruism under faculty-student interactions, student peer relationships, and student spirituality, it was not significant under community service. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)
Student’s planned major did not add significantly to the model and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 16.942 > F_{crit} (6, 2886) = 2.1$ at $\alpha = 0.05$, ($R = .184$, $R^2 = .034$). In respect to the block of college activities and faculty-student interactions the strongest positive correlation was for self-rated altruism found in “encouragement to discuss religion/spirituality” ($\beta = .081$, $p < .001$), followed by “intellectual challenge and stimulation” ($\beta = .068$, $p = .001$), “talking to faculty outside of class” ($\beta = .047$, $p = .012$).

Compassion

In respect to the major blocks of the model, in gender proved to add significantly to the model predicting compassion $F = 40.354 > F_{crit} (1, 3179) = 3.84$ at $\alpha = 0.05$, ($R = .112$, $R^2 = .013$) with a positive correlation ($\beta = .112$, $p = .000$), indicating that females were more likely to rate themselves higher in compassion.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting compassion $F = 35.327 > F_{crit} (2, 3178) = 3.0$ at $\alpha = 0.05$ ($R = .147$, $R^2 = .022$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest correlation is a strong positive correlation with those students with goal of “communicating regularly with professors” ($\beta = .096$, $p < .001$).

Neither students planned residence nor institutional characteristics had a significant predictive relationship with predicting compassion and therefore did not enter the regression.

The block with student’s probable major proved to add significantly to the model $F = 24.876 > F_{crit} (3, 3177) = 2.61$ at $\alpha = 0.05$, ($R = .151$, $R^2 = .023$) with a moderate
positive correlation ($\beta = .035, p = .048$), indicating a slight tendency for students in the sciences to rate themselves higher. (It should be noted, however, that while student’s planned major had a significant predictive relationship with intellectual self-confidence under faculty-student interactions, it was not significant under student peer relationships, community service, or student spirituality. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 23.544 > F_{crit} (6, 3174) = 2.1$ at $\alpha = 0.05$, ($R = .206$, $R^2 = .043$). In respect to the block of college experience and faculty-student interactions the strongest positive correlation in the college experience were found in “encouragement to discuss religion/spirituality” ($\beta = .082, p < .001$), “emotional support and encouragement” ($\beta = .075, p < .001$) followed by “talking to faculty outside of class” ($\beta = .045, p = .013$).

Empathy

In respect to the major blocks of the model, in gender proved to add significantly to the model predicting empathy $F = 50.646 > F_{crit} (1, 3157) = 3.84$ at $\alpha = 0.05$, ($R = .126$, $R^2 = .016$). Gender had a strong positive correlation ($\beta = .126, p < .001$), indicating that females tended to rate themselves higher.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting courage $F = 39.664 > F_{crit} (2, 3156) = 3.0$ at $\alpha = 0.05$ ($R = .157$, $R^2 = .025$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the only factor with significant predictive relationship was a relatively strong positive correlation in respect to the goal of “communicating regularly with professors” ($\beta = .094, p < .001$).
None of the variables in the blocks with either the plan of residence, institutional characteristics, or planned college major entered the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \( F = 30.026 > F_{\text{crit}} (4, 3154) = 2.37 \) at \( \alpha = 0.05 \), \( R = .192, R^2 = .037 \). In respect to the block of college activities and faculty-student interactions the strongest positive correlation with self-rating of empathy in respect to faculty-student interactions was found in “encouragement to discuss religion/spirituality” \( (\beta = .087, p < .001) \), followed by “advice/guidance about education program” \( (\beta = .054, p = .003) \).

Forgiveness
In respect to the major blocks of the model, in gender proved to add significantly to the model predicting courage \( F = 8.318 > F_{\text{crit}} (1, 3180) = 3.84 \) at \( \alpha = 0.05 \), \( R = .051, R^2 = .003 \) with a small negative correlation \( (\beta = -.051, p = .004) \), indicating that males were more likely to rate themselves higher.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting courage \( F = 9.856 > F_{\text{crit}} (2, 3179) = 3.0 \) at \( \alpha = 0.05 \), \( R = .079, R^2 = .006 \). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest correlation in respect to empathy is a positive correlation with the goal of “communicating regularly with professors” \( (\beta = .060, p = .001) \).

Students planned residence did not have a significant predictive relationship with predicting forgiveness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 10.856 > F_{\text{crit}} (3, 3178) = 2.61 \) at \( \alpha = 0.05 \), \( R = .101, R^2 = .010 \). However, only one of the variables had a
significant predictive relationship and that was institutional selectivity that had a modest negative correlation ($\beta = -.065, p < .001$), indicating that students at less selective institutions tended to rate themselves higher.

Student's planned major did not add significantly to the model and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 16.477 > F_{crit}(5, 3176) = 2.22$ at $\alpha = 0.05$, ($R = .159$, $R^2 = .025$). In respect to the block of college activities and faculty-student interactions the strongest positive correlation was found in “encouragement to discuss religion/spirituality” ($\beta = .091, p < .001$), followed by “opportunity to discuss meaning/purpose of life” ($\beta = .050, p = .017$).

Generosity
In respect to the results of faculty-student interactions impact on college students self-rating of “generosity” gender did not have a significant predictive relationship.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting courage $F = 10.862 > F_{crit}(1, 3176) = 3.84$ at $\alpha = 0.05$ ($R = .058$, $R^2 = .003$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that there was a positive correlation in respect to with “talking with teachers outside of class” as hours per week during prior year ($\beta = .058, p = .001$), (Hours per week in last year spent $1=none, 2=less\ than\ one, 3=1\ to\ 2, 4=3\ to\ 5, 5=6\ to\ 10, 6=11\ to\ 15, 7=16\ to\ 20, 8=over\ 2$).

Student’s planned residence added significantly to the model $F = 10.105 > F_{crit}(2, 3175 ) = 3.0$ at $\alpha = 0.05$, ($R = .080$, $R^2 = .006$) which had a small negative correlation ($\beta = -.056, p = .002$) indicating that students living at home or in a private house or apartment off
campus tended to rate themselves higher (it should be noted, however, in the subsequent block when institutional selectivity entered the regression its impact became insignificant).

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 15.672 > F_{crit} (3, 3174) = 2.61$ at $\alpha = 0.05$, ($R = .121$, $R^2 = .015$). Only one of the variables in the blocks institutional characteristics entered the regression, and that and institutional selectivity, which had a negative correlation ($\beta = -.095$, $p < .001$), indicating that students at less selective institutions tended to rate themselves higher with respect to generosity.

Student’s planned major did not add significantly to the model and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 16.083 > F_{crit} (5, 3172) = 2.22$ at $\alpha = 0.05$, ($R = .157$, $R^2 = .025$). In respect to generosity and the block with college activities and relationships the strongest positive correlation was found in “talking to faculty outside of class” ($\beta = .081$, $p < .001$), followed by “opportunity to discuss meaning/purpose of life.” ($\beta = .050$, $p = .005$).

Gratefulness

In respect to the results of faculty-student interactions impact on college students self-rating of “gratefulness” gender proved to add significantly to the model predicting gratefulness $F = 11.457 > F_{crit} (1, 3180) = 3.84$ at $\alpha = 0.05$, ($R = .060$, $R^2 = .004$) with a positive correlation ($\beta = .060$, $p = .001$), indicating that females were slightly more likely to rate themselves higher.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting gratefulness $F = 9.933 > F_{crit} (3, 3178) = 2.61$ at $\alpha = 0.05$ ($R = .096$, $R^2 = .009$). The block regarding incoming first-year student’s prior year activities and goals and values entering college in
respect to teacher-student interactions reveals that the strongest correlation was a positive correlation with the goal of communicating regularly with professors ($\beta = .050$, $p = .006$), followed by “talking with teachers outside of class” as hours per week during prior year ($\beta = .046$, $p = .011$), (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20).

Students planned residence proved to be statistically significant in the model to predict gratefulness $F = 8.894 > F_{crit}(4, 3177) = 2.37$ at $\alpha = 0.05$, ($R = .105$, $R^2 = .011$) which had a negative correlation ($\beta = -.043$, $p = .017$), indicating that students at home or in a private home or apartment tended to rate themselves higher. However, planned residence was rendered insignificant in the subsequent block when institutional selectivity entered the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 10.735 > F_{crit}(5, 3176) = 2.22$ at $\alpha = 0.05$, ($R = .129$, $R^2 = .017$). Only one of the variables proved statistically significant and that was institutional selectivity, which had a negative correlation ($\beta = -.079$, $p < .001$) indicating that students at less selective institutions tended to rate themselves higher with respect to gratefulness.

Student’s planned major did not add significantly to the model and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 11.644 > F_{crit}(7, 3174) = 2.01$ at $\alpha = 0.05$, ($R = .158$, $R^2 = .025$). In respect to the block with college activities and faculty-student the strongest positive correlation was found in “encouragement to discuss religion/spirituality” ($\beta = .067$, $p < .001$), followed by “advice/guidance about education program” ($\beta = .053$, $p = .004$).
Helpfulness
In respect to the results of faculty-student interactions impact on college students self-rating of “helpfulness” gender proved to add significantly to the model $F = 19.760 > F_{crit}(1, 3179) = 3.84$ at $\alpha = 0.05$, ($R = .079$, $R Square = .006$) and had a positive correlation ($\beta = .079$, $p < .001$), indicating that females were more likely to rate themselves higher when it comes to helpfulness.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting helpfulness $F = 17.978 > F_{crit}(3, 3177) = 2.61$ at $\alpha = 0.05$ ($R = .129$, $R Square = .017$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest correlation in respect to helpfulness was a positive correlation with the goal of “communicating regularly with professors” ($\beta = .072$, $p < .001$), followed by “talking with teachers outside of class” as hours per week during prior year ($\beta = .058$, $p = .001$), (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20).

Student’s planned residence proved statistically significant $F = 16.092 > F_{crit}(4, 3176) = 2.37$ at $\alpha = 0.05$ ($R = .141$, $R Square = .020$) with modest negative correlation ($\beta = -.057$, $p = .001$) indicating that students who lived at home or in a private home or apartment tended to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 15.826 > F_{crit}(5, 3175) = 2.22$ at $\alpha = 0.05$, ($R = .156$, $R Square = .024$); however only one of the factors was statistically significant and that was institutional selectivity with a negative correlation ($\beta = -.071$, $p < .001$), indicating that students who attended less selective institutions tended to rate themselves higher with respect to helpfulness.

Student’s planned major did not add significantly to the model and therefore did not enter the regression.
The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 15.770 > F_{\text{crit}} (8, 3172) = 1.94$ at $\alpha = 0.05$, ($R = .196$, $R \text{ Square} = .038$). In respect to the block with college activities and faculty-student interactions the strongest positive correlation with helpfulness was found in “talking to faculty outside of class” ($\beta = .086$, $p < .001$), “emotional support and encouragement” ($\beta = .049$, $p = .012$), “encouragement to discuss religion/spirituality” ($\beta = .040$, $p = .031$).

Kindness

In respect to the results of faculty-student interactions impact on college students self-rating of “kindness” gender proved to add significantly to the model $F = 8.123 > F_{\text{crit}} (1, 3177) = 3.84$ at $\alpha = 0.05$, ($R = .051$, $R \text{ Square} = .003$) with a positive correlation ($\beta = .051$, $p = .004$), indicating that females were more likely to rate themselves higher.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting courage $F = 7.539 > F_{\text{crit}} (3, 3175) = 2.61$ at $\alpha = 0.05$ ($R = .084$, $R \text{ Square} = .007$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest correlation in respect to kindness is a positive correlation with the goal of “communicating regularly with professors” ($\beta = .049$, $p = .007$), followed by “talking with teachers outside of class” as hours per week during prior year ($\beta = .036$, $p = .048$), (Hours per week in last year spent $1=none$, $2=less \ than \ one$, $3=1 \ to \ 2$, $4=3 \ to \ 5$, $5=6 \ to \ 10$, $6=11 \ to \ 15$, $7=16 \ to \ 20$, $8=over \ 20$).

Student’s planned residence was statistically significant $F = 8.622 > F_{\text{crit}} (4, 3174) = 2.37$ at $\alpha = 0.05$ ($R = .104$, $R \text{ Square} = .011$) ($\beta = -.061$, $p = .001$) indicating that students living at home or in a private house or apartment tended to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 8.197 > F_{\text{crit}} (5, 3173) = 2.22$
at $\alpha = 0.05$, ($R = .113, R^2 = .013$). However only one of the variables in the block was statistically significant and that was institutional selectivity with a modest negative correlation ($\beta = -.047, p = .011$) indicating that students at less selective institutions tended to rate themselves higher with respect to kindness.

Student’s planned major did not add significantly to the model and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 8.573 > F_{\text{crit}} (8, 3170) = 1.94$ at $\alpha = 0.05$, ($R = .146, R^2 = .021$). In respect to “kindness” The block with college activities and faculty-student interactions the strongest positive correlation was found in “talking to faculty outside of class” ($\beta = .054, p = .004$), followed by and “emotional support and encouragement” ($\beta = .047, p = .016$), and “encouragement to discuss religion/spirituality” ($\beta = .037, p = .048$).

Patience

In respect to the results of faculty-student interactions impact on college students self-rating of “patience” gender did have a significant predictive relationship.

In respect to the block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the block was not statistically significant with respect to self-rated patience.

Student’s planned residence was also not statistically significant.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 5.090 > F_{\text{crit}} (1, 3181) = 23.84$ at $\alpha = 0.05$, ($R = .040, R^2 = .002$). However, only one of the variables in the block entered the regression, and that was institutional selectivity, which had a moderate negative correlation ($\beta = -.040, p = .024$).
Student’s planned major did not add significantly to the model and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \( F = 10.617 > F_{\text{crit}} (3, 3179) = 2.61 \) at \( \alpha = 0.05 \), \( (R = .100, R^2 = .010) \). In respect to self-rated “patience” and the block with college activities and faculty-student interactions the strongest positive significant relationship was found with “encouragement to discuss religion/spirituality” \( (\beta = .081, p < .001) \), followed by moderate positive correlation of self-rated patience with “talking to faculty outside of class” \( (\beta = .036, p = .040) \).

4.2.3. Social Character Qualities

Cooperativeness

Faculty-student interactions did not have as much impact on the more social character self-ratings as character self-ratings that were more achievement-oriented, compassionate self-concept, or other collegiate outcomes. Nevertheless, they did have a significant predictive relationship. It is also well to realize that the character self-ratings represent a broad cross-section of character and one would expect that the range of variables would not impact each character self-rating in the same way or to the same degree.

In respect to cooperativeness and faculty-student interactions, as one would suspect, by far the strongest predictor was the pre-test \( F = 322.546 > F_{\text{crit}} (1, 3169) = 3.84 \) at \( \alpha = 0.05 \), \( (R = .304, R^2 = .092) \) with a strong positive correlation \( (\beta = .304, p < .001) \).

Gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting cooperativeness \( F = \)
163.793 > F_{crit} (2, 3168) = 3 at \( \alpha = 0.05 \) (\( R = .306, R \text{ Square} = .094 \)). Only one of the two variables from the block entered the regression in respect to cooperativeness with a small negative correlation with the goal of “communicating regularly with professors” (\( \beta = -.037, p = .031 \)).

Student’s planned residence did not have a significant predictive relationship with cooperativeness and did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 111.297 > F_{crit} (3, 3167) = 2.61 \) at \( \alpha = 0.05 \), (\( R = .309, R \text{ Square} = .095 \)). Only one of the variables in the block with institutional characteristics entered the regression, and that was institutional selectivity with a small negative correlation (\( \beta = -.042, p = .016 \)) meaning that students at less selective institutions tended to rate themselves higher.

Student’s planned major did not have a significant predictive relationship with cooperativeness and did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \( F = 69.166 > F_{crit} (5, 3165) = 2.22 \) at \( \alpha = 0.05 \), (\( R = .314, R \text{ Square} = .099 \)) See tables for complete model summary and ANOVA data. In respect to the block of college activities and faculty-student interactions only two variables entered had a significant predictive relationship and those were positive correlations with that of professors “helping to achieve professional goals” (\( \beta = .036; p = .040 \)) and “encouragement to discuss religion/spirituality” (\( \beta = .035, p = .050 \)).

In sum, teacher/faculty-student interactions proved to add significantly to the model predicting cooperativeness in both block for incoming first-year student’s prior year teacher-student interactions and related goals and values entering college, as well as the block for
college faculty-student interactions and related goals and values as reported by third-year college students.

Humility
In respect to the impact of the faculty-student interactions impact on college students self-rating of “humility” The block with gender did have a significant predictive relationship $F = 4.167 > F_{crit} (1, 3165) = 3.84$ at $\alpha = 0.05$, $(R = .036, R\ Square = .001)$, with a negative correlation ($\beta = -.036, p = .041$) indicating that males had a slight tendency to rate themselves higher.

None of the variables within the block regarding Incoming first-year student’s prior year activities, and related goals and values entering college in respect to student faculty relationships was not statistically significant and therefore did not enter the regression.

None of the variables in the blocks with either the plan of residence, institutional characteristics, or planned college major was statistically significant and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 5.071 > F_{crit} (2, 3164) = 3.0$ at $\alpha = 0.05$, $(R = .057, R\ Square = .003)$. In respect to self-rated humility and the block of college activities and faculty-student interactions only one variable had a significant predictive relationship and was found in a positive relationship with “encouragement to discuss religion/spirituality” ($\beta = .043, p = .015$).

In sum, faculty-student interactions proved to add significantly to the model predicting humility in the block for college faculty-student interactions and related goals and values as reported by third-year college students but not in the both block for incoming first-year student’s prior year teacher-student interactions.
Loyalty
In respect to student self-ratings for loyalty and faculty-student interactions, gender added significantly to the model $F = 19.706 > F_{crit} (1, 3177) = 3.84$ at $\alpha = 0.05$, ($R = .079$, $R Square = .006$), with a modest negative correlation ($\beta = -.079$, $p < .001$) indicating that males were more likely to rate themselves higher.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting loyalty $F = 14.537 > F_{crit} (3, 3175) = 2.61$ at $\alpha = 0.05$ ($R = .116$, $R Square = .014$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest impact in respect to loyalty is a positive correlation with “talking with teachers outside of class” as hours per week during the year prior to entering college($\beta = .065$, $p < .001$) (hours per week in last year spent
1 = none, 2 = less than one, 3 = 1 to 2, 4 = 3 to 5, 5 = 6 to 10, 6 = 11 to 15, 7 = 16 to 20, 8 = over 20), followed by the goal of “communicating regularly with professors” ($\beta = .043$, $p = .020$).

Student’s planned of residence was statistically significant $F = 13.180 > F_{crit} (4, 3174) = 2.37$ at $\alpha = 0.05$ ($R = .128$, $R Square = .016$), with a modest negative correlation ($\beta = -.053$, $p = .003$) indicating students living at home or in a private home or apartment off campus tended to rate themselves higher.

The block with institutional characteristics, including institutional type, control, and selectivity, was not statistically significant and therefore did not enter the regression.

Student’s planned major also did not add significantly to the model and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 12.609 > F_{crit} (5, 3173) = 2.22$ at $\alpha = 0.05$, ($R = .140$, $R Square = .019$). In respect to loyalty The block with college activities and faculty-student interactions only one variable
had a significant predictive relationship and that was found in “talking to teachers outside of class” (β = .058, p = .001) (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20).

In sum, teacher/faculty-student interactions proved to add significantly to the model predicting loyalty in both block for incoming first-year student’s prior year teacher-student interactions and related goals and values entering college, as well as the block for college faculty-student interactions and related goals and values as reported by third-year college students.

Open-mindedness
In respect to the results of faculty-student interactions impact on “open-mindedness” gender did not have a significant predictive relationship.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting courage $F = 13.491 > F_{crit}(2, 3185) = 3.0$ at $\alpha = 0.05$ ($R = .092, R \text{Square} = .008$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest correlation in respect to open-mindedness is a positive correlation with “talking with teachers outside of class” as hours per week during prior year ($\beta = .067, p < .001$), (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20) followed by the goal of “communicating regularly with professors” ($\beta = .048, p = .008$).

Student’s planed residence did not add significantly to the model and therefore did not enter the regression.

The block with institutional characteristics added significantly to the model predicting open-mindedness $F = 14.197 > F_{crit}(3, 3184) = 2.61$ at $\alpha = 0.05$, ($R = .115, R \text{Square} = .013$). However, only one of the variables in the had a individual significant relationship, and that was institutional control which had a negative correlation ($\beta = -070, p < .001$) indicating that
students at public universities tended to rate themselves higher, as opposed to a private college or university.

Student’s planned major did not add significantly to the model predicting open-mindedness and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 13.988 > F_{crit}(6, 3181) = 2.1$ at $\alpha = 0.05$, ($R = .160$, $R^2 = .026$). In respect to open-mindedness The block with college activities and faculty-student interactions the strongest positive significant relationship was found with “talking to faculty outside of class” again shows the strongest positive correlation ($\beta = .070$, $p < .001$) (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20), followed by “intellectual challenge and stimulation” ($\beta = .048$, $p = .009$).

“Encouragement to discuss religion/spirituality” had a negative predictive relationship with self-rated open-mindedness ($\beta = -.089$, $p < .001$), which again may correlate with students at private colleges or universities that may be religious having a tendency to rate themselves lower with respect to open-mindedness.

Respectfulness
In respect to the results of faculty-student interactions impact on college students self-rating of “respectfulness” gender did not have a significant correlation.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting respectfulness $F = 12.008 > F_{crit}(2, 3177) = 3.0$ at $\alpha = 0.05$ ($R = .087$, $R^2 = .008$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest correlation in respect to respectfulness is a positive correlation with the goal of “communicating regularly with professors” ($\beta = .071$, $p < .001$). There was a moderate positive correlation with “talking with teachers outside of class” as hours per week during prior year ($\beta = .036$, $p = .049$),
The block with plan of residence added significantly to the model predicting respectfulness:

\[ F = 13.800 > F_{crit} (3, 3176) = 2.61 \text{ at } \alpha = 0.05 \ (R = .113, R Square = .013) \ (\beta = -.074, p < .001) \] with students living at home or in a private house or apartment ending to rate themselves higher.

The block with institutional characteristics had a significant predictive relationship with the model \[ F = 10.574 > F_{crit} (5, 3174) = 2.22 \text{ at } \alpha = 0.05 \ (R = .128, R Square = .016). \] The factors that had a significant predictive relationship were institutional selectivity (\( \beta = -.069, p = .001 \)) with a negative predictive relationship; and institutional control (\( \beta = .046, p = .029 \)) correlating more with private colleges and universities. However, institutional control loses impact once college activities, goals, and values enter the regression. (It should also be noted, that while institutional selectivity had a significant predictive relationship with respectfulness under faculty-student interactions, it was not significant under student peer relationships, community service, and student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \[ F = 13.189 > F_{crit} (7, 3172) = 2.01 \text{ at } \alpha = 0.05, (R = .168, R Square = .028). \] In respect to the block with college activities and faculty-student interactions the strongest positive significant relationship was found with “encouragement to discuss religion/spirituality” (\( \beta = .088, p < .001 \)), followed by “talking to faculty outside of class” (\( \beta = .073, p < .001 \))” (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20).

In sum, teacher/faculty-student interactions proved to add significantly to the model predicting respectfulness in both block for incoming first-year student’s prior year teacher-
student interactions and related goals and values entering college, as well as the block for
college faculty-student interactions and related goals and values as reported by third-year
college students.

Self-awareness
In respect to the results of faculty-student interactions impact on college students self-rating
of self-awareness gender added significantly to the model predicting self-awareness $F =
14.209 > F_{crit} (1, 3176) = 3.84$ at $\alpha = 0.05$, ($R = .067$, $R \ Square = .004$) with a negative
correlation ($\beta = -.067$, $p < .001$), indicating that males were slightly more likely to rate
themselves higher.

The block for incoming first-year student’s prior year teacher-student interactions, and goals
and values entering college added significantly to the model predicting courage $F = 29.813 >
F_{crit} (2, 3175) = 3.0$ at $\alpha = 0.05$ ($R = .136$, $R \ Square = .018$). The block regarding Incoming
first-year student’s prior year activities and goals and values entering college in respect to
student faculty relationships reveals that the strongest correlation in respect to self-awareness
was a strong positive relationship with the goal of “communicate regularly with professors”
($\beta = .119$, $p < .001$).

Neither of the blocks with either student’s plan of residence, or institutional characteristics
had a significant predictive relationship with the model and therefore did not enter the
regression.

However, students planned major added significantly to the model ($F = 21.321 > F_{crit} (3,
3174) = 2.61$ at $\alpha = 0.05$ ($R = .141$, $R \ Square = .020$) ) with a moderate negative correlation
($\beta = -.036$, $p = .039$) indicating that students in the arts or humanities had a slight tendency
to rate themselves higher. However, the factor became insignificant in the subsequent block
when college faculty-student interactions and related goals and values as reported by third-
year college students entered the regression. (It should also be noted that while student’s
planned major had a significant predictive relationship with self-awareness under faculty-
student interactions, community service, and student spirituality, it was not significant under
student peer relationships. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 20.853 > F_{\text{crit}} (4, 3173) = 2.37$ at $\alpha = 0.05$, ($R = .160$, $R \text{Square} = .026$). In respect to self-awareness The block with college activities and faculty-student interactions the only variable with a significant relationship was found with strong positive correlation with “opportunity to discuss meaning/purpose of life” ($\beta = .078$, $p < .001$).

Self-confidence (Social)
In respect to the results of faculty-student interactions impact on college students self-rating of “self-confidence (social)” by far the strongest predictor was the self-rating pretest which had a significant predictive relationship with the model $F = 1104.473 > F_{\text{crit}} (1, 3174) = 3.84$ at $\alpha = 0.05$ ($R = .508$, $R \text{Square} = .258$) and a strong positive correlation ($\beta = .508$, $p < .001$).

Gender did not have a significant predictive relationship with the model and therefore did not enter the regression.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting social self-confidence $F = 373.091 > F_{\text{crit}} (3, 3172) = 2.61$ at $\alpha = 0.05$ ($R = .511$, $R \text{Square} = .261$). The block regarding incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest correlation in respect to social self-confidence is a positive correlation with the goal to “communicate regularly with professors”($\beta = .049$, $p = .002$) which is a good indicator of how social self-confidence and academic performance can be related in college. Ironically, “talking with teachers outside of class” in the prior year had a small negative impact ($\beta = -.033$, $p = .036$).
None of the blocks of variables of either the plan of residence, institutional characteristics, or college major had a significant predictive relationship and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 193.027 > F_{crit} (6, 3169) = 2.1$ at $\alpha = 0.05$, ($R = .517$, $R^2 = .268$). In respect to the block of college activities and faculty-student interactions the strongest positive correlation in respect to college interactions with faculty and social self-confidence was found in “emotional support and encouragement” ($\beta = .046$, $p = .006$) “respect” ($\beta = .038$, $p = .020$), and “talking to faculty outside of class” ($\beta = .033$; $p = .041$).

Self-understanding
In respect to the results of faculty-student interactions impact on college students self-rating of “self-understanding”, as expected, the strongest predictor was the self-rating pre-test of the same upon entrance to college which had a significant predictive impact on the model $F = 435.328 > F_{crit} (1, 3172) = 3.84$ at $\alpha = 0.05$, ($R = .347$, $R^2 = .121$) with a strong positive correlation ($\beta = .347$, $p < .001$).

Gender added significantly to the model predicting self-understanding $F = 220.710 > F_{crit} (2, 3171) = 3.0$ at $\alpha = 0.05$, ($R = .350$, $R^2 = .122$) with a negative correlation ($\beta = -.039$, $p = .019$), indicating that males were more likely to rate themselves higher.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting self-understanding $F = 150.694 > F_{crit} (3, 3170) = 2.61$ at $\alpha = 0.05$ ($R = .353$, $R^2 = .125$). Only one of the variables entered the block regarding incoming first-year student’s prior year activities and goals and values in respect to self-understanding and that was a positive correlation with the goal to “communicate regularly with professors” ($\beta = .052$, $p = .002$).
Neither of the blocks with either the plan of residence or institutional characteristics had a significant predictive relationship with the model and therefore did not enter the regression.

Students probable major added significantly to the model predicting self-understanding $F = 114.696 > F_{\text{crit}}(4, 3169) = 2.37$ at $\alpha = 0.05$, ($R = .356$, $R^2 = .126$) with a modest negative correlation ($\beta = -.041$, $p = .014$), indicating a slight tendency for students in the arts or humanities to rate themselves higher.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 82.598 > F_{\text{crit}}(6, 3167) = 2.1$ at $\alpha = 0.05$, ($R = .368$, $R^2 = .135$). In respect to self-understanding and faculty-student interactions the strongest positive predictive relationship was found in “encouragement to discuss religion/spirituality” ($\beta = .071$, $p < .001$) followed by “helping to achieve professional goals” ($\beta = .048$, $p = .006$).

Understanding of Others
In respect to the results of faculty-student interactions impact on college students self-rating of “understanding of others” the strongest predictor was the self-rating pre-test taken as entering first-year students which had a significant predictive relationship with the model $F = 377.510 > F_{\text{crit}}(1, 3169) = 3.84$ at $\alpha = 0.05$, ($R = .326$, $R^2 = .106$) with a strong positive relationship ($\beta = .326$, $p < .001$).

Gender added significantly to the model predicting understanding of others $F = 191.431 > F_{\text{crit}}(2, 3168) = 3.0$ at $\alpha = 0.05$, ($R = .328$, $R^2 = .108$) with a positive correlation ($\beta = .037$, $p = .027$), indicating that females were more likely to rate themselves higher in understanding of others.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting courage $F = 132.936 > F_{\text{crit}}(3, 3167) = 2.61$ at $\alpha = 0.05$ ($R = .334$, $R^2 = .112$). The block regarding incoming first-year student’s prior year activities and goals and values entering college in
respect to student faculty relationships reveals that the strongest correlation to “understanding of others” was a positive correlation with the goal of “communicating regularly with professors” ($\beta = .064, p < .001$).

None of the variables in the blocks with either the plan of residence, institutional characteristics, or planned college major had a significant predictive relationship and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 85.140 > F_{\text{crit}}(5, 3165) = 2.22$ at $\alpha = 0.05$, ($R = .344$, $R^2 = .119$). The activities and relationships in respect to the block with college activities and faculty-student interactions the strongest positive correlation in respect to college activities and goals was found in “encouragement to discuss religion/spirituality” ($\beta = .067, p < .001$), followed by “talking to faculty outside of class” ($\beta = .045, p = .008$).

4.2.4. Other Collegiate Outcomes

Emotional Health

In respect to the results of faculty-student interactions impact on college students self-rating of “emotional health” the pre-test was statistically significant $F = 654.629 > F_{\text{crit}}(1, 3170) = 3.84$ at $\alpha = 0.05$, ($R = .414$, $R^2 = .171$), and as expected the strongest predictor ($\beta = .414, p < .001$).

Gender was statistically significant $F = 344.397 > F_{\text{crit}}(2, 3169) = 3.0$ at $\alpha = 0.05$, ($R = .423$, $R^2 = .179$), with a modest negative correlation ($\beta = -.087, p < .001$), indicating that males were more likely to rate themselves higher in emotional health.

The block regarding incoming first-year students prior year teacher-student interaction, and goals and values entering college in respect to student faculty relationships did not have a significant predictive relationship with self-rated emotional health.
Student’s planned residence was statistically significant in respect to emotional health $F = 232.770 > F_{crit} (3, 3168) = 2.61$ at $\alpha = 0.05$, ($R = .425$, $R Square = .181$) with a moderate positive correlation ($\beta = .045$, $p = .005$), indicating that students in campus housing tended to rate themselves higher, which might also support that students in residence at college have a stronger support system.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, was not statistically significant in respect to self-rated emotional health.

Student’s probable major did not add significantly to the model predicting emotional health.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 130.713 > F_{crit} (6, 3165) = 2.1$ at $\alpha = 0.05$, ($R = .446$, $R Square = .199$). In respect to the block with college activities and relationships the individual variables that had a significant predictive relationship with the strongest positive correlation were found in “encouragement to discuss religion/spirituality” ($\beta = .082$, $p < .001$), followed by “helping to achieve professional goals” ($\beta = .058$, $p = .001$), and “respect” ($\beta = .050$, $p = .003$).

Physical Health
In respect to the results of faculty-student interactions impact on college students self-rating of “physical health” the pre-test was statistically significant $F = 1027.625 > F_{crit} (1, 3170) = 3.84$ at $\alpha = 0.05$, ($R = .495$, $R Square = .245$), and as expected the strongest predictor ($\beta = .495$, $p < .001$).

Gender also proved to add significantly to the model predicting physical health $F = 522.700 > F_{crit} (2, 3169) = 3.0$ at $\alpha = 0.05$, ($R = .498$, $R Square = .248$), with a modest negative correlation indicating that males were more likely to rate themselves higher in physical health ($\beta = -.058$, $p < .001$).
The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting physical health $F = 351.377 > F_{\text{crit}} (3, 3168) = 2.61$ at $\alpha = 0.05$ ($R = .500$, $R \text{ Square} = .250$). Only one of the two individual variables for the block was significant and that was “talking with teacher outside of class” ($\beta = -.040$, $p = .009$).

Student’s planned residence did not have a significant predictive relationship with physical health and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, was not statistically significant in respect to physical health.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 265.406 > F_{\text{crit}} (4, 3167) = 2.37$ at $\alpha = 0.05$, ($R = .501$, $R \text{ Square} = .251$). In respect to the block of college activities and faculty-student interactions the only individual variable that was significant was found in a positive correlation with “advice/guidance about education program” ($\beta = .038$, $p = .015$).

Spirituality
Concerning the next two areas of self-rating, spirituality and religiousness/religiosity, there is considerable correlation. However, the architects of the survey took the cues from contemporary culture which tends to view spirituality as broader and less institutional, and religiousness/religiosity as more narrow, institutional, and typically identified with a specific religion and its religious practices. Moreover, the survey and individual questions were carefully designed to be applicable to all faiths and traditions including non-western religions. Studies by the HERI reveal a wealth about college students and spirituality and
religiousness, and are recommended (cf. www.heri.org), however our focus here is an analysis how these factors predict pro-social character development or in this case are related to the other three major areas believed to predict pro-social character development.

In respect to the results of faculty-student interactions impact on college students self-rating pre-test of “spirituality”, was statistically significant $F = 1255.251 > F_{crit}(1, 3162) = 3.84$ at $\alpha = 0.05$, $(R = .533, R\ Square = .284)$, and once again, the strongest predictor was the self-rating pre-test upon entering college ($\beta = .533, p < .001$).

Gender did not have a significant predictive relationship and therefore did not enter the regression.

The block regarding incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships did not have a significant predictive relationship.

Student’s planned residence was not statistically significant and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 427.397 > F_{crit}(3, 3160) = 2.61$ at $\alpha = 0.05$, $(R = .537, R\ Square = .289)$. Two of the individual variables had significant predictive relationships, which were institutional control ($\beta = .078, p < .001$) correlating more with private college and universities, and a negative correlation with institutional selectivity ($\beta = -.037, p = .034$). (It should be noted, however, that while institutional control had a significant predictive relationship with spirituality under faculty-student interactions, student peer relationships, community service, it was not significant under student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)
The block with student’s probable major proved to add significantly to the model \( F = 322.269 > F_{\text{crit}} (4, 3159) = 2.37 \) at \( \alpha = 0.05 \), \( (R = .538, R\ Square = .290) \) with a small negative correlation \( (\beta = -.034, p = .023) \), indicating students in the arts of humanities tended to rate themselves higher.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \( F = 233.299 > F_{\text{crit}} (7, 3156) = 2.01 \) at \( \alpha = 0.05 \), \( (R = .584, R\ Square = .341) \). In respect to the block of college activities and faculty-student interactions the strongest significant predictive relationship of the individual variables was with “encouragement to discuss religion/spirituality,” one of the strongest positive correlations in any of the analyses \( (\beta = .230, p < .001) \), which is logical in this case, followed in a related fashion with “opportunity to discuss meaning/purpose of life” \( (\beta = .041, p = .018) \). There was a small negative relationship with spirituality and “intellectual challenge and stimulation” \( (\beta = -.033, p = .035) \).

Religiousness/Religiosity

In respect to the major blocks of the model, gender did not add significantly to the model predicting religiousness/religiosity in respect to the impact of faculty-student interactions.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting courage \( F = 19.974 > F_{\text{crit}} (1, 3173) = 3.84 \) at \( \alpha = 0.05 \) \( (R = .079, R\ Square = .006) \). One of the two individual variables was significant which was the goal of “communicating regularly with professors” \( (\beta = .079, p < .001) \).

Student’s planned residence did not add significantly to the model and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 14.630 > F_{\text{crit}} (3, 3171) = 2.61 \)
at $\alpha = 0.05$, $(R = .117, R\text{ Square} = .014)$. In respect to the institutional characteristics, institutional control had a moderate positive correlation ($\beta = .100, p < .001$) indicating a correlation with private colleges or universities many of which are religious in nature; while institutional selectivity had a moderate negative correlation ($\beta = -.059, p = .004$). (It should be noted, however, that while institutional control had a significant predictive relationship with religiosity/religiousness under faculty-student interactions, student peer relationships, community service, it was not significant under student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Student’s probable major was also statistically significant $F = 12.065 > F_{crit} (4, 3170) = 2.37$ at $\alpha = 0.05$, $(R = .122, R\text{ Square} = .015)$, and had a moderate negative correlation ($\beta = -.037, p = .038$), indicating students majoring in the arts or humanities tended to rate themselves higher. (However, it should be noted that while student’s planned major had a significant predictive relationship with religiosity/religiousness under faculty-student interactions and community service, it was not significant under student peer relationships and student spirituality. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 77.863 > F_{crit} (6, 3168) = 2.1$ at $\alpha = 0.05$, $(R = .358, R\text{ Square} = .129)$. In respect to individual variables and self-rated “religiousness/religiosity” and activities and faculty-student interactions, there was a strong positive correlation found with “encouragement to discuss religion/spirituality” ($\beta = .368, p < .001$), which may indicate the understandable relationship with students discussing religion/spirituality in private religious colleges. There was a negative correlation with self-rated “religiousness/religiosity” and “intellectual challenge and stimulation” ($\beta = -.047, p = .007$).
Relevance of Coursework to Life

In respect to the major blocks of the model, gender did not add significantly to the model predicting the self-rating of “relevance of coursework to life” and therefore did not enter the regression.

The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships was statistically significant $F = 28.993 > F_{crit} (1, 3192) = 3.84$ at $\alpha = 0.05$, ($R = .095, R^2 = .009$). In respect to the individual variables and “relevance of coursework to life” there was a strong positive correlation with the goal of “communicating regularly with professors” ($\beta = .095, p < .001$).

Student’s planned residence added significantly to the model for relevance of coursework to life $F = 20.984 > F_{crit} (2, 3191) = 3.0$ at $\alpha = 0.05$, ($R = .114, R^2 = .013$) with a modest correlation ($\beta = .064, .000$) indicating that students living on campus ended to give higher ratings.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 28.091 > F_{crit} (3, 3190) = 2.61$ at $\alpha = 0.05$, ($R = .160, R^2 = .026$). Institutional control was the only individual variable that was significant, with a positive correlation ($\beta = .119, p < .001$) indicating students at private colleges and universities tended to give higher ratings.

The block with student’s probable major proved to add significantly to the model $F = 23.463 > F_{crit} (4, 3189) = 2.37$ at $\alpha = 0.05$, ($R = .169, R^2 = .029$), with a moderate negative correlation ($\beta = -.053, p = .002$), indicating a tendency for students in the arts or humanities to give a higher rating.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 52.972 > F_{crit} (10, 3183) = 1.83$ at $\alpha = 0.05$, ($R = .378, R^2 = .143$). In
respect to “relevance of coursework to life” the individual variables for college activities and faculty-student interactions had positive correlations with the strongest positive correlation found in “helping to achieve professional goals” ($\beta = .123, p < .001$), “encouragement to discuss religion/spirituality” ($\beta = .114, p < .001$), “intellectual challenge and stimulation” ($\beta = .103, p < .001$), followed by strong to moderate positive correlations with “respect” ($\beta = .094, p < .001$), “advice/guidance about education program” ($\beta = .062, p = .001$), and “opportunity to discuss meaning/purpose of life” ($\beta = .059, p = .004$).

Sense of Community on Campus
In respect to the results of faculty-student interactions impact on college students self-rating of “sense of community on campus” The block with gender did not have a significant predictive relationship with the model.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting “sense of community” $F = 36.715 > F_{crit}(1, 3199) = 3.84$ at $\alpha = 0.05$ ($R = .107$, $R^2 = .011$). In respect to individual variables and Incoming first-year student’s prior year activities and goals and values entering college in respect reveals that the only one of the two individual variables had a significant predictive relationship and that was a strong positive correlation with the goal of “communicating regularly with professors” ($\beta = .107, p < .001$).

Student’s planned residence had a significant predictive relationship with sense of community on campus $F = 71.414 > F_{crit}(2, 3198) = 3.0$ at $\alpha = 0.05$ ($R = .207$, $R^2 = .043$) with a strong positive correlation ($\beta = .178, p < .001$), demonstrating that living on campus has a strong positive correlation with the sense of community on campus.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 82.322 > F_{crit}(3, 3197) = 2.61$ at $\alpha = 0.05$, ($R = .268$, $R^2 = .072$). Only one of the individual variables had a significant predictive relationship, which was institutional control with a strong positive
correlation ($\beta = .179, p < .001$) indicating that students attending private colleges and universities tended to rate sense of community on campus higher.

The block with student’s probable major proved to add significantly to the model $F = 62.865 > F_{crit} (4, 3196) = 2.37$ at $\alpha = 0.05$, ($R = .270$, $R Square = .073$), with a moderate negative correlation ($\beta = -.035, p = .039$), indicating students in the arts or humanities tended to give a higher rating.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 55.341 > F_{crit} (9, 3191) = 1.88$ at $\alpha = 0.05$, ($R = .367$, $R Square = .135$). In respect to individual variables and faculty-student interactions “sense of community on campus” the strongest positive correlation was found in “encouragement to discuss religion/spirituality” ($\beta = .147, p < .001$), which may also demonstrate a relationship to smaller religious colleges, and “helping to achieve professional goals” ($\beta = .131, p < .001$). A moderate positive correlation was found in “respect” ($\beta = .050, p = .006$) and “emotional support and encouragement” ($\beta = .047, p = .018$). Surprisingly, there was a negative correlation with “sense of community on campus” with “talking to faculty outside of class” ($\beta = -.048, p = .005$) and may indicate that students that spend high number of hours with faculty may do so at the expense of hours with other students, although that is speculation.

Opportunity for Religious/Spiritual Reflection
In respect to the results of faculty-student interactions impact on college students self-rating of “opportunity for religious/spiritual reflection” gender was not statistically significant and therefore did not enter the regression.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting courage $F = 44.584 > F_{crit} (1, 3194) = 3.84$ at $\alpha = 0.05$ ($R = .117$, $R Square = .014$). The block regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest correlation in respect to “opportunity
for religious/spiritual reflection” is a positive correlation with the goal of “communicating regularly with faculty” (β = .117, p < .001).

Student’s plan of residence was also statistically significant $F = 71.093 > F_{\text{crit}} (2, 3193) = 3.0$ at $\alpha = 0.05$ ($R = .206, R^2 = .043$), with a positive correlation with “amount of contact with faculty” (β = .171, p < .001), indicating that students who lived on campus tended to be more satisfied with the amount of contact with faculty.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 79.715 > F_{\text{crit}} (4, 3191) = 2.37$ at $\alpha = 0.05$ ($R = .301, R^2 = .091$). Individual variables within the institutional characteristics block which had a significant predictive relationship include institutional control which had a strong positive correlation (β = .202, p < .001), indicating students at private colleges and institutions tended to give a higher rating, which may seem logical in that many of these private institutions are religious in nature. There was a positive correlation with institutional selectivity (β = .053, p = .008), indicating that students at more selective institutions tended to give a higher rating for opportunity for religious/spiritual reflection.

Student’s planned major also had a significant predictive relationship $F = 64.689 > F_{\text{crit}} (5, 3190) = 2.22$ at $\alpha = 0.05$ ($R = .303, R^2 = .092$), with a small negative correlation (β = -.035, p = .039) indicating that students in the arts or humanities tended to give a higher rating. (However, it should be noted that while student’s planned major had a significant predictive relationship with opportunity for religious/spiritual reflection under faculty-student interactions, it was not significant under student spirituality. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 91.850 > F_{\text{crit}} (9, 3186) = 1.89$ at $\alpha = 0.05$ ($R = .454, R^2 = .206$). In respect
to individual variables within the block college activities and faculty-student interactions the strongest positive correlation was found not surprisingly in “encouragement to discuss religion/spirituality” ($\beta = .320, p < .001$), “helping to achieve professional goals” ($\beta = .058$, $p < .001$), and “opportunity to discuss meaning/purpose in life ($\beta = .043, p = .029$). There was a negative correlation with “talking to faculty outside of class” ($\beta = -.038, p = .021$)” 

(hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20.

**Amount of Contact with Faculty**

In respect to the results of faculty-student interactions impact on college students self-rating of “amount of contact with faculty” gender did was not statistically significant and therefore did not enter the regression.

The block for incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting courage $F = 41.124 > F_{crit}(2, 3192) = 3.0$ at $\alpha = 0.05$ ($R = .158, R \text{ Square} = .025$). The individual variables regarding Incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest correlation with the goal of “communicating regularly with faculty” ($\beta = .144, p < .001$) demonstrating that a student’s goals of such interaction are important and a smaller positive correlation with time spent “talking with teachers outside of class ($\beta = .039, p = .030$).

Student’s plan of residence was statistically significant $F = 35.829 > F_{crit}(3, 3191) = 2.61$ at $\alpha = 0.05$ ($R = .181, R \text{ Square} = .033$) with a positive correlation ($\beta = .087, p < .001$), indicating that students who lived on campus tended to be more satisfied with the amount of contact with faculty.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 48.793 > F_{crit}(6, 3188) = 2.1$ at $\alpha = 0.05, (R = .290, R \text{ Square} = .084)$. Individual institutional variables that had a significant predictive relationship were institutional control which had a strong positive
correlation ($\beta = .225, p < .001$) showing a strong correlation with private colleges and universities and showing that private colleges seem to fulfill the expectation of more contact with faculty. Institutional type had a positive correlation ($\beta = .084, p < .001$) indicating a correlation with two-year colleges over universities, which may correlate to the fact that many two-year colleges are smaller and therefore the faculty have an easier time maintaining contact with students. Finally there was a negative correlation with institutional selectivity ($\beta = -.074, p = .001$), perhaps indicating that more selective institutions fall short of student expectations of amount of contact with faculty.

The block with student’s probable major proved to add significantly to the model $F = 44.500 > F_{crit}(7, 3187) = 2.01$ at $\alpha = 0.05$, ($R = .298$, $R\ Square = .089$) with a moderate negative correlation ($\beta = -.070, p < .001$) indicating that students in the arts and humanities tended to give higher ratings.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 108.017 > F_{crit}(13, 3181) = 1.72$ at $\alpha = 0.05$, ($R = .553$, $R\ Square = .306$). In respect to individual variables within the block that were significant with college activities and faculty-student interactions the strongest positive correlation was found not surprisingly in “advice/guidance about education program” ($\beta = .180, p < .001$), “helping to achieve professional goals” ($\beta = .158, p < .001$), “respect” ($\beta = .155, p < .001$), “talking to faculty outside of class” ($\beta = .087, p < .001$)" (hours per week in last year spent $1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20, emotional support and encouragement ($\beta = .080, p < .001$), and “intellectual challenge and stimulation” ($\beta = .079, p < .001$).

Overall College Experience
In respect to the results of faculty-student interactions impact on college students self-rating of satisfaction with “overall college experience” gender did not have a significant predictive relationship with the model and therefore did not enter the regression.
The block with incoming first-year student’s prior year teacher-student interactions, and goals and values entering college added significantly to the model predicting satisfaction with “overall college experience” $F = 36.652 > F_{crit}(1, 3191) = 3.84$ at $\alpha = 0.05$ ($R = .107$, $R^2 = .011$). The block regarding incoming first-year student’s prior year activities and goals and values entering college in respect to student faculty relationships reveals that the strongest correlation in respect to “overall college experience” was a positive correlation with the goal of “communicating regularly with faculty” ($\beta = .107$, $p < .001$).

Student’s planned residence was statistically significant $F = 31.516 > F_{crit}(2, 3190) = 3.0$ at $\alpha = 0.05$, ($R = .139$, $R^2 = .019$) with a strong positive correlation with “overall college experience” ($\beta = .090$, $p < .001$) indicating that students living on campus tended to give higher ratings.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 27.708 > F_{crit}(3, 3189) = 2.61$ at $\alpha = 0.05$, ($R = .159$, $R^2 = .025$). Only one of the individual institutional variables was significant which was institutional control with a strong positive correlation ($\beta = .082$, $p < .001$), indicated students at private colleges and universities tended to give a higher degree of overall satisfaction.

Student’s probable major proved to add significantly to the model $F = 23.579 > F_{crit}(4, 3188) = 2.37$ at $\alpha = 0.05$, ($R = .170$, $R^2 = .029$). Students planned major had a modest correlation ($\beta = -.058$, $p = .001$), indicating that students in the arts or humanities tended to give higher ratings.

The block with college faculty-student interactions and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 51.789 > F_{crit}(9, 3183) = 1.88$ at $\alpha = 0.05$, ($R = .357$, $R^2 = .128$). In respect to individual variables within the block with college activities and faculty-student interactions
the strongest positive relationships were found in “helping to achieve professional goals” (β = .117, p < .001), “respect” (β = .118, p < .001), and “encouragement to discuss religion/spirituality” (β = .113, p < .001), followed by “intellectual challenge and stimulation” (β = .085, p < .001), and “advice/guidance about education program” (β = .076, p < .001). Although neither had a significant predictive relationship as individual variables on the model, there were significant strong positive correlations when run against the dependent variable alone with “opportunity to discuss meaning/purpose of life” (Pearson r = .205), and “emotional support and encouragement” (Pearson r = .202), but both also had strong colinearity with other faculty-student interactions.

In sum, teacher/faculty-student interactions proved to add significantly to the model predicting overall college satisfaction in both block for incoming first-year student’s prior year teacher-student interactions and related goals and values entering college, as well as the block for college faculty-student interactions and related goals and values as reported by third-year college students. Student’s planned residence, institutional control, and student’s planned major also had a significant predictive relationship predicting overall college satisfaction.

4.2.5. Main Results and Recommendations for Faculty-Student Interaction Variables As Predictors of Pro-social Character

As illustrated in the preceding analysis, faculty-student interactions have a significant predictive relationship with college student pro-social character self-ratings as well as other collegiate measures. Again, many of the self-ratings could be viewed in more than one grouping, and in some sense they are all inter-related. However, it is well to realize that the character self-ratings represent a broad cross-section of character and one would expect that the range of variables would not impact each character self-rating in the same way or to the same degree. Faculty-student interactions had a stronger predictive relationship with achievement-oriented character traits and other collegiate outcomes, then compassionate self-concept and social character traits. However, faculty-student interaction variables had a predictive relationship with student pro-social character. It is again helpful to look at an
overview of the character self-ratings in four useful groupings: achievement-oriented, compassionate self-concept, social, and other collegiate outcomes.

Achievement-oriented Character

[Achievement orientation- courage, creativity, dependability, drive-to-achieve, leadership ability, self-confidence (intelligence)]

Concerning the overall group of character qualities that are more achievement-oriented, the block of faculty-student interactions for entering first-year students for the previous year and related goals and values entering college had a significant predictive relationship with three of the achievement-oriented character self-ratings including courage, drive-to-achieve, and leadership ability. Both the individual variables related to faculty-student interactions “talking with teachers/faculty outside of class” as hours per week during the year prior to entering college, and goal of “communicating regularly with professors” often had a strong relationship with achievement-oriented character ratings.

In respect to college goals, values and activities related to faculty-student-interactions as reported by third-year college students, the block had a significant predictive relationship on all of the achievement-oriented character self-ratings. Some of the strongest predictive individual variables with significance were help in achieving professional goals, talking with faculty outside of class, (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20), and to a lesser degree “emotional support and encouragement”, showing respect, and “advice/guidance about education program.” It may be well that despite the fact that colleges and universities have trained professionals in these areas, faculty are often the first individuals students turn to in these situations, particularly with students living off campus or non-traditional students. Colleges would do well to help give some modest training to faculty in both of these areas and even in the best way to make a referral to the other professionals, areas that are not areas of training and expertise of faculty.
In respect to the secondary factors, most have similar results except when the results are close to the pre-determined level of significance and therefore with a different number of respondents and a different constellation of individual factors which must share the predictive power or there is a particularly strong variable entered in the regression immediately following, the outcome may change slightly.

The analysis also demonstrates that faculty-student interactions have a much stronger impact on achievement-oriented character and overall college outcomes than social or compassionate self-concept related character. However, it is interesting to note that faculty-student interactions can and often do have a significant predictive relationship with social and compassionate self-concept character qualities.

In respect to gender, males had a tendency to rate themselves higher with respect to courage, leadership ability, and self-confidence (intelligence). Reasons behind this may either be argued from a variety of perspectives including that it reflects particular genetic strengths, or more commonly the nurturing of the family of origin and the influence of social norms and expectations of the wider community. However, it would be very interesting to see if the more recent survey (SIF2004/CSBV2007) revealed a decrease in the disparity, particularly as women continue to make strides in corporate and academic achievement.

Planned residence did not have a significant predictive relationship with any of the achievement-oriented character qualities, except for intellectual self-confidence. However, as previously noted this reflected a small difference in change in $R^2$ from the previous block and was also significant for self-confidence (intellectual) under community service, but not under student peer relationships or student spirituality.

In respect to institutional characteristics, institutional selectivity was the only factor that had a significant predictive relationship with more than one character quality; and surprisingly, institutional selectivity had a negative correlation with self-rated courage, creativity, and drive-to-achieve. (However, it is noteworthy, that while institutional selectivity had a significant predictive relationship with courage under faculty-student interactions and
community service, it was not significant under student peer relationships and student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Planned major had a significant predictive relationship with three of the character traits with a negative correlation with courage, creativity, and self-confidence (intelligence) with students majoring in the arts or humanities tending to rate themselves higher with respect to these three character traits. (It should be noted, however, that while student’s planned major had a significant predictive relationship with intellectual self-confidence under faculty-student interactions and community service, it was not significant under student peer relationships or student spirituality. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.) However, as previously noted, the majors order might be better from a numeric standpoint, but in general the lower numbers correlate more with arts and humanities, while the higher numbers correlate more with science, engineering, business, and education. Education closer in numeric value to the liberal arts may have been a more useful grouping as education majors may reflect outcomes more similar to arts and humanities majors as opposed to science, engineering, or business; however this reflects mere conjecture the part of this researcher.

Compassionate Self-Concept

[Compassionate self-concept- altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience]

Concerning the overall group of character qualities that are more compassionate self-concept and faculty-student interactions, the block of activities, goals, and values having to do with the year prior to entering college and related goals and values entering college had a significant predictive relationship with all but one of the character self-ratings. The strongest individual variable related to faculty-student interactions was goal of “communicating regularly with professors” in incoming first-year students on the SIF2000, followed by
“talking with teachers outside of class” as hours per week during the year prior to entering college.

The block of college goals, values and activities related to faculty-student-interactions as reported by third-year students had a significant predictive relationship in every character self-rating related to compassionate self-concept. The strongest individual variables with significance were “encouragement to discuss religious/spiritual matters,” as well as time spent “talking with faculty outside of class” (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20), followed by emotional support and encouragement, advice and guidance about educational program, opportunities to discuss the purpose/meaning of life, and intellectual challenge and stimulation.

The analysis again demonstrates that faculty-student interactions have a much stronger impact on achievement-oriented character and overall college outcomes than social or compassionate self-concept related character. However, it is interesting to note that faculty-student interactions can and often do have a significant predictive relationship with social and compassionate self-concept character qualities. Although it is more speculative in nature, one might assume that this is strongest when there is a strong mentoring relationship between a faculty member and a student, or a faculty member is a faculty adviser for a student group or residence hall and demonstrates strong pro-social community involvement themselves.

On a secondary level, in respect to gender, males had a tendency to rate themselves higher with respect to forgiveness; while females had a tendency to rate themselves higher with respect to compassion, empathy, gratefulness, helpfulness, and kindness. Once again reasons behind this may either be argued from a variety of perspectives including that it reflects particular genetic strengths, or more commonly the nurturing of the family of origin and the influence of social norms and expectations of the wider community. However, it would be very interesting to see if the more recent survey (SIF2004/CSBV2007) revealed similar results.
Planned residence had a significant predictive relationship with four of the nine character traits including generosity, gratefulness, helpfulness, and kindness, with students living at home or in off-campus housing tending to rate themselves higher.

In respect to institutional characteristics, institutional selectivity was the only factor that had a significant predictive relationship with more than one character quality; and surprisingly, institutional selectivity had a negative correlation with six of the nine character qualities including forgiveness, generosity, gratefulness, helpfulness, kindness, and patience. However, students at both more selective institutions as well as private institutions tended to rate themselves higher with respect to altruism. It may be the case that students and their families who focus strongly on entrance into the more selective educational institutions, as well as the more selective institutions themselves, may focus on academic performance to a degree that diminishes other character qualities such as those that are part of compassionate self-concept. Students, and their families, as well as the more selective institutions, may wish to reflect on this, and depending on their goals, become more intentional about these character qualities.

Planned major had a significant predictive relationship with only one of the character qualities related to compassionate self-concept.

Social
[Social–cooperativeness, loyalty, open-mindedness, respectfulness, humility, self-awareness, self-confidence (social), self-understanding, and understanding of others]

Concerning the overall group of character qualities that are more social in nature and the block of activities for incoming first-year student’s prior year activities and related goals and values entering college, had a significant predictive relationship with all but one of the character self-ratings. Both the individual variables the goal of “communicating regularly with professors” and “talking with teachers outside of class” as hours per week during the
year prior to entering college had a significant predictive relationship with most social character self-ratings.

In respect to the block of college goals, values and activities related to faculty-student-interactions as reported by third-year students, there was a significant predictive relationship with each of the social character self-ratings. Some of the strongest individual variables with significance were with time spent with faculty outside of class, encouragement to discuss religious/spiritual matters, and help in achieving professional goals.

On a secondary level, in respect to gender, males had a tendency to rate themselves higher with respect to humility, loyalty, self-awareness, and self-understanding; while females had a tendency to rate themselves higher with respect to understanding of others. Once again reasons behind this may either be viewed from a variety of perspectives including that it reflects particular genetic strengths, or more commonly the nurturing of the family of origin and the influence of social norms and expectations of the wider community. And once again, it would be interesting to see if the more recent survey (SIF2004/CSBV2007) revealed similar results.

Planned residence had a significant predictive relationship with two of the character traits including loyalty and respectfulness, with students living at home or in off-campus housing tending to rate themselves higher.

In respect to institutional characteristics, institutional selectivity had a significant predictive relationship with cooperativeness and respectfulness, both with a negative correlation. Students at public institutions tended to rate themselves higher with respect to open-mindedness, while students at private institutions tended to rate themselves higher with respect to respectfulness. (It should be noted, that while institutional selectivity had a significant predictive relationship with respectfulness under faculty-student interactions, it was not significant under student peer relationships, community service, and student spirituality. This would seem to be the influence of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)
Planned major had a significant predictive relationship with two of the social character traits including self-awareness and self-understanding; in both cases students majoring in the arts or humanities tended to rate themselves higher.

Other Collegiate Outcomes

[Other collegiate outcomes- emotional health, physical health, spirituality, religiousness, satisfaction with opportunity for religious/spiritual reflection, satisfaction with sense of community, satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under faculty-student interactions), and satisfaction with overall college experience]

In respect to other collegiate outcomes the areas vary considerably and so are best considered on their own. However, one cannot resist some very general remarks. In terms of goals and values, entering first-year students, the block had a significant predictive relationship with most of the self-ratings. The strongest individual variable with these set of characteristics was overwhelmingly the goal of “communicating regularly with professors” in incoming first-year students on the SIF2000 which had a strong positive impact on most all of the self-ratings. It is well to note that good relationships with teachers in the year prior to entering college, which in most though not all cases is high school, who also make themselves available outside the classroom makes for positive expectations for relationships and experiences with college faculty, and demonstrates a strong impact on shaping expectations for much of college life.

The block of college goals, values and activities related to faculty-student-interactions as reported by the same college students in the spring of their third year of college had a significant predictive relationship with all of the ratings under other collegiate outcomes. Some of the most predictive individual variables with positive correlation were a help in achieving professional goals, encouragement to discuss religious/spiritual matters, talking with professors outside of class: (Hours per week in last year spent $1=none, 2=less than one,$
3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20), and advice and guidance about educational program.

The analysis also demonstrates that faculty-student interactions have a much stronger predictive relationship with achievement-oriented character and other collegiate outcomes than social or compassionate self-concept related character. However, it is interesting to note that faculty-student interactions can and often do have a significant predictive relationship with social and compassionate self-concept character qualities.

On a secondary level, in respect to gender, males had a tendency to rate themselves higher with respect to emotional health and physical health, otherwise gender did not have a significant predictive relationship with the other self-ratings for other collegiate outcomes.

Planned residence had a significant predictive relationship with all but three of the other collegiate outcomes, with students in on-campus housing tending to rate themselves higher in emotional health, opportunity for religious/spiritual reflection (though not with self-rated spirituality or religiosity/religiousness), satisfaction with sense of community, satisfaction with amount of contact with faculty, relevance of coursework, and satisfaction with overall college experience.

In respect to institutional characteristics, institutional selectivity had a significant predictive relationship with spirituality, religiosity/religiousness, and satisfaction with amount of contact with faculty, all with a negative correlation. However, students at private institutions tended to rate themselves higher with respect to spirituality, religiosity/religiousness, opportunity for religious spiritual reflection, which may reflect the fact that many private educational institutions are religious in nature. Students at private institutions also gave higher ratings for satisfaction with relevance of coursework and satisfaction with overall college experience.

Planned major had a significant predictive relationship with all but two of the other collegiate outcomes. Students majoring in the arts and humanities gave higher ratings for
spirituality, religiosity/religiousness, opportunity for religious/spiritual reflection, satisfaction with sense of community, satisfaction with amount of contact with faculty, relevance of coursework, and satisfaction with overall college experience.

The analysis also demonstrates that faculty-student interactions have a much stronger predictive relationship with achievement-oriented character and overall college outcomes than social or compassionate self-concept related character. However, it is interesting to note that faculty-student interactions can and often do have a significant predictive relationship with social and compassionate self-concept character qualities. Although it is more speculative in nature, one might assume that this is strongest when there is a strong mentoring relationship between a faculty member and a student, or a faculty member is a faculty adviser for a student group or residence hall and demonstrates strong pro-social community involvement themselves.

In sum, in terms of the block of activities related to faculty-student interaction in the year prior to entering college and related goals and values of entering first-year students there is a significant predictive relationship of faculty-student interaction on character self-ratings. The strongest individual variables with these set of characteristics was overwhelmingly the goal of “communicating regularly with professors” in incoming first-year students on the SIF2000. Therefore one of the best things that can be done to help students have good relationships with professors and have a good overall college experience is to encourage them to set a goal of communicating regularly with their professors. It is also well to note that good relationship with teachers in the year prior to entering college, which in most though not all cases is high school, who also make themselves available outside the classroom makes for positive expectations for relationships and experiences with college faculty.

In respect to college goals, values and activities related to faculty-student-interactions as reported by third-year college students, this block had a significant predictive relationship with all of the self-ratings. Some of the strongest individual variables with significance were a number of factors including help in achieving professional goals, talking with faculty
outside of class: (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20), advice and guidance about educational program, encouragement to discuss religious/spiritual matters, emotional support and encouragement, showing respect, and intellectual challenge and stimulation. Among the strongest variables related to faculty-student interactions was “talking with teachers/faculty outside of class” as hours per week during the year prior to entering college. This seems to be the case despite the fact that the survey was put together with this slated as an activity in hours per week; and although this breakdown would make sense for most activities, it seems unrealistic for time spent with teachers or professors: (Hours per week in last year spent 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 10, 6=11 to 15, 7=16 to 20, 8=over 20).

Most students do not spend even an hour a week outside of class with a teacher/professor and certain choices 4 and above indicating three or more hours a week is unrealistic. Despite this somewhat unrealistic demarcation, “talking with teachers/faculty outside of class” demonstrated a significant predictive relationship with many of the character self-ratings. It is well to note that the latter question does not specify communicating with faculty about class subjects and may include faculty interactions about other matters including college clubs and groups. Therefore one of the best things that can be done to help students have good relationships with professors and have a good overall college experience is not only to encourage them to set a goal of communicating regularly with their professors, but also to avail themselves of opportunities to communicate with professors outside the classroom, which may include not only office appointments with professors to discuss class performance and projects, but also to join groups where faculty are advisors and be able to spend time with faculty in that manner.

On the other hand, showing respect to students had a very broad positive impact, and professors should be encouraged to understand that however they might show respect it is appreciated by students and has a broad positive impact on pro-social character development as well as other collegiate outcomes.

Somewhat lower than expected was “advice/guidance about education program.” This may be more an indicator that while faculty are well-trained in their respective fields, they are not
so well trained in giving advice about the educational programs or emotional support and
guidance. It may be that despite the fact that colleges and universities have trained
professionals in these areas, the faculty are often the first individuals students turn to in
these situations and colleges would do well to help give a some modest training to faculty in
both of these areas and even in the best way to make a referral to the other professionals,
areas which are not areas of training and expertise of faculty.

Perhaps most surprising was the broad positive impact of opportunities to discuss the
purpose/meaning of life, encouragement to discuss religious/spiritual matters, by faculty.
This was not simply in religious or private schools, but seemed to have a positive impact for
most though not all of the character self-ratings in the public universities. Clearly this sort of
opportunity occurs more naturally and more often in religious or private institutions, which
often have as part of their mission some religious or philosophic purpose and also occurs
more often in classes that are religious or philosophic in nature. However, it might be noted
that the variable did not specify that the students were lectured by faculty on the
meaning/purpose of life or religious/spiritual matters, but rather were given the opportunity
to discuss such themes. Faculty less comfortable with religious/spiritual or philosophic
discussions might well note that simply being able to facilitate such discussions when they
are appropriate in a way that honors diversity of background and belief and the opinion of
every individual is interesting and stimulating to students. Institutions may well consider
holding an occasional workshop that might help faculty know the best ways to facilitate such
discussions in a manner that honors diversity. Speaking of these topics in relationship to
character also gives another avenue to facilitate a discussion that honors diversity of
background and belief. Character can provide a common theme in which to talk about
differing beliefs and backgrounds in a meaningful way. Such discussions might be even
easier to facilitate or meaningful to students if the institution became more intentional about
character as part of its mission. These deeper level discussions also have often been some of
the most innovative and influential in all of history as one can see in discussions of as diverse
as Socrates, Plato, and Aristotle as well as Jesus, Buddha and Mohammad, all of whom have
had lasting impact on the societies of the world however individuals may choose to view
them.
“Emotional support and encouragement” often had a positive predictive relationship with diverse character self-ratings and faculty may want to note that even though higher education institutions have trained counselors to handle a broad range of student issues, students often look to faculty for a certain amount of emotional support and encouragement. Faculty may also want to note that they are often the first college personnel to notice emotional needs in students and learn how to better themselves in offering such occasional counsel as well as familiarize themselves with trained counselors in student services so they can do an even better job of referral. Colleges and universities may want to invite faculty to attend some of the workshops often held for resident life personnel to offer basic level support and encouragement as well as understand when a referral would be wise as well as the best way in which to make such a referral. This is particularly noteworthy given high incidence among college students of chronic anxiety or depression, and such disorders as anorexia and bulimia, as well as suicide, or campus violence. Again, faculty are not expected to be professional counselors and are busy attending to lectures, research, and other professional activities, however these might be skills that faculty might find useful, and might even feel closer collaborative ties to college personnel in counseling, student services, and residential life.

Not surprisingly, “intellectual challenge and stimulation” had a significant predictive relationship with many outcomes not only in achievement-oriented areas but other areas as well.

It is also well to note faculty live busy lives often pressured to achieve academic research, submit professional articles, lecture in class, as well as grade student papers, projects and labs, and therefore their time is often limited. However, the time they spend with students outside of class whether counseling them in terms of academic programs, or class lectures, or mentoring them in co-curricular activities, has a strong and enduring impact on students lives in fostering a broad range of pro-social character qualities.
In an educational environment in which educational models are increasingly mirroring business models with metrics emphasizing productivity and efficiency, it is well to remember that this set of metrics revealed in this research underscores the broad positive impact of quality faculty-student interactions both in the classroom as well as beyond classroom in influencing student’s lives in a positive and enduring manner.
4.3. Results of Student Peer Relationship Variables in Predicting Pro-social Character Development in College Students

The results of the statistical analysis demonstrate the impact of student peer relationships in terms of activities, goals, and values in predicting pro-social character development as well as other related outcomes in college students. The results of the CAMBRA analysis are contained below with a description of each of the variables in each block. A number of variables are included in the appendices in crosstab tables for those factors alone including: academic performance (college GPA, SAT-ACT scores), gender, institutional characteristics (institutional control (1-public, 2-private), institutional type (1-university, 2-4 yr college, 3-2yr college, institutional selectivity (SATV+M)), race, religious preference, planned residence, years completed and degree aspirations.

Before proceeding it is helpful to remember that with a statistical model with so many blocks and numerous variables, the correlations are relatively small, however when examined they give very useful insight and analyses of the relative impact of each of the variables (Astin & Dey, 1996). The method pioneered by Astin and colleagues at HERI of UCLA has been proven over time and yielded in depth analyses. The variables in each block were entered by stepwise regression so that only the variables with significant predictive relationships would enter the regression ($\alpha = .05$) entered in order from greatest to least and would be taken out of the regression if the subsequent variable entering the block rendered its significance in excess of $\alpha = .10$. However, once the regression has moved on to the next block of variables, all previous variables remain in the regression regardless of whether new variables entering the regression diminish their respective significance. The actual survey questions used are in each block below. Once again the diagram of the IEO model is useful for insight and understanding:
Three sources of data: 1) SIF 2000, 2) CSBV 2003, 3) CIRP Institutional Information Data linked through CIRP student identifier numbers and CIRP institutional identifier.

The individual blocks of the CAMBRA with the corresponding variables are as follows:

**Block 1: Pre-test where available (SIF2000):**

**Block 2: Demographic variables (SIF2000):**

(Gender: 1-male, 2-female) (gender alone included here; other demographic analyses are included in the cross tab analysis including: academic outcomes, religious preference, parental education, and race)

**Block 3: First-year college student’s prior-year activities; goals & values upon entering college (SIF2000):**

- socialized with different ethnic group
- socializing with friends (hrs per wk)
- exercising or sports (hrs per wk)
- partying (hrs per wk)
student clubs or groups (hrs per wk)
importance of helping to promote racial understanding

Block 4: Fall planned residence (SIF2000):
1=with family or other relatives, 2=other private home, apartment, room
3=college dormitory, 4=fraternity or sorority house, 5=other campus student housing

Block 5: Institutional characteristics (CIRP institutional data):
institutional control (1-public, 2-private)
institutional type (1-university, 2-4 yr college, 3-2yr college
institutional selectivity (SATV+M)

Block 6: Student's planned major (SIF2000):

Block 7: College activities, goals, and values as reported by third-year college students
(CSBV2003):
joined a social fraternity/sorority
participated in student government
attended a racial/cultural awareness workshop
participated in leadership training
socializing with friends (hrs per wk)
exercising/sports (hrs per wk)
partying (hrs per wk)
student clubs/groups (hrs per wk)
socialized w/someone of different racial group
interpersonal skills
importance of helping to promote racial understanding
get along with people of different races/cultures
“friends who shared their religious/spiritual values (none, some, most, all)”
“friends who searching for meaning/purpose in life (none, some, most, all)”

Once again, the specific self-rated pro-social variables are listed below, which are treated as outcome variables are part of the CSBV2003. Students were asked to rate themselves in each of the areas as: 1=Lowest 10%, 2=Below Average, 3=Average, 4=Above average, 5=Highest 10%. Other related self-rated outcomes of interest are included.
The results of the blocked regression analysis for each of the self-ratings will be examined in four useful groupings: achievement-oriented, compassionate self-concept, social, and other collegiate correlation outcomes. Many of the self-ratings could be viewed in more than one grouping, and in some sense they are all inter-related. However for the sake of manageability the character self-ratings are grouped under the following:

- achievement orientation- courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intelligence)
- compassionate self-concept- altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience
- social – cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-awareness, self-confidence (social), self-understanding, and understanding of others
- other collegiate outcomes- emotional health, physical health, spirituality, religiousness, respect for diverse religious/spiritual beliefs (included only under spirituality), opportunity for religious/spiritual reflection (included only under spirituality), satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under spirituality), satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with sense of community, satisfaction with interaction with students, and satisfaction with overall college experience (not all outcomes will relate to each main category but this paper will examine those outcomes that relate to the given main area)

The results of each block of the model available will be examined with reference to the model summary table and ANOVA table to see if there is a significant relationship of each block on the model predicting each character self-rating ($\alpha = .05$) after all of the variables with a significant relationship have entered the particular block ($\alpha = .05$).

Before examining the results in detail, it is imperative once again to understand that the considerable advantages of putting so many variables into the statistical model in order to understand a wide range of variables on a particular outcome as well as the interaction of each variable is that the variables themselves register a diminished output due to the fact that
there are so many variables sharing the predictive power in the regression analysis. Therefore researchers more attuned to using a few variables need to recognize the impact of smaller coefficients in the output using this model (Cf. Astin & Dey, 1996, p.13ff).

4.3.1. Achievement Orientation:

Courage

In respect to the results of student peer relationship variables on college student’s self-rating of “courage” gender was statistically significant $F = 101.728 > F_{crit} (1, 3091) = 3.84$ at $\alpha = 0.05$, $(R = .179, R^{2} = .032)$ with a relatively strong negative correlation ($\beta = -.179, p < .001$), indicating that males were more likely to rate themselves higher.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting courage $F = 64.157 > F_{crit} (3, 3089) = 2.61$ at $\alpha = 0.05$ ($R = .242, R^{2} = .059$). In respect to courage and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was with exercising or sports ($\beta = .141, p < .001$) which is not surprising given the emphasis in sports of perseverance and courage, then to a diminished degree, but oddly enough, partying (hrs per wk) ($\beta = .061, p = .001$), which may have to do with behavior associated with risk taking.

Student’s planned residence did not have a significant predictive relationship with predicting courage and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, also did not add significantly to the model and therefore did not enter the regression.

The block with student’s probable major proved to add significantly to the model $F = 51.649 > F_{crit} (4, 3088) = 2.37$ at $\alpha = 0.05$, $(R = .250, R^{2} = .063)$, with a moderate
negative correlation ($\beta = -.064$, $p < .001$) indicating students majoring in the arts or humanities tended to rate themselves higher.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 31.544 > F_{\text{crit}}(10, 3082) = 1.83$ at $\alpha = 0.05$, ($R = .305$, $R^2 = .093$). In respect to courage and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was found with exercising/sports (hrs per wk) ($\beta = .118$, $p < .001$), interpersonal skills ($\beta = .086$, $p < .001$), socialized w/someone of different racial group ($\beta = .053$, $p = .003$), participated in leadership training ($\beta = .051$, $p = .004$), and get along with people with different races/cultures ($\beta = .038$, $p = .033$). There was a negative relationship with socialized with friends ($\beta = -.048$, $p = .008$) for self-rated courage.

Creativity
In respect to the results of student peer relationship variables on college student’s self-rating of “creativity,” the strongest predictor was the pre-test, which was statistically significant $F = 1435.487 > F_{\text{crit}}(1, 3087) = 3.84$ at $\alpha = 0.05$, ($R = .563$, $R^2 = .317$) with a very strong positive correlation ($\beta = .563$, $p < .001$).

Gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college did not add significantly to the model predicting creativity, and therefore did not enter the regression. This is one of the few instances where incoming first-year student’s prior year activities along with related goals and values were not significant.

Student’s planned residence did not have a significant predictive relationship with predicting creativity and therefore did not enter the regression.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 729.156 > F_{crit} (2, 3086) = 3.0$ at $\alpha = 0.05$, ($R = .566, R \text{ Square} = .321$). Only one of the individual variables within the block of institutional characteristics was significant, and that was institutional selectivity (SATV+M) with a moderate negative correlation ($\beta = -.059, p < .001$), indicating that students at less selective institutions tended to rate themselves higher with respect to creativity.

The block with student’s probable major proved to add significantly to the model $F = 491.501 > F_{crit} (3, 3085) = 2.61$ at $\alpha = 0.05$, ($R = .569, R \text{ Square} = .323$) with a moderate negative correlation ($\beta = -.050, p = .001$), indicating that students in the arts and humanities tended to rate themselves higher with respect to creativity.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 249.426 > F_{crit} (6, 3082) = 2.1$ at $\alpha = 0.05$, ($R = .572, R \text{ Square} = .327$). In respect to creativity and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was importance of helping to promote racial understanding ($\beta = .037, p = .014$), found in socialized w/someone of different racial group ($\beta = .033, p = .031$). However, participated in student government ($\beta = -.030, p = .044$) had a small negative relationship with respect to creativity:

Dependability
In respect to the results of student peer relationship variables on college student’s self-rating of “dependability” gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting dependability $F$
10.250 > F_{crit} (3, 3095) = 2.61 at \( \alpha = 0.05 \) (R = .099, R \textit{Square} = .010). In respect to dependability and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was with exercising or sports (\( \beta = .058, p = .001 \)), and student clubs or groups (hrs per wk) (\( \beta = .042, p = .018 \)). A negative relationship with respect to dependability was found in connection with partying (hrs per wk) (\( \beta = -.081, p < .001 \)).

Student’s planned residence did not have a significant predictive relationship with predicting dependability and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 8.344 > F_{crit} (5, 3093) = 2.22 \) at \( \alpha = 0.05 \), (R = .115, R \textit{Square} = .013). Two of the individual variables within the block of institutional characteristics had a significant predictive relationship and those were institutional type (1-university, 2-4yr college, 3-2yr college) with a moderate negative correlation (\( \beta = -.052, p = .005 \)), indicating a stronger connection in relationship to universities or 4 yr colleges; and institutional selectivity (SATV+M) with a moderate negative correlation (\( \beta = -.042, p = .025 \)), indicating students at less selective institutions tended to rate themselves higher. (However, it is noteworthy, that while institutional selectivity had a significant predictive relationship with dependability under student peer relationships and community service, it was not significant under faculty-student interactions and student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the
model predicting dependability $F = 9.414 > F_{crit}(10, 3088) = 1.83$ at $\alpha = 0.05$, ($R = .172, R^2 = .030$). In respect to dependability and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was found with interpersonal skills ($\beta = .072, p < .001$), participated in leadership training ($\beta = .063, p = .001$). However, the following all had a negative significant predictive relationship with dependability: socializing with friends (hrs per wk) ($\beta = -.066, p < .001$), attended a racial/cultural awareness workshop ($\beta = -.054, p = .004$), and joined a social fraternity/sorority ($\beta = -.052, p = .004$).

Drive-to-achieve

In respect to the results of student peer relationship variables on college student’s self-rating of “drive-to-achieve” the pre-test was the strongest predictor and statistically significant $F = 662.647 > F_{crit}(1, 3093) = 3.84$ at $\alpha = 0.05$, ($R = .420, R^2 = .176$) with a strong positive correlation ($\beta = .420, p < .001$).

Gender did not have a statistically significant predictive relationship with respect to drive-to-achieve and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting drive-to-achieve $F = 172.769 > F_{crit}(4, 3090) = 2.37$ at $\alpha = 0.05$ ($R = .428, R^2 = .183$). In respect to drive-to-achieve and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was with student clubs or groups (hrs per wk) ($\beta = .066, p < .001$) and exercising or sports (hrs per wk) ($\beta = .034, p = .037$). There was a small negative correlation with importance of helping to promote racial understanding ($\beta = -.040, p = .017$).

Student’s planned residence did not have a significant predictive relationship with predicting drive-to-achieve and therefore did not enter the regression.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 142.914 > F_{crit}(5, 3089) = 2.22$ at $\alpha = 0.05$, ($R = .433$, $R^2 = .188$). Only one of the individual variables within the block of institutional characteristics had a significant predictive relationship and that was institutional selectivity (SATV+M) with a moderate negative correlation ($\beta = -.073$, $p < .001$).

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 79.526 > F_{crit}(10, 3084) = 1.83$ at $\alpha = 0.05$, ($R = .453$, $R^2 = .205$). In respect to drive-to-achieve and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was found with interpersonal skills ($\beta = .088$, $p < .001$), student clubs/groups (hrs per wk) ($\beta = .054$, $p = .002$), exercising/sports (hrs per wk) ($\beta = .049$, $p = .009$). The following had a negative significant predictive relationship with respect to drive-to-achieve: socializing with friends (hrs per wk) ($\beta = -.076$, $p < .001$), and “friends share religious/spiritual values (none, some, most, all)” ($\beta = -.037$, $p = .022$).

Leadership Ability
In respect to the results of student peer relationship variables on college student’s self-rating of “leadership ability,” as expected the strongest predictor was the pre-test which was statistically significant $F = 1246.339 > F_{crit}(1, 3090) = 3.84$ at $\alpha = 0.05$, ($R = .536$, $R^2 = .287$) with a strong positive correlation ($\beta = .536$, $p < .001$).

Gender was statistically significant with respect to self-rated leadership ability $F = 643.602 > F_{crit}(2, 3089) = 3.0$ at $\alpha = 0.05$, ($R = .542$, $R^2 = .294$) with a moderate negative correlation ($\beta = -.082$, $p < .001$), indicating males tended to rate themselves higher.
The block for incoming first-year students prior year student peer relationships, and related
goals and values entering college added significantly to the model predicting leadership
ability $F = 330.436 > F_{\text{crit}} (4, 3087) = 2.37$ at $\alpha = 0.05$ ($R = .548$, $R \text{ Square} = .300$). In respect
to leadership ability and statistically significant individual variables within the block for
incoming first-year student’s prior year activities, and goals and values entering college
related to student peer relationships, the strongest significant positive correlation was in
respect to exercising or sports (hrs per wk) ($\beta = .070$, $p < .001$), and a small positive
relationship with student clubs or groups (hrs per wk) ($\beta = .034$, $p = .031$).

Student’s planned residence did not have a significant predictive relationship with predicting
leadership ability and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and
institutional selectivity, did not add significantly to the model and therefore did not enter the
regression.

The block with student’s probable major proved to add significantly to the model $F =
265.484 > F_{\text{crit}} (5, 3086) = 2.37$ at $\alpha = 0.05$, ($R = .548$, $R \text{ Square} = .301$) with a small negative
correlation ($\beta = -.031$, $p = .039$), indicating a slight tendency for students majoring in the
arts or humanities to rate themselves higher. (It should be noted, however, that while
student’s planned major had a significant predictive relationship with leadership ability under
student peer relationships, it was not significant under faculty-student interactions,
community service, or student spirituality. This would again seem to be the impact of
different number of respondents for the various areas as well as a different set of variables
that must share predictive power.)

The block with college student peer relationships and related goals and values as reported by
these same students in the spring of their third year of college added significantly to the
model $F = 180.970 > F_{\text{crit}} (9, 3082) = 1.88$ at $\alpha = 0.05$, ($R = .588$, $R \text{ Square} = .346$). In
respect to leadership ability and the individual variables within the block of college student
peer relationships and related goals and values, the strongest significant positive relationship was found with a very strong correlation with both participated in leadership training ($\beta = .140, p < .001$) and interpersonal skills ($\beta = .107, p < .001$), followed to a lesser degree by student clubs/groups (hrs per wk) ($\beta = .068, p < .001$). There was a small negative relationship with “friends who search for meaning/purpose in life (none, some, most, all)” ($\beta = -.036, p = .015$).

Self-confidence (Intellectual)
In respect to the results of student peer relationship variables on college student’s self-rating of “self-confidence (intellectual)” the strongest predictor as expected was the pre-test which was statistically significant $F = 504.347 > F_{crit}(1, 3091) = 3.84$ at $\alpha = 0.05$, ($R = .375, R^2 = .140$) with a strong positive correlation ($\beta = .375, p < .001$).

Gender was statistically significant with respect to intellectual self-confidence $F = 271.791 > F_{crit}(2, 3090) = 3.0$ at $\alpha = 0.05$, ($R = .387, R^2 = .150$) with a negative correlation ($\beta = -.098, p < .001$), with males tending to rate themselves higher.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting intellectual self-confidence $F = 183.492 > F_{crit}(3, 3089) = 2.61$ at $\alpha = 0.05$, ($R = .389, R^2 = .151$). In respect to intellectual self-confidence and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, only one individual variable had a significant positive impact and that was socialized with different ethnic group ($\beta = .041, p = .014$).

Student’s planned residence did not have a significant predictive relationship with predicting intellectual self-confidence and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 139.275 > F_{crit}(4, 3088) = 2.37$ at $\alpha = 0.05$, ($R = .391, R^2 = .153$). Only one of the individual variables within the block of institutional characteristics was statistically significant and that was institutional
control (1-public, 2-private) with a small negative correlation ($\beta = -.040$, $p = .016$), with students enrolled in public institutions tending to rate themselves higher. (However, it should be noted, that while institutional control had a significant predictive relationship with intellectual self-confidence under student peer relationships, community service, and student spirituality, it was not significant under faculty-student interactions. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 102.027 > F_{crit} (6, 3086) = 2.1$ at $\alpha = 0.05$, ($R = .407$, $R^2 = .166$). In respect to intellectual self-confidence and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was found with interpersonal skills ($\beta = .105$, $p < .001$), followed by importance of helping to promote racial understanding ($\beta = .034$, $p = .046$).

4.3.2. Compassionate Self-Concept

Altruism

In respect to the results of student peer relationship variables on college student’s self-rating of “altruism” gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting altruism $F = 20.650 > F_{crit} (3, 2821) = 2.61$ at $\alpha = 0.05$ ($R = .147$, $R^2 = .021$). In respect to altruism and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer
relationships, the strongest significant positive correlation was with importance of helping to promote racial understanding ($β = .098, p < .001$), and student clubs or groups (hrs per wk) ($β = .051, p = .007$). There was a relatively strong negative impact of partying in the incoming first-year student’s prior year activities (hrs per wk) ($β = -.090, p < .001$).

Student’s planned residence did not have a significant predictive relationship with predicting altruism and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 18.915 > F_{crit}(5, 2819) = 2.22$ at $α = 0.05$, ($R = .180, R^2 = .032$). Of the individual variables within the block of institutional characteristics those with a significant predictive relationship were institutional selectivity (SATV+M) with a moderate positive correlation ($β = .061, p = .005$), indicating students at more selective institutions tended to rate themselves higher with respect to altruism; and institutional control (1-public, 2-private) with a moderate positive correlation ($β = .060, p = .005$) indicating students at private colleges and universities tended to rate themselves higher with respect to altruism. (However, it should be noted, that while institutional control had a significant predictive relationship with altruism under faculty-student interactions, student peer relationships, and student spirituality, it was not significant under community service. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 18.694 > F_{crit}(12, 2812) = 1.76$ at $α = 0.05$, ($R = .272, R^2 = .074$). In respect to altruism and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant relationship was found
with participated in leadership training ($\beta = .093, p < .001$), followed by a moderate positive predictive relationship with importance of helping to promote racial understanding ($\beta = .085, p < .001$), interpersonal skills ($\beta = .068, p < .001$), “friends who searching for meaning/purpose in life (none, some, most, all)” ($\beta = .068, p < .001$), socializing with friends (hrs per wk) ($\beta = .066, p = .001$), and socialized w/someone of different racial group ($\beta = .048, p = .010$). However, there was again a negative correlation with partying (hrs per wk) ($\beta = -.067, p = .004$).

Compassion

In respect to the results of student peer relationship variables on college student’s self-rating of “compassion” gender had a statistically significant predictive relationship $F = 41.049 > F_{crit} (1, 3096) = 3.84$ at $\alpha = 0.05$, ($R = .114, R^2 = .013$) with a strong positive correlation ($\beta = .114, p < .001$) with females tending to rate themselves significantly higher with respect to compassion.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting compassion $F = 46.829 > F_{crit} (2, 3095) = 3.0$ at $\alpha = 0.05$ ($R = .171, R^2 = .029$). In respect to compassion and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the only significant correlation was a strong positive with importance of helping to promote racial understanding ($\beta = .128, p < .001$).

Student’s planned residence did not have a significant predictive relationship with predicting compassion and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model and therefore did not enter the regression.
Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 36.059 > F_{crit}(7, 3090) = 2.01$ at $\alpha = 0.05$, ($R = .275$, $R^2 = .076$). In respect to compassion and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive correlation was with interpersonal skills ($\beta = .115$, $p < .001$), and importance of helping to promote racial understanding ($\beta = .109$, $p < .001$), followed by get along with people of different races/cultures ($\beta = .064$, $p < .001$), “friends who searching for meaning/purpose in life (none, some, most, all)” ($\beta = .055$, $p = .003$), and “friends share religious/spiritual values (none, some, most, all)” ($\beta = .043$, $p = .016$).

Empathy

In respect to the results of student peer relationship variables on college student’s self-rating of “empathy” gender had a significant predictive relationship $F = 49.451 > F_{crit}(1, 3071) = 3.84$ at $\alpha = 0.05$, ($R = .126$, $R^2 = .016$) with a relatively strong positive correlation ($\beta = .126$, $p < .001$) indicating that women rated themselves higher with respect to empathy.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting empathy $F = 27.250 > F_{crit}(4, 3068) = 2.37$ at $\alpha = 0.05$ ($R = .185$, $R^2 = .034$). In respect to empathy and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in importance of helping to promote racial understanding ($\beta = .120$, $p < .001$), followed to a lesser degree by student clubs or groups (hrs per wk) ($\beta = .037$, $p = .038$). A negative correlation was seen with empathy and partying (hrs per wk) ($\beta = -.040$, $p = .025$).
Student’s planned residence did not have a significant predictive relationship with predicting empathy and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 26.409 > F_{crit}(10, 3062) = 1.83$ at $\alpha = 0.05$, ($R = 0.282$, $R^2 = 0.079$). In respect to empathy and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive correlation was found in importance of helping to promote racial understanding ($\beta = 0.126$, $p < 0.001$), followed by interpersonal skills ($\beta = 0.092$, $p < 0.001$), “friends who searching for meaning/purpose in life (none, some, most, all)” ($\beta = 0.072$, $p < 0.001$), socializing with friends (hrs per wk) ($\beta = 0.056$, $p = 0.004$), and get along with people of different races/cultures ($\beta = 0.052$, $p = 0.005$). There was a negative significant predictive relationship with respect to empathy and partying (hrs per wk) ($\beta = -0.067$, $p = 0.002$).

Forgiveness

In respect to the results of student peer relationship variables on college student’s self-rating of “forgiveness” gender had a statistically significant predictive relationship $F = 7.113 > F_{crit}(1, 3096) = 3.84$ at $\alpha = 0.05$, ($R = 0.048$, $R^2 = 0.002$) with a small negative correlation ($\beta = -0.048$, $p = 0.008$), indicating males had a slight tendency to rate themselves higher.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting forgiveness $F = 8.762 > F_{crit}(3, 3094) = 2.61$ at $\alpha = 0.05$ ($R = 0.092$, $R^2 = 0.008$). In respect to forgiveness and statistically significant individual variables within the block for incoming
first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in importance of helping to promote racial understanding (β = .066, p < .001), exercising or sports (β = .044, p = .016).

Student’s planned residence did not have a significant predictive relationship with predicting forgiveness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 9.351 > F_{crit} (4, 3093) = 2.37$ at $\alpha = 0.05$, (R = .109, R Square = .012). Only one of the variables within the block of institutional characteristics was statistically significant and that was institutional selectivity (SATV+M) with a moderate negative correlation (β = -.060, p = .001) indicating that students at less selective institutions tended to rate themselves higher with respect to forgiveness.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 13.998 > F_{crit} (9, 3088) = 1.88$ at $\alpha = 0.05$, (R = .198, R Square = .039). In respect to forgiveness and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was found with “friends who share religious/spiritual values (none, some, most, all)” (β = .093, p < .001), followed by importance of helping to promote racial understanding (β = .077, p < .001), friends seeking meaning/purpose in life (none, some, most, all)” (β = .057, p = .003), socialized w/someone of different racial group (β = .055, p = .002), and interpersonal skills (β = .040, p = .025).
Generosity
In respect to the results of student peer relationship variables on college student’s self-rating of “generosity” gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting generosity $F = 16.159 > F_{crit}(2, 3091) = 3.0$ at $\alpha = 0.05$ ($R = .102, R Square = .010$). In respect to generosity and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in importance of helping to promote racial understanding ($\beta = .094, p < .001$), followed by exercise or sports (hrs per wk) ($\beta = .040, p = .024$).

Student’s planned residence had a significant predictive relationship with predicting generosity $F = 14.181 > F_{crit}(3, 3090) = 2.61$ at $\alpha = 0.05$, ($R = .117, R Square = .014$) with a moderate negative correlation ($\beta = -.057, p = .001$) indicating students living at home or off campus in a private room or apartment tended to rate themselves higher, however in the subsequent block the coefficient was reduced to ($\beta = -.029, p = .118$) when institutional selectivity (SATV+M) entered the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 19.276 > F_{crit}(4, 3089) = 2.37$ at $\alpha = 0.05$, ($R = .158, R Square = .024$). Only one of the individual variables within the block of institutional characteristics had significant and that was institutional selectivity (SATV+M) with a strong negative correlation ($\beta = -.108, p < .001$), indicating that students at less selective institutions tended to rate themselves higher with respect to generosity.

Student’s probable major was not statistically significant and therefore did not enter the regression.
The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 18.299 > F_{crit}(10, 3083) = 1.83$ at $\alpha = 0.05$, ($R = .237$, $R^2 = .056$). In respect to generosity and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was found with importance of helping to promote racial understanding ($\beta = .083$, $p < .001$), socialized w/ someone of different racial group ($\beta = .077$, $p < .001$), get along with people of different races/cultures ($\beta = .059$, $p = .002$), interpersonal skills ($\beta = .060$, $p = .001$), socializing with friends (hrs per wk) ($\beta = .052$, $p = .004$), “friends who share religious/spiritual values (none, some, most, all)” ($\beta = .043$, $p = .015$).

Gratefulness

In respect to the results of student peer relationship variables on college student’s self-rating of “gratefulness” gender had a statistically significant predictive relationship $F = 13.274 > F_{crit}(1, 3096) = 3.84$ at $\alpha = 0.05$, ($R = .065$, $R^2 = .004$) with a moderate positive correlation ($\beta = .065$, $p < .001$) with females tending to rate themselves higher.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting gratefulness $F = 18.049 > F_{crit}(4, 3093) = 2.37$ at $\alpha = 0.05$ ($R = .151$, $R^2 = .023$). In respect to gratefulness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in importance of helping to promote racial understanding ($\beta = .086$, $p < .001$), exercising or sports ($\beta = .073$, $p < .001$), student clubs or groups (hrs per wk) ($\beta = .067$, $p < .001$).

Student’s planned residence had a significant predictive relationship with predicting gratefulness $F = 16.318 > F_{crit}(5, 3092) = 2.22$ at $\alpha = 0.05$, ($R = .160$, $R^2 = .026$), with a moderate negative correlation ($\beta = -.054$, $p = .002$), indicating students living at home or in a private room or apartment tended to rate themselves higher.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 16.330 > F_{\text{crit}}(6, 3091) = 2.1$ at $\alpha = 0.05$, ($R = .175, R^2 = .031$). Only one of the variables within the block of institutional characteristics was statistically significant and that was institutional selectivity (SATV+M) with a moderate negative correlation ($\beta = -.075, p < .001$), indicating students attending less selective institutions tended to rate themselves higher with respect to gratefulness.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 17.191 > F_{\text{crit}}(10, 3087) = 1.83$ at $\alpha = 0.05$, ($R = .230, R^2 = .053$). In respect to gratefulness and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive correlation was found in interpersonal skills ($\beta = .082, p < .001$), “friends share religious/spiritual values (none, some, most, all)” ($\beta = .080, p < .001$), importance of helping to promote racial understanding ($\beta = .071, p < .001$), socialized w/someone of different racial group ($\beta = .047, p = .009$).

Helpfulness
In respect to the results of student peer relationship variables on college student’s self-rating of “helpfulness” gender had a statistically significant predictive relationship $F = 22.578 > F_{\text{crit}}(1, 3096) = 3.84$ at $\alpha = 0.05$, ($R = .085, R^2 = .007$) with a moderate positive correlation ($\beta = .085, p < .001$) indicating women tended to rate themselves higher.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting helpfulness $F = 14.453 > F_{\text{crit}}(4, 3093) = 2.37$ at $\alpha = 0.05$ ($R = .135, R^2 = .018$). In respect to
helpfulness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in importance of helping to promote racial understanding ($\beta = .060, p = .001$), socialized with different ethnic group ($\beta = .052, p = .005$), student clubs or groups (hrs per wk) ($\beta = .050, p = .007$).

Student’s planned residence had a significant predictive relationship with predicting helpfulness $F = 12.930 > F_{\text{crit}} (5, 3092) = 2.22$ at $\alpha = 0.05$, ($R = .143, R^2 = .020$) with a small negative correlation ($\beta = -.047, p = .010$), indicating students living at home or in a private room or apartment tended to rate themselves higher with respect to helpfulness.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 13.085 > F_{\text{crit}} (6, 3091) = 2.1$ at $\alpha = 0.05$, ($R = .157, R^2 = .025$). Only one of the individual variables within the block of institutional characteristics was statistically significant and that was institutional selectivity (SATV+M) with a moderate negative correlation ($\beta = -.069, p < .001$), indicating students at less selective institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 18.170 > F_{\text{crit}} (13, 3084) = 1.72$ at $\alpha = 0.05$, ($R = .267, R^2 = .071$). In respect to helpfulness and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was found with “interpersonal skills” ($\beta = .120, p < .001$), followed by relatively strong predictive relationship with participated in leadership training ($\beta = .078, p < .001$), importance of helping to promote racial understanding ($\beta = .066, p = .001$), socialized w/someone of different racial group ($\beta = .058, p = .002$), “friends who shared their
religious/spiritual values (none, some, most, all)” ($\beta = .051, p = .004$), “get along with people of different races/cultures” ($\beta = .047, p = .012$). However, joined a social fraternity/sorority ($\beta =-.056, p = .002$) had a negative predictive relationship with respect to self-rating of helpfulness.

Kindness
In respect to the results of student peer relationship variables on college student’s self-rating of “kindness” gender had a statistically significant predictive relationship $F = 7.639 > F_{crit} (1, 3094) = 3.84$ at $\alpha = 0.05$, ($R = .050, R^{2} = .002$) with a relatively small positive correlation ($\beta = .050, p = .006$), indicating females had a tendency to rate themselves higher.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting kindness $F = 15.947 > F_{crit} (3, 3092) = 2.61$ at $\alpha = 0.05$ ($R = .123, R^{2} = .015$). In respect to kindness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive relationship was found with importance of helping to promote racial understanding ($\beta = .105, p < .001$), followed by to a lesser degree by exercising or sports ($\beta = .045, p = .013$).

Student’s planned residence had a significant predictive relationship with predicting kindness $F = 14.538 > F_{crit} (4, 3091) = 2.37$ at $\alpha = 0.05$, ($R = .136, R^{2} = .018$) with a moderate negative correlation ($\beta = -.057, p = .001$), indicating students living at home or in a private room or apartment off campus tended to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 12.663 > F_{crit} (5, 3090) = 2.22$ at $\alpha = 0.05$, ($R = .142, R^{2} = .020$). Only one of the individual variables within the block of institutional characteristics block was significant and that was institutional selectivity (SATV+M) with a small negative correlation ($\beta = -.042, p = .024$), indicating students at less selective institutions tended to rate themselves higher.
Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \( F = 15.040 > F_{\text{crit}}(13, 3082) = 1.72 \) at \( \alpha = 0.05 \), \( (R = .244, R^2 = .060) \). In respect to kindness and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant predictive relationship was found once again in interpersonal skills (\( \beta = .100, p < .001 \)), followed by importance of helping to promote racial understanding (\( \beta = .069, p = .001 \)), socializing with friends (hrs per wk) (\( \beta = .066, p = .001 \)), “friends who shared their religious/spiritual values (none, some, most, all)” (\( \beta = .057, p = .002 \)), get along with people of different races/cultures (\( \beta = .047, p = .012 \)), participated in leadership training (\( \beta = .045, p = .013 \)), socialized w/someone of different racial group (\( \beta = .044, p = .015 \)). However, there was a negative significant predictive relationship with kindness and partying (hrs per wk) (\( \beta = -.048, p = .018 \)).

Patience

In respect to the results of student peer relationship variables on college student’s self-rating of “patience” gender was not statistically significant and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting patience \( F = 11.178 > F_{\text{crit}}(2, 3095) = 3.0 \) at \( \alpha = 0.05 \) \( (R = .085, R^2 = .007) \). In respect to patience and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in importance of helping to promote racial understanding (\( \beta = .068, p < .001 \)). There was a significant negative correlation with partying (hrs per wk) (\( \beta = -.052, p = .004 \)).
Student’s planned residence did not have a significant predictive relationship with predicting patience and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 9.586 > F_{crit} (3, 3094) = 2.61$ at $\alpha = 0.05$, ($R = .096$, $R^2 = .009$). Only one of the variables within the block of institutional characteristics had statistical significance and that was institutional selectivity (SATV+M) with a relatively small negative correlation ($\beta = -.045$, $p = .012$), indicating students from less selective institutions tended to rate themselves higher with respect to patience.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 12.865 > F_{crit} (7, 3090) = 2.01$ at $\alpha = 0.05$, ($R = .168$, $R^2 = .028$). In respect to patience and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive correlation was found in importance of helping to promote racial understanding ($\beta = .088$, $p < .001$), followed by interpersonal skills ($\beta = .068$, $p < .001$), get along with people of different races/cultures ($\beta = .043$, $p = .023$). There was a significant negative correlation with partying (hrs per wk) ($\beta = -.065$, $p = .002$).

4.3.3. Social Cooperativeness

In respect to the results of student peer relationship variables on college student’s self-rating of “cooperativeness” the pre-test was statistically significant $F = 301.921 > F_{crit} (1, 3089) =$
3.84 at \( \alpha = 0.05 \), \( R = .298, R \text{ Square} = .089 \), and as expected, the strongest predictor \( (\beta = .298, p < .001) \).

Gender was not statistically significant and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting cooperativeness \( F = 157.965 > F_{crit} (2, 3088) = 3.0 \) at \( \alpha = 0.05 \) \( (R = .305, R \text{ Square} = .093) \). In respect to cooperativeness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the only significant individual correlation was a positive correlation with “exercising or sports” (hrs per wk) \( (\beta = .062, p < .001) \).

Student’s planned residence did not have a significant predictive relationship with predicting cooperativeness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 108.971 > F_{crit} (3, 3087) = 2.61 \) at \( \alpha = 0.05 \), \( (R = .309, R \text{ Square} = .096) \). Only one of the variables within the block of institutional characteristics was statistically significant and that was “institutional selectivity” (SATV+M) with negative correlation \( (\beta = -.054, p = .002) \), indicating that students attending less selective colleges and universities tended to rate themselves higher with respect to cooperativeness.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \( F = 64.227 > F_{crit} (6, 3084) = 2.1 \) at \( \alpha = 0.05 \), \( (R = .333, R \text{ Square} = .111) \). In respect to cooperativeness and the individual variables within the block of college student peer
relationships and related goals and values, the strongest significant correlation was found in “interpersonal skills” (β = .080, p < .001), importance of helping to promote racial understanding (β = .061, p < .001), followed by time spent with friends “share your religious/spiritual values” (β = .058, p = 001).

Humility
In respect to the results of student peer relationship variables on college student’s self-rating of “humility” gender did not have a statistically significant predictive relationship and therefore did not enter the regression. (However, it is noteworthy that in three of the other four areas gender was significant at α = .05 though close to the pre-determined cutoff for significance, with a negative correlation, indicating that males had a tendency to rate themselves higher. The difference here is likely due to the different number of respondents for the set of questions for student peer relationships for a variable which was so close to a cutoff point.).

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting humility $F = 18.102 > F_{crit} (2, 3083) = 3.0$ at $\alpha = 0.05$ ($R = .108$, $R^2 = .012$). In respect to humility and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the only significant positive correlation was found in importance of helping to promote racial understanding (β = .099, p < .001), while partying (hrs per wk) had a small negative correlation (β = -.042, p = .018).

Student’s planned residence did not have a significant predictive relationship with predicting humility and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model and therefore did not enter the regression.
Student’s probable major was also not statistically significant and also did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \( F = 14.104 > F_{\text{crit}}(6, 3079) = 2.1 \) at \( \alpha = 0.05 \), \( (R = .164, R^2 = .027) \). In respect to humility and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive correlation was found in importance of helping to promote racial understanding \( (\beta = .076, p < .001) \), followed by get along with people of different races/cultures \( (\beta = .064, p < .001) \), and exercise/sports (hrs per wk) \( (\beta = .060, p = .001) \). There was a negative correlation with partying (hrs per wk) \( (\beta = -.057, p = .007) \).

### Loyalty

In respect to the results of student peer relationship variables on college student’s self-rating of “loyalty” gender was statistically significant \( F = 16.095 > F_{\text{crit}}(1, 3093) = 3.84 \) at \( \alpha = 0.05 \), \( (R = .072, R^2 = .005) \) with a moderate negative correlation \( (\beta = -.072, p < .001) \), indicating men tended to rate themselves higher.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting loyalty \( F = 9.492 > F_{\text{crit}}(4, 3090) = 2.37 \) at \( \alpha = 0.05 \) \( (R = .110, R^2 = .012) \). In respect to loyalty and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in exercising or sports (hrs per wk) \( (\beta = .057, p = .002) \), student clubs or groups (hrs per wk) \( (\beta = .041, p = .024) \), socialized with different ethnic group \( (\beta = .039, p = .031) \).

Student’s planned residence added significantly to the model predicting loyalty added significantly to the model \( F = 8.759 > F_{\text{crit}}(5, 3089) = 2.22 \) at \( \alpha = 0.05 \), \( (R = .118, R^2 = .013) \).
with a small negative correlation ($\beta = -.043, p = .016$), indicating students living at home or in private rooms or apartments off campus tended to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity was not statistically significant and therefore did not enter the regression.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 11.958 > F_{\text{crit}} (9, 3085) = 1.88$ at $\alpha = 0.05$, ($R = .184$, $R^{2} = .034$). In respect to loyalty and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant correlation was found in interpersonal skills ($\beta = .079, p < .001$), “friends who shared their religious/spiritual values (none, some, most, all)” ($\beta = .077, p < .001$), socialized w/someone of different racial group ($\beta = .065, p = .001$), importance of helping to promote racial understanding ($\beta = .043, p = .019$).

Open-mindedness
In respect to the results of student peer relationship variables on college student’s self-rating of “open-mindedness” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting open-mindedness $F = 58.378 > F_{\text{crit}} (3, 3097) = 2.61$ at $\alpha = 0.05$ ($R = .231$, $R^{2} = .054$). In respect to open-mindedness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found
in importance of helping to promote racial understanding (β = .142, p < .001), followed by partying (hrs per wk) (β = .123, p < .001), which many seem understandable in respect to open-mindedness, and socialized with different ethnic group (β = .108, p < .001).

Student’s planned residence did not have a significant predictive relationship with predicting open-mindedness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 47.205 > F_{crit}(4, 3096) = 2.37$ at $α = 0.05$, ($R = .240$, $R Square = .057$). Only one of the individual variables within the block of institutional characteristics had statistical significance and that was institutional control (1-public, 2-private) with a moderate negative correlation (β = -.063, p < .001), indicating that students attending public institutions tended to rate themselves higher with respect to open-mindedness and less with private institutions.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 52.676 > F_{crit}(8, 3092) = 1.94$ at $α = 0.05$, ($R = .346$, $R Square = .120$). In respect to open-mindedness and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was found with importance of helping to promote racial understanding (β = .200, p < .001), followed by partying (hrs per wk) (β = .100, p < .001), socialized w/someone of different racial group (β = .065, p < .001). However, there was a negative correlation with “friends who shared their religious/spiritual values (none, some, most, all)” (-.121, p < .001).
Respectfulness

In respect to the results of student peer relationship variables on college student’s self-rating of “respectfulness” gender did not have a significant statistical impact and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting respectfulness $F = 11.394 > F_{crit} (4, 3091) = 2.37$ at $\alpha = 0.05$ ($R = .121$, $R^2 = .015$). In respect to respectfulness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive relationship was with exercising or sports ($\beta = .064$, $p < .001$) and student clubs or groups (hrs per wk) ($\beta = .056$, $p = .002$), and importance of helping to promote racial understanding ($\beta = .044$, $p = .014$). There was a negative impact on respectfulness with partying (hrs per wk) ($\beta = -.083$, $p < .001$).

Student’s planned residence had a significant predictive relationship with predicting respectfulness $F = 12.458 > F_{crit} (5, 3090) = 2.22$ at $\alpha = 0.05$, ($R = .141$, $R^2 = .020$) with a moderate negative correlation ($\beta = -.073$, $p = 000$), indicating students living at home or off campus in a private room or apartment tended to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 11.991 > F_{crit} (6, 3089) = 2.1$ at $\alpha = 0.05$, ($R = .151$, $R^2 = .023$). Of the individual variables within the block of institutional characteristics only one was statistically significant and that was institutional selectivity (SATV+M) with a negative correlation ($\beta = -.058$, $p = .002$), indicating students at less selective institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.
The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 13.879 > F_{crit} (12, 3083) = 1.76$ at $\alpha = 0.05$, ($R = .226$, $R Square = .051$). In respect to respectfulness and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant relationship was found with “friends who shared their religious/spiritual values (none, some, most, all)” ($\beta = .089$, $p < .001$), followed by interpersonal skills ($\beta = .082$, $p < .001$), socialized w/someone of different racial group ($\beta = .046$, $p = .012$), participated in leadership training ($\beta = .046$, $p = .014$), and importance of helping to promote racial understanding ($\beta = .045$, $p = .024$). There was a negative correlation with partying (hrs per wk) ($\beta = -.058$, $p = .006$).

**Self-awareness**

In respect to the results of student peer relationship variables on college student’s self-rating of “self-awareness” gender was statistically significant $F = 12.206 > F_{crit} (1, 3092) = 3.84$ at $\alpha = 0.05$, ($R = .063$, $R Square = .004$) with a negative correlation ($\beta = -.063$, $p < .001$), indicating males were more likely to rate themselves higher.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting self-awareness $F = 14.502 > F_{crit} (3, 3090) = 2.61$ at $\alpha = 0.05$ ($R = .118$, $R Square = .014$). In respect to self-awareness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in and importance of helping to promote racial understanding ($\beta = .081$, $p < .001$), and student clubs or groups (hrs per wk) ($\beta = .049$, $p = .007$).

Student’s planned residence did not have a significant predictive relationship with predicting self-awareness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, also did not add significantly to the model predicting self-awareness).
Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \( F = 13.899 > F_{crit} (9, 3084) = 1.88 \) at \( \alpha = 0.05 \), \((R = .197, R^2 = .039)\). In respect to self-awareness and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant relationship was found with “friends who searching for meaning/purpose in life (none, some, most, all)” \((\beta = .099, p < .001)\), followed by importance of helping to promote racial understanding \((\beta = .062, p = .002)\), get along with people of different races/cultures \((\beta = .055, p = .002)\), interpersonal skills \((\beta = .050, p = .007)\), and exercising/sports (hrs per wk) \((\beta = 0.35, p = .050)\). There was a negative correlation with “friends who shared their religious/spiritual values (none, some, most, all)” \((\beta = -.048, p = .009)\).

Self-confidence (social)
In respect to the results of student peer relationship variables on college student’s self-rating pre-test of “self-confidence (social)” was statistically significant \( F = 1060.079 > F_{crit} (1, 3089) = 3.84 \) at \( \alpha = 0.05 \), \((R = .505, R^2 = .255)\), and as expected the strongest predictor was the pre-test \((\beta = .505, p < .001)\).

Gender did not have a statistically significant predictive relationship with predicting social self-confidence and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting social self-confidence \( F = 280.358 > F_{crit} (4, 3086) = 2.37 \) at \( \alpha = 0.05 \), \((R = .516, R^2 = .267)\). In respect to social self-confidence and statistically significant relationship individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive
relationship was found with partying (hrs per wk) \( (\beta = .077, p < .001) \), socialized with different ethnic group \( (\beta = .061, p < .001) \), and importance of helping to promote racial understanding \( (\beta = .031, p = .049) \).

Student’s planned residence did not have a significant predictive relationship with predicting social self-confidence and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model and therefore did not enter the regression.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model \( F = 129.443 > F_{\text{crit}} (10, 3080) = 1.83 \) at \( \alpha = 0.05 \), \( (R = .544, R^2 = .296) \). In respect to social self-confidence and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant relationship was found with interpersonal skills \( (\beta = .108, p < .001) \), followed by considerably less impact by importance of helping to promote racial understanding \( (\beta = .060, p < .001) \), participated in leadership training \( (\beta = .053, p = .001) \), socializing with friends (hrs per wk) \( (\beta = .047, p = .005) \), partying (hrs per wk) \( (\beta = .045, p = .021) \), and “friends who shared their religious/spiritual values (none, some, most, all)” \( (\beta = .043, p = .006) \).

Self-understanding
In respect to the results of student peer relationship variables on college student’s self-rating of “self-understanding” the strongest predictor was the pre-test which was also statistically significant \( F = 438.810 > F_{\text{crit}} (1, 3089) = 3.84 \) at \( \alpha = 0.05 \), \( (R = .353, R^2 = .124) \) with a strong positive correlation \( (\beta = .353, p < .001) \).
Gender was statistically significant in predicting self-understanding $F = 221.774 > F_{crit} (2, 3088) = 3.0$ at $\alpha = 0.05$, ($R = .354, R\ Square = .126$) with a small negative correlation ($\beta = - .035, p = .039$), indicating that males were slightly more likely to rate themselves higher.

The block regarding Incoming first-year student’s prior year activities, and goals and values entering college in respect to peer relationships was not significant in predicting self-understanding. This was an exception to predicting self-rated character.

Student’s planned residence had a significant predictive relationship with predicting self-understanding $F = 149.838 > F_{crit} (3, 3087) = 2.61$ at $\alpha = 0.05$, ($R = .357, R\ Square = .127$) with a small positive correlation ($\beta = .039, p = .021$), indicating that students living on campus were more likely to rate themselves higher. However, planned residence was not found to be significant for self-understanding under the other three major areas including faculty-student interactions, student peer relationships, or community service. Again, this is typically due to a different number of respondents in the major areas as well as a different constellation of variables that must share predictive power.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model and therefore did not enter the regression.

The block with student’s probable major proved to add significantly to the model $F = 114.360 > F_{crit} (4, 3086) = 2.37$ at $\alpha = 0.05$, ($R = .359, R\ Square = .129$) with a small negative correlation ($\beta = -.045, p = .008$), indicating students majoring in the arts or humanities were slightly more likely to rate themselves higher.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 54.121 > F_{crit} (10, 3080) = 1.83$ at $\alpha = 0.05$, ($R = .387, R\ Square = .149$). In respect to self-understanding and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive predictive
relationship was found with interpersonal skills ($\beta = .086, p < .001$), followed by “friends searching for meaning/purpose in life (none, some, most, all)” ($\beta = .060, p = .001$), socializing with friends (hrs per wk) ($\beta = .053, p = .005$), participated in leadership training ($\beta = .040, p = .022$). There was a negative significant predictive relationship with self-understanding and partying (hrs per wk) ($\beta = -.047, p = .014$) and joined a social fraternity/sorority ($\beta = -.039, p = .027$).

Understanding of Others
In respect to the results of student peer relationship variables on college student’s self-rating of “understanding of others,” as expected the strongest predictor was the pre-test which was statistically significant $F = 377.840 > F_{\text{crit}} (1, 3086) = 3.84$ at $\alpha = 0.05$, ($R = .330$, $R \text{ Square} = .109$) with a strong positive correlation ($\beta = .330, p < .001$).

Gender was statistically significant in predicting the self-rating of understanding of others $F = 191.440 > F_{\text{crit}} (2, 3085) = 3.0$ at $\alpha = 0.05$, ($R = .332$, $R \text{ Square} = .110$) with a small positive correlation ($\beta = .036, p = .032$) with females having a tendency to rate themselves higher.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting understanding of others $F = 135.321 > F_{\text{crit}} (3, 3084) = 2.61$ at $\alpha = 0.05$ ($R = .341$, $R \text{ Square} = .116$). In respect to understanding of others and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, only one individual variable was significant and that was a positive correlation with importance of helping to promote racial understanding ($\beta = .078, p < .001$).

Student’s planned residence did not have a significant predictive relationship with predicting understanding of others and therefore did not enter the regression.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model predicting understanding of others.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 72.899 > F_{crit}(8, 3079) = 1.94$ at $\alpha = 0.05$, ($R = .399$, $R^2 = .159$). In respect to understanding of others and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was found with importance of helping to promote racial understanding ($\beta = .142$, $p < .001$), followed to a lesser degree by socialized w/someone of different racial group ($\beta = .085$, $p < .001$), interpersonal skills ($\beta = .078$, $p < .001$), “friends who searching for meaning/purpose in life (none, some, most, all)” ($\beta = .049$, $p = .004$), and socializing with friends (hrs per wk) ($\beta = .049$, $p = .003$).

4.3.4. Other Collegiate Outcomes:

Emotional Health
In respect to the results of student peer relationship variables on college student’s self-rating of “emotional health” the strongest predictor was the pre-test which was also statistically significant $F = 602.856 > F_{crit}(1, 3087) = 3.84$ at $\alpha = 0.05$, ($R = .404$, $R^2 = .163$) with a strong positive correlation ($\beta = .404$, $p < .001$).

Gender was statistically significant $F = 316.003 > F_{crit}(2, 3086) = 3.0$ at $\alpha = 0.05$, ($R = .412$, $R^2 = .170$) with a moderate negative correlation ($\beta = -.082$, $p < .001$) indicating that males tended to rate themselves higher.
The block regarding Incoming first-year student’s prior year activities, and goals and values entering college in respect to peer relationships did not add significantly to the model predicting emotional health and therefore did not enter the regression.

Student’s planned residence had a significant predictive relationship with predicting emotional health $F = 215.136 > F_{crit} (3, 3085) = 2.61$ at $\alpha = 0.05$, ($R = .416$, $R^2 = .173$) with a positive correlation ($\beta = .055$, $p = .001$), indicating that students living on campus tended to rate themselves higher with respect to emotional health.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model and therefore did not enter the regression.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 83.723 > F_{crit} (9, 3079) = 1.88$ at $\alpha = 0.05$, ($R = .443$, $R^2 = .197$). In respect to emotional health and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship were found in “friends share religious/spiritual values (none, some, most, all)” ($\beta = .067$, $p < .001$), interpersonal skills ($\beta = .064$, $p < .001$), socializing with friends (hrs per wk) ($\beta = .061$, $p = .001$), get along with people of different races/cultures ($\beta = .041$, $p = .015$), participated in leadership training ($\beta = .033$, $p = .046$). There was a negative significant correlation with self-rated emotional health and partying (hrs per wk) ($\beta = -.082$, $p < .001$).

Physical Health

In respect to the results of student peer relationship variables on college student’s self-rating of “physical health” the strongest predictor was the pre-test which was statistically significant
$F = 1014.008 > F_{crit} (1, 3088) = 3.84$ at $\alpha = 0.05$, ($R = .497$, $R Square = .247$) with a strong positive correlation ($\beta = .497$, $p < .001$).

Gender was statistically significant $F = 517.582 > F_{crit} (2, 3087) = 3.0$ at $\alpha = 0.05$, ($R = .501$, $R Square = .251$) with a moderate negative correlation ($\beta = -.064$, $p < .001$), with males tending to rate themselves higher.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting physical health $F = 239.439 > F_{crit} (5, 3084) = 2.22$ at $\alpha = 0.05$ ($R = .529$, $R Square = .280$). In respect to physical health and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in exercising or sports ($\beta = .169$, $p < .001$), which one would expect. Slight negative correlations were found in student clubs or groups (hrs per wk) ($\beta = -.050$, $p = .001$), and importance of helping to promote racial understanding ($\beta = -.046$, $p = .003$).

Student’s planned residence did not have a significant predictive relationship with predicting physical health and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 156.334 > F_{crit} (10, 3079) = 1.83$ at $\alpha = 0.05$, ($R = .580$, $R Square = .337$). In respect to physical health and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship
was found with exercising/sports (hrs per wk) ($\beta = .265, p < .001$), which one would expect, followed by only a very moderate relationship to “friends who shared their religious/spiritual values (none, some, most, all)” ($\beta = .047, p = .001$). There was a rather moderate negative correlation with participated in student government ($\beta = -.051, p = .001$), socializing with friends (hrs per wk) ($\beta = -.048, p = .001$), socialized w/someone of different racial group ($\beta = -.034, p = .023$).

**Spirituality**

Concerning the next two areas of self-rating, spirituality and religiousness/religiosity, there is considerable correlation. However, the authors of the survey took the cues from contemporary culture which tends to view spirituality as broader and less institutional, and religiousness/religiosity as considered to be more narrow, institutional, and typically identified with a specific religion and its religious practices. The survey was designed to be applicable to all faiths and traditions including non-western religions.

In respect to the results of student peer relationship variables on college student’s self-rating of “spirituality,” the strongest predictor as expected was the pre-test which was statistically significant $F = 1221.355 > F_{crit} (1, 3079) = 3.84$ at $\alpha = 0.05$, ($R = .533, R \text{Square} = .284$) with a strong positive correlation ($\beta = .533, p < .001$).

Gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting spirituality $F = 428.818 > F_{crit} (3, 3077) = 2.61$ at $\alpha = 0.05$ ($R = .543, R \text{Square} = .295$). In respect to spirituality and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, there were no significant positive correlations; however the there were
negative correlations partying (hrs per wk) ($\beta = -0.094, p < .001$), and to a lesser degree, socialized with different ethnic group ($\beta = -0.045, p = .048$).

Student’s planned residence did not have a significant predictive relationship with predicting spirituality and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 262.804 > F_{\text{crit}} (5, 3075) = 2.22$ at $\alpha = 0.05$, ($R = .547$, $R^2 = .299$). Two of the individual variables within the block of institutional characteristics were significant and those were institutional control (1-public, 2-private) with a positive correlation ($\beta = 0.079, p < .001$), indicating that students in private colleges or universities tended to rate themselves higher, which is understandable since many private colleges or universities are religious in nature; and institutional selectivity (SATV+M) with a small negative correlation ($\beta = -0.035, p = .048$), indicating students at less selective institutions tended to rate themselves higher. (It should be noted, however, that while institutional control had a significant predictive relationship with spirituality under faculty-student interactions, student peer relationships, community service, it was not significant under student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

The block with student’s probable major proved to add significantly to the model $F = 220.253 > F_{\text{crit}} (6, 3074) = 2.1$ at $\alpha = 0.05$, ($R = .548$, $R^2 = .301$) with a small negative correlation ($\beta = -0.036, p = .019$), indicating a slight tendency for students majoring in the arts or humanities to rate themselves higher.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 129.431 > F_{\text{crit}} (14, 3066) = 1.69$ at $\alpha = 0.05$, ($R = .609$, $R^2 = .371$). In respect to spirituality and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was
found with “friends who shared their religious/spiritual values (none, some, most, all)” (β = .164, p < .001), “friends who searching for meaning/purpose in life (none, some, most, all)” (β = .099, p < .001), participated in leadership training (β = .069, p < .001), socializing with friends (hrs per wk) (β = .049, p = .002), and importance of helping to promote racial understanding (β = .040, p = .008), and exercising/sports (hrs per wk) (β = .038, p = .011).

There were negative significant correlations with self-rated spirituality and partying (hrs per wk) (β = -.149, p < .001), and to a lesser degree, joined a social fraternity/sorority (β = -.032, p = .036).

Religiousness/Religiosity

In respect to the results of student peer relationship variables on college student’s self-rating of “religiousness/religiosity” gender did not have a significant predictive relationship.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting religiousness/religiosity $F = 40.667 > F_{crit}(3, 3087) = 2.61$ at $\alpha = 0.05$ ($R = .195$, $R^2 = .038$). In respect to religiousness/religiosity and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was with student clubs or groups (hrs per wk) (β = .054, .002). There was a strong negative correlation to partying (hrs per wk) (β = -.178, p < .001), and only a moderate negative relationship in respect to socialized with different ethnic group (β = -.057, p = .001).

Student’s planned residence did not have a significant predictive relationship with predicting religiousness/religiosity and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 29.732 > F_{crit}(5, 3085) = 2.22$ at $\alpha = 0.05$, ($R = .214$, $R^2 = .046$). Two of the individual variables within the block of institutional characteristics were significant and those were institutional control (1-public, 2-
private) with a strong positive correlation ($\beta = .104, p < .001$), indicating that students who attend a private college or university were more likely to rate themselves higher, which is understandable since many private colleges or universities are religious in nature, and institutional selectivity (SATV+M) with a moderate negative correlation ($\beta = -.061, p = .003$), indicating students at less selective institutions tended to rate themselves higher. (It should be noted, however, that while institutional control had a significant predictive relationship with religiosity/religiousness under faculty-student interactions, student peer relationships, community service, it was not significant under student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 75.247 > F_{crit} (13, 3077) = 1.72$ at $\alpha = 0.05$, ($R = .491$, $R^2 = .241$). In respect to religiousness/religiosity and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant relationship was found with a very strong correlation with “friends who shared their religious/spiritual values (none, some, most, all)” ($\beta = .315, p < .001$), followed by “friends searching for meaning/purpose in life (none, some, most, all)” ($\beta = .084, p < .001$), and to a lesser degree, participated in leadership training ($\beta = .080, p < .001$), exercising/sports (hrs per wk) ($\beta = .067, p < .001$), student clubs/groups (hrs per wk) ($\beta = .069, p < .001$), and get along with people of different races/cultures ($\beta = .038, p = .018$). There was a very strong negative significant correlation with self-rated religiousness/religiosity and partying (hrs per wk) ($\beta = -.224, p < .001$), and to a greatly diminished degree, socialized w/someone of different racial group ($\beta = -.042, p = .012$).
Satisfaction with Sense of Community on Campus

In respect to the results of student peer relationship variables on college student’s self-rating of “satisfaction with sense of community on campus” gender was statistically significant $F = 3.982 > F_{crit} (1, 3109) = 3.84$ at $\alpha = 0.05$, ($R = .036, R Square = .001$) with a small positive correlation and ($\beta = .036, p = .046$), indicating that females had a tendency to rate satisfaction with sense of community higher. (However, it is noteworthy that gender was significant with respect to satisfaction with sense of community only with student peer relationships, and that in other three major areas gender was not found to be significant with respect to sense of community. The difference here is likely due to the different number of respondents for the set of questions for student peer relationships for a variable which was so close to a cutoff point.)

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting satisfaction with sense of community on campus $F = 10.031 > F_{crit} (4, 3106) = 2.37$ at $\alpha = 0.05$ ($R = .113, R Square = .013$). In respect to satisfaction with sense of community on campus and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation were found in student clubs or groups (hrs per wk) ($\beta = .058, p = .001$), and exercising or sports (hrs per wk) ($\beta = .058, p = .002$), while partying (hrs per wk) ($\beta = -.082, p < .001$) had a relatively strong negative relationship.

Student’s planned residence had a significant predictive relationship with predicting satisfaction with sense of community on campus $F = 29.019 > F_{crit} (5, 3105) = 2.22$ at $\alpha = 0.05$, ($R = .211, R Square = .045$) with a strong positive correlation ($\beta = .181, p < .001$), indicating that students who planned to live on campus had a higher satisfaction with the sense of campus community.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 40.672 > F_{crit} (6, 3104) = 2.1$
at $\alpha = 0.05$, ($R = .270$, $R^2 = .073$). Within the block of institutional characteristics, only one of the individual variables was significant and that was a strong positive relationship with institutional control (1-public, 2-private) ($\beta = .178$, $p < .001$), indicating that students who attended private colleges or universities were more satisfied with the sense of community on campus.

The block with student’s probable major proved to add significantly to the model $F = 35.449 > F_{crit}(7, 3103) = 2.01$ at $\alpha = 0.05$, ($R = .272$, $R^2 = .074$) with a small negative correlation ($\beta = -.034$, $p = .049$), indicating that students in the arts or humanities had a tendency to rate higher satisfaction with sense of community on campus.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 44.022 > F_{crit}(12, 3098) = 1.76$ at $\alpha = 0.05$, ($R = .382$, $R^2 = .146$). In respect to satisfaction with sense of community on campus and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant was found in “friends who shared their religious/spiritual values (none, some, most, all)” ($\beta = .175$, $p < .001$), and interpersonal skills ($\beta = .111$, $p < .001$), and to lessening degrees, participated in leadership training ($\beta = .078$, $p < .001$), student clubs/groups (hrs per wk) ($\beta = .077$, $p < .001$), socializing with friends (hrs per wk) ($\beta = .048$, $p = .005$).

Satisfaction with Interaction with Other Students
In respect to the results of student peer relationship variables on college student’s self-rating of “satisfaction with interaction of students” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting satisfaction with interaction with other students $F = 12.061 > F_{crit}(2, 3103) = 3.0$ at $\alpha = 0.05$ ($R = .088$, $R^2 = .008$). In respect to satisfaction with interaction with other students and statistically
significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in student clubs or groups (hrs per wk) ($\beta = .067, p < .001$), followed by exercising or sports ($\beta = .057, p = .001$).

Student’s planned residence had a significant predictive relationship with predicting satisfaction with interaction with other students $F = 21.510 > F_{\text{crit}} (3, 3102) = 2.61$ at $\alpha = 0.05$, ($R = .143, R^2 = .020$) with a strong positive correlation indicating that students living on campus tended to rate satisfaction higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 22.453 > F_{\text{crit}} (5, 3100) = 2.22$ at $\alpha = 0.05$, ($R = .187, R^2 = .035$). Two of the individual variables within the block of institutional characteristics which were institutional control (1-public, 2-private) with a strong positive correlation ($\beta = .142, p < .001$), indicating that students attending a private university were more satisfied with student interactions; and institutional selectivity (SATV+M) which had a negative correlation ($\beta = -.084, p < .001$), indicating that students attending less selective institutions tended to give a higher satisfaction rating for interaction with other students.

The block with student’s probable major proved to add significantly to the model $F = 19.978 > F_{\text{crit}} (6, 3099) = 2.1$ at $\alpha = 0.05$, ($R = .193, R^2 = .037$), with a moderate negative correlation, ($\beta = -.048, p = .007$), indicating that students majoring in the arts or humanities tended to give a higher rating for satisfaction with interaction with other students.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 30.899 > F_{\text{crit}} (13, 3092) = 1.72$ at $\alpha = 0.05$, ($R = .339, R^2 = .115$). In respect to satisfaction with interactions with other students and the individual variables within the block of college student peer relationships and related goals and values, the
The strongest significant relationship was found with interpersonal skills ($\beta = .175$, $p < .001$), participated in leadership training ($\beta = .089$, $p < .001$), “friends who shared their religious/spiritual values (none, some, most, all)” ($\beta = .082$, $p < .001$), socializing with friends (hrs per wk) ($\beta = .081$, $p < .001$), joined a social fraternity/sorority ($\beta = .057$, $p = .001$), socialized w/someone of different racial group ($\beta = .051$, $p = .003$), and student clubs/groups (hrs per wk) ($\beta = .039$, $p = .048$).

Satisfaction With Overall College Experience

In respect to the results of student peer relationship variables on college student’s self-rating of “satisfaction with the overall college experience” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year student peer relationships, and related goals and values entering college added significantly to the model predicting satisfaction with overall college experience $F = 8.755 > F_{crit} (3, 3102) = 2.61$ at $\alpha = 0.05$ ($R = .092$, $R Square = .008$). In respect to satisfaction with overall college experience and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student peer relationships, the strongest significant positive correlation was found in student clubs or groups (hrs per wk) ($\beta = .068$, $pp < .001$), and exercising or sports ($\beta = .056$, $p = .002$). There was a small negative correlation with partying (hrs per wk) ($\beta = -.039$, $p = .033$) in the year prior to entering college.

Student’s planned residence had a significant predictive relationship with predicting satisfaction with overall college experience $F = 14.070 > F_{crit} (4, 3101) = 2.37$ at $\alpha = 0.05$, ($R = .134$, $R Square = .018$) with a strong positive correlation ($\beta = .098$, $p < .001$), indicating students living on campus tended to rate their satisfaction with their overall college experience higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 15.640 > F_{crit} (5, 3100) = 2.22$
at $\alpha = 0.05$, ($R = .157, R \text{ Square } = .025$). Only one of the individual variables within the block of institutional characteristics was statistically significant and that was institutional control (1-public, 2-private) with a strong positive correlation ($\beta = .087, p < .001$) indicating that students who attended a private university tended to be more satisfied with their overall college experience.

The block with student’s probable major proved to add significantly to the model $F = 15.033 > F_{\text{crit}}(6, 3099) = 2.1$ at $\alpha = 0.05$, ($R = .168, R \text{ Square } = .028$) with a negative correlation ($\beta = -.061, p = .001$), indicating that students majoring in the arts or humanities tended to give higher satisfaction ratings for their overall college experience.

The block with college student peer relationships and related goals and values as reported by these same students in the spring of their third year of college added significantly to the model $F = 32.307 > F_{\text{crit}}(11, 3094) = 1.79$ at $\alpha = 0.05$, ($R = .321, R \text{ Square } = .103$). In respect to satisfaction with overall college experience and the individual variables within the block of college student peer relationships and related goals and values, the strongest significant positive relationship was found with interpersonal skills ($\beta = .177, p < .001$), and “friends who shared their religious/spiritual values (none, some, most, all)” ($\beta = .122, p < .001$), and to a lesser degree, student clubs/groups (hrs per wk) ($\beta = .073, p < .001$), socializing with friends (hrs per wk) ($\beta = .066, p < .001$), and participated in leadership training ($\beta = .059, p = .002$).

4.3.5. Main Results and Recommendations in Respect to Student Peer Relationships and the Prediction of Pro-social Character Development

As illustrated in the preceding analysis, student peer relationship variables had a strong predictive relationship with college student self-rated pro-social character. However, student peer relationships had a much stronger impact on social character traits, compassionate self-concept and social oriented character and overall college outcomes than achievement-oriented character.
Achievement-oriented Character

[Achievement orientation- courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intelligence).]

In respect to achievement orientated character self-ratings and student peer relationships and activities in the year prior to entering college and related goals and values for incoming first-year college students and self-ratings of the achievement-oriented character traits as a whole there was a significant predictive relationship with every character self-rating with the exception of creativity. The individual factors with the most positive significant predictive relationship were found in exercising or sports, followed by student clubs (hrs per wk).

In respect to student peer relationships and overall self-ratings of the achievement-oriented characteristics and college student peer interactions during the first three years of college as reported by third-year college students, there was a significant predictive relationship with every self-rated character trait. The individual factors with the most predictive relationships were interpersonal skills, socialized w/someone of different racial group, importance of promoting racial understanding, exercising/sports (hrs per wk), participated in leadership training, and student clubs/groups (hrs per wk).

Under achievement-oriented character, partying (hrs per wk) had a positive correlation with courage (prior year activities) and a negative correlation with dependability (both prior year activities entering college, and activities during college).

From a thematic perspective, sensitivity to racial understanding as well as friendships that transcended racial, religious, or cultural boundaries had a positive predictive relationship with achievement-oriented character, which can be seen in student responses to importance of promoting racial understanding and socialized w/someone of different racial group. There was also a strong positive predictive relationship with interpersonal skills, as well as participating in leadership training on the achievement-oriented character self-ratings. Exercising/sports (hrs per wk) had a positive predictive relationship with the achievement-oriented set of character self-ratings, and underscores the social facet of sports.
and exercise. These healthy positive peer relationships predict and may help foster achievement-oriented pro-social character development in college students.

In respect to the secondary factors, most have similar results with the other main areas except when the significance is very close to the pre-determined cutoff value, and therefore with a different number of respondents and a different constellation of individual factors which must share the predictive power, or there is a particularly strong variable entered in the regression immediately following, the outcome may change slightly.

In respect to gender, males had a tendency to rate themselves higher with respect to courage, leadership ability, and self-confidence (intelligence). Once again, reasons behind this finding may be interpreted from a variety of perspectives including that it reflects particular genetic predispositions, or more perhaps a more common view that it reflects the nurturing of the family of origin and the influence of social norms and expectations of the wider community. However, it would be very interesting to see if the more recent survey (SIF2004/CSBV2007) revealed a decrease in the disparity, particularly as women continue to make strides in corporate and academic achievement.

Planned residence was not a significant predictor of any of the achievement-oriented character qualities.

In respect to institutional characteristics, institutional selectivity was the only factor that had a significant predictive relationship with more than one character quality, which surprisingly had a negative predictive relationship with self-rated creativity, dependability, and drive-to-achieve. (However, it is again noteworthy, that while institutional selectivity had a significant predictive relationship with dependability under student peer relationships and community service, it was not significant under faculty-student interactions and student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of the major areas.)
Planned major had a significant predictive relationship with three of the achievement-oriented character traits with students majoring in the arts or humanities tending to rate themselves higher with respect to courage, creativity, and leadership ability. (It should be noted, however, that while student’s planned major had a significant predictive relationship with leadership ability under student peer relationships, it was not significant under faculty-student interactions, community service, or student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Compassionate Self-Concept

[Compassionate self-concept- altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience.]

In respect to student peer relationships and self-ratings of the compassionate self-concept character traits as a whole and incoming first-year student activities in the year prior to entering college and related goals and values entering college had a significant predictive relationship with every compassionate self-concept character trait. The individual factors with the most positive significant predictive relationships were found with importance of promoting racial understanding, student clubs or groups (hrs per wk), and exercising/sports (hrs per wk).

In respect to student peer relationships and overall self-ratings of the compassionate self-concept character traits, college student peer interactions during the first three years of college, according to responses of the same students in the spring of their third-year of college, had a significant predictive relationship with every compassionate self-concept character trait. The individual factors with the most positive significant predictive relationships were interpersonal skills, socialized w/someone of different racial group, importance of promoting racial understanding, get along with people of different race or ethnic group, friends share religious/spiritual values, friends searching for meaning/purpose in life, socializing with friends (hrs per wk), as well as participated in leadership training. Under compassionate self-concept character, partying (hrs per wk) had a negative predictive
relationship for both prior year activities entering college and activities during college for altruism, empathy, kindness, and patience.

From a thematic perspective once again, sensitivity to racial understanding as well as friendships which transcended racial, religious, or cultural boundaries had a positive predictive relationship which can be seen in student responses to socialized w/someone of different racial group, get along with people of different race or ethnic group, and importance of promoting racial understanding. One can also see that peer relationships go beyond mere socializing to the deeper levels of faith, values, and meaning of life which can be seen in the relative strength of responses to friends share religious/spiritual values, and friends searching for meaning/purpose in life. There was also a there was a significant positive predictive relationship with interpersonal skills, as well as participated in leadership training and the compassionate self-concept self-ratings. Exercising/sports (hrs per wk) had a positive predictive relationship with the compassionate self-concept set of character self-ratings, and underscores the social facet of sports and exercise. Not surprisingly socializing with friends (hrs per wk) also had a positive predictive relationship with character self-ratings. Such healthy positive peer relationships may help foster pro-social character development in college students.

On a secondary level, in respect to gender, males had a tendency to rate themselves higher with respect to forgiveness; while females had a tendency to rate themselves higher with respect to compassion, empathy, gratefulness, helpfulness, and kindness. Once again reasons behind this may be viewed from a variety of perspectives including that it reflects particular genetic strengths, or more commonly the nurturing of the family of origin and the influence of social norms and expectations of the wider community. However, it would be very interesting to see if the more recent survey (SIF2004/CSBV2007) revealed similar results.

Planned residence had a significant predictive relationship with four of the nine character traits including generosity, gratefulness, helpfulness, and kindness, with students living at home or in off-campus housing tending to rate themselves higher.
In respect to institutional characteristics, institutional selectivity was the only factor that had a significant predictive relationship with more than one character quality; and surprisingly, institutional selectivity had a negative predictive relationship with six of the nine character qualities including forgiveness, generosity, gratefulness, helpfulness, kindness, and patience. However, students at both more selective institutions as well as private institutions tended to rate themselves higher with respect to altruism.

Planned major did not have a significant predictive relationship with any of the compassionate self-concept character qualities.

Social

[Social – cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-awareness, self-confidence (social), self-understanding, and understanding of others]

Student peer relationships and self-ratings of the social character traits, as a whole, and activities in the year prior to entering college and related goals and values entering college had a significant predictive relationship with all of the social character traits with the exception of self-understanding. The individual factors with the most positive relationships were found with importance of helping to promote racial understanding, socializing with person of a different racial background, student clubs (hrs per wk), and exercising or sports.

College student peer relationships during the first three years of college according to responses of the same students in the spring of their third-year of college had a significant predictive relationship with all of the self-ratings of the social character traits. The individual factors with the most positive significant relationships were found with importance of helping to promote racial understanding, interpersonal skills, socialized w/someone of different racial group, friends share religious/spiritual values, friends searching for meaning/purpose in life, and took leadership.
Under social character, partying (hrs per wk) had a negative predictive relationship for both prior year activities entering college and activities during college for humility, respectfulness, and self-understanding (college activities only), while having a positive predictive relationship with open-mindedness and social self-confidence.

From a thematic perspective, again sensitivity to racial understanding as well as friendships that transcended racial, religious, or cultural boundaries had a positive predictive relationship with social character traits, which can be seen in student responses to importance of promoting racial understanding and socialized w/someone of different racial group. One can also see that peer relationships go beyond mere socializing to the deeper levels of faith, values, and meaning of life also seemed to predict higher self-ratings in the social set of character self-ratings as there was a significant positive relationships with “friends who shared their religious/spiritual values,” “friends who searching for meaning/purpose in life.” There was also a there was a significant positive predictive relationship between interpersonal skills, as well as participated in leadership training and the social character self-ratings. Exercising/sports (hrs per wk) had a positive relationship with the social set of character self-ratings, and underscores the social facet of sports and exercise. Not surprisingly socializing with friends (hrs per wk) also had a positive relationship as well. Such healthy positive peer relationships help foster pro-social character development in college students.

On a secondary level, in respect to gender, males had a tendency to rate themselves higher with respect to loyalty, self-awareness, and self-understanding; while females had a tendency to rate themselves higher with respect to understanding of others. Once again reasons behind this may be viewed from a variety of perspectives including that it reflects particular genetic predispositions, or more commonly, the nurturing of the family of origin and the influence of social norms and expectations of the wider community. Once again, it would be interesting to see if the more recent survey (SIF2004/CSBV2007) revealed similar results.

Planned residence had a significant relationship with three of the character traits including loyalty and respectfulness, with students living at home or in off-campus housing tending to
rate themselves higher. Students living on campus tended to rate themselves higher with respect to self-understanding; however this latter finding was not reflected in the other major areas of faculty-student interactions, community service, or student spirituality.

In respect to institutional characteristics, institutional selectivity had a significant predictive relationship with cooperativeness and respectfulness, both with a negative correlation. Students at public institutions tended to rate themselves higher with respect to open-mindedness.

Planned major did not have a significant predictive relationship with social character traits with the exception of self-understanding, where students majoring in the arts or humanities tending to rate themselves higher.

Other Collegiate Outcomes
[other collegiate outcomes- emotional health, physical health, spirituality, religiousness, satisfaction with sense of community, satisfaction with relevance of coursework, satisfaction with interaction with students, and satisfaction with overall college experience]

In respect to other collegiate outcomes the areas vary considerably and so are best considered on their own. However, one cannot resist some very general remarks. In respect to student peer relationships in the year prior to entering college and related goals and values upon entering college there was significant predictive relationship with all of the other collegiate outcomes except emotional health. The individual variables with the most positive predictive relationships were found with exercising or sports, and student clubs or groups (hrs per wk).

In respect to student peer relationships in college and related goals and values and overall other outcomes, according to responses of the same students in the spring of their third-year of college, college student peer interactions had a significant predictive relationship with every outcome under other collegiate outcomes. The individual variables with the most positive predictive relationships were participated in leadership training, friends share
religious/spiritual values, student clubs or groups (hrs per wk), rated themselves higher in interpersonal skills, socializing with friends (hrs per wk), and exercise or sports (hrs per wk). There was also some positive predictive relationship with friends searching for meaning/purpose in life, socialized w/someone of different racial group, and importance of promoting racial understanding all had a positive predictive relationship.

It is noteworthy that partying had interesting predictive relationships with a number of character traits some negative others positive. Under achievement-oriented character, partying (hrs per wk) had a positive correlation with courage (prior year activities) and a negative correlation with dependability (both prior year activities entering college, and activities during college). Under compassionate self-concept character, partying (hrs per wk) had a negative predictive relationship for both prior year activities entering college and activities during college for altruism, empathy, kindness, and patience. Under social character, partying (hrs per wk) had a negative predictive relationship for both prior year activities entering college and activities during college for humility, respectfulness, and self-understanding (college activities only), while having a positive predictive relationship with open-mindedness and social self-confidence. Under other collegiate outcomes, partying (hrs per wk) had a negative predictive relationship for both prior year activities entering college and activities during college for spirituality, religiosity/religiousness, and satisfaction with sense of community; as well as emotional health (college activities only). (It is also well to note that partying was not defined in a specific manner and is open to some interpretation, though college students as a whole seem to share a common understanding.)

From a thematic perspective, there was a significant positive predictive relationship between interpersonal skills, as well as participated in leadership training and other collegiate outcomes. Not surprisingly socializing with friends (hrs per wk) also had a positive predictive relationship. One can also see that peer relationships go beyond mere socializing to the deeper levels of faith, values, and meaning of life also seemed to predict higher self-ratings in other collegiate outcomes as there was a significant positive predictive relationship with “friends who shared their religious/spiritual values,” “friends who searching for meaning/purpose in life.” Again sensitivity to racial understanding as well as friendships
that crossed racial, religious, or cultural boundaries had a positive predictive relationship with other collegiate outcomes, which can be seen in student responses to importance of promoting racial understanding, and socialized w/someone of different racial group. Exercising/sports (hrs per wk) had a positive predictive relationship with other collegiate outcomes, and underscores the social facet of sports and exercise. Such healthy positive peer relationships may help foster pro-social character development in college students.

On a secondary level, in respect to gender, once again males had a tendency to rate themselves higher with respect to emotional health and physical health, while females had a tended to rate satisfaction with sense of community on campus higher (however in this case the significance was very close to the pre-determined cutoff significance); otherwise gender did not have a significant predictive relationship with the other self-ratings for other collegiate outcomes.

Planned residence had a significant predictive relationship with all but three of the other collegiate outcomes with the exceptions being physical health, spirituality, religiosity/religiousness. There was a positive predictive relationship between students living on campus and emotional health, satisfaction with sense of community, satisfaction with interaction with other students, and satisfaction with overall college experience, with students in on-campus housing tending to give higher ratings.

In respect to institutional characteristics, institutional selectivity had a significant predictive relationship with spirituality, religiosity/religiousness, and satisfaction with interactions with other students, all with a negative correlation. However, students at private institutions tended higher ratings with respect to spirituality, religiosity/religiousness, which may reflect the fact that many private educational institutions are religious in nature. Students at private institutions also gave higher ratings for satisfaction with sense of community, satisfaction with interaction with other students, and satisfaction with overall college experience.

Planned major had a significant predictive relationship with spirituality, satisfaction with sense of community, satisfaction with interactions with other students, and satisfaction with
overall college experience, with students majoring in the arts or humanities tending to give higher ratings.

In addition to learning vital information and skills related to knowledge, college students are presented with the opportunities to manage their life and freedom and acquire a stronger set of social skills as well as the opportunity for community service. The opportunities related to forming student peer relationships may well form a very vital set of habits and strengthen pro-social character qualities that shape individuals to become more engaged and participatory citizens.

Socializing is one of the activities college students will pursue with passion and energy, so colleges would do well to do all that can be done to make peer socialization as positive and productive as possible.

Rather than viewing this sort of activity as extra-curricular, colleges may well want to continue to increase emphasis in this range of activities as vital co-curricular activities that are part of the very mission of colleges that take a view toward a holistic education and development of students and continue to strengthen opportunities to shape these relationships by such activities as racial/cultural awareness workshops, and leadership training offered to a larger group of students. Colleges which offer a strong co-curricular or first-year student experience which encourages and offers racial/cultural awareness workshops and leadership training should be encouraged that these activities have a broad positive predictive relationship with pro-social character development. Colleges may also want to consider that leadership training had a broad positive predictive relationship with many pro-social character traits as well as other collegiate outcomes and consider offering such courses to more student groups and doing more to promote those programs already in place. Since interpersonal skills impacted such a broad range of pro-social character self-ratings, one of the most helpful activities might be to include a workshop on interpersonal relationships with the first-year students orientation/experience set of requirements as well as offer occasional workshops or seminars to the students groups and the larger student body. Colleges that encourage a strong peer relationships/groups component in the first-
year students experience would do even more to encourage the intentional development of strong positive peer relationships and the pro-social character development. Such activities to promote continued development in inter-personal skills could have a positive impact on a broad range of pro-social character as well as other positive collegiate outcomes.

The development of core character traits that the entire college and university where agreement can be shared with students as well as faculty and staff, and extol as defining their culture and community in a positive manner may help in promoting and developing these qualities in college students and the wider community as well. Many colleges and universities have their character code stated in negative prohibitory statements such as “do not steal” or “do not plagiarize.” A positive set of character qualities that the entire university community can agree on gives a set of qualities that diverse individuals and groups can unite around in a positive, productive manner.
4.4. Results of Community Service Variables in Predicting Pro-social Character Development in College Students

The results of the statistical analysis demonstrate the predictive relationship of community service activities, goals, and values on pro-social character development as well as other related outcomes in college students. The results of the CAMBRA analysis are contained below with a description of each of the variables in each block. A number of variables are included in the appendices in crosstab tables for those factors alone including: academic performance (college GPA, SAT-ACT scores), gender, institutional characteristics (institutional control (1-public, 2-private), institutional type (1-university, 2-4 yr college, 3-2yr college, institutional selectivity (SATV+M)), race, religious preference, planned residence, years completed and degree aspirations.

Before proceeding it is helpful to remember that with a statistical model with so many blocks and numerous variables, the correlations are relatively small, however when examined they give very useful insight and analyses of the relative impact of each of the variables (Astin & Dey, 1996). The method pioneered by Astin and colleagues at HERI of UCLA has been proven over time and yielded in depth analyses. The variables in each block were entered by stepwise regression so that only the variables with significant predictive relationships would enter the regression ($\alpha = .05$) entered in order from greatest to least and would be taken out of the regression if the subsequent variable entering the block rendered its significance in excess of $\alpha = .10$. However, once the regression has moved on to the next block of variables, all previous variables remain in the regression regardless of whether new variables entering the regression diminish their respective significance. The actual survey questions used are in each block below. Once again the diagram of the IEO model is useful for insight and understanding:
Three sources of data: 1) SIF 2000, 2) CSBV 2003, 3) CIRP Institutional Information
Data linked through CIRP student identifier numbers and CIRP institutional identifier

The individual blocks of the CAMBRA with the corresponding variables are as follows:

Block 1: pre-test where available (SIF2000):

Block 2: Demographic variables (SIF2000):

(Gender: 1-male, 2-female) (gender alone included here; other demographic analyses are included in the cross tab analysis including: academic outcomes, gender as only variable, religious preference, parental education, and race)

Block 3: First-year college student’s prior-year activities; goals & values upon entering college (SIF2000):

tutored another student
performed volunteer work

Goals & Values (1=not important, 2=somewhat important, 3=very important, 4=essential)
importance of helping others who are in difficulty
importance of becoming involved in environmental clean-up
importance of participating in a community action program
importance of helping to promote racial understanding
importance of becoming a community leader

Possible Future Activities:
goal to participate in volunteer/community service work

Block 4: Fall planned residence (SIF2000):
1=with family or other relatives, 2=other private home, apartment, room
3=college dormitory, 4=fraternity or sorority house, 5=other campus student housing

Block 5: Institutional characteristics (CIRP institutional data):
institutional control (1-public, 2-private)
institutional type (1-university, 2-4 yr college, 3-2yr college
institutional selectivity (SATV+M)

Block 6: Student’s planned major (SIF2000):

Block 7: College activities, goals, and values as reported by third-year college students (CSBV2003):
tutored another college student

Indicate the importance to your personally of:
1=Not important 2=Somewhat important 3=Very important 4=Essential
importance of helping others who are in difficulty
importance of becoming involved in programs to clean up the environment
importance of participating in a community action program
importance of helping to promote racial understanding
importance of becoming a community leader

Since entering college, indicate how often you have:
1=Not at all 2=Occasionally 3=Frequently
participated in community food or clothing drives
helped at local houses of worship
performed other volunteer work
helped friends with personal problems
Self-rated pro-social variables are listed below, which will be treated as outcome variables are part of the CSBV2003. Students were asked to rate themselves in each of the areas as:
1=Lowest 10%, 2=Below Average, 3=Average, 4=Above average, 5=Highest 10%. Other related collegiate outcomes were included and available in the self-rating section.

The results of the blocked regression analysis for each of the self-ratings will be examined in four useful groupings: achievement-oriented, compassionate self-concept, social, and other collegiate correlation outcomes. Many of the self-ratings could be viewed in more than one grouping, and in some sense they are all inter-related. However for the sake of manageability the character self-ratings are grouped under the following:

- achievement orientation- courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intelligence)
- compassionate self-concept- altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience
- social –cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-awareness, self-confidence (social), self-understanding, and understanding of others
- other collegiate outcomes- emotional health, physical health, spirituality, religiousness, respect for diverse religious/spiritual beliefs (included only under spirituality), opportunity for religious/spiritual reflection (included only under spirituality), satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under spirituality), satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with sense of community, satisfaction with interaction with students, and satisfaction with overall college experience (not all outcomes will relate to each main category but this paper will examine those outcomes that relate to the given main area)

The results of each block of the model available will be examined with reference to the model summary table and ANOVA table to see if there is a significant relationship of each
block on the model predicting each character self-rating ($\alpha = .05$) after all of the variables with a significant relationship have entered the particular block ($\alpha = .05$).

Once again, it is imperative once again to understand that this the considerable advantages of putting so many variables into the statistical model in order to understand a wide range of variables on a particular outcome as well as the interaction of each variable is that the variables themselves register a diminished output due to the fact that there are so many variables sharing the predictive power in the regression analysis. Therefore researchers more attuned to using a few variables need to recognize the importance of smaller coefficients in the output. In explaining the impact of adding a second related variable with multicolinearity characteristics, Astin and Dey explain, “In other words, the predictive power of each of these variables is somewhat diminished when the other is added to the equation. Since there is a degree of multicolinearity among these two variables, they necessarily “share” predictive power when they are both in the equation” (Astin & Dey, 1996, p.13). This effect is magnified even more when there are numerous variables with multicolinearity.

4.4.1. Achievement Orientation

Courage

In respect to the results of community service variables on college student’s self-rating of “courage” gender was statistically significant $F = 101.282 > F_{crit}(1, 3233) = 3.84$ at $\alpha = 0.05$, ($R = .174$, $R Square = .030$) ($\beta = -.174$, $p < .001$), with males more likely to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting courage $F = 41.960 > F_{crit}(5, 3229) = 2.22$ at $\alpha = 0.05$ ($R = .247$, $R Square = .061$). In respect to individual variables for Incoming first-year student’s prior year activities, and goals and values entering college the strongest positive significant relationship was found with importance of becoming a community leader ($\beta = .183$, $p < .001$), and to a lesser degree importance of becoming involved in environmental clean-up ($\beta = .051$, $p = .007$). There was a negative
relationship with importance of helping to promote racial understanding ($\beta = -.074, p < .001$), goal to participate in volunteer/community service work ($\beta = -.069, p < .001$).

Student’s planned residence did not have a significant predictive relationship with predicting courage and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 35.676 > F_{crit}(6, 3228) = 2.1$ at $\alpha = 0.05$, ($R = .249, R^2 = .062$). Only one of the individual variables of institutional characteristics had a significant predictive relationship, which was institutional selectivity ($\beta = -.036, p = .044$), indicating a tendency for students at less selective institutions to rate themselves higher. It is however, noteworthy, that while institutional selectivity had a significant predictive relationship with courage under faculty-student interactions and community service, it was not significant under student peer relationships and student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.

The block with student’s probable major proved to add significantly to the model $F = 32.514 > F_{crit}(7, 3227) = 2.01$ at $\alpha = 0.05$, ($R = .257, R^2 = .066$), with a moderate negative correlation ($\beta = -.061, p < .001$), indicating students in the arts or humanities tended to rate themselves higher.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 30.013 > F_{crit}(11, 3223) = 1.79$ at $\alpha = 0.05$, ($R = .305, R^2 = .093$). In respect to courage and the block with college activities and student community service the strongest individual variables with positive significant predictive relationship were found in importance of becoming a community leader ($\beta = .171, p < .001$), and to a lesser degree, helped friends with personal problems ($\beta = .065, p < .001$), tutored another college student
(β = .038, p = .025), and tutoring another college student (β = .038, p = .025). There was a negative relationship with importance of participating in a community action program (β = -.059, p = .004).

Creativity
In respect to the results of community service variables on college student’s self-rating of “creativity,” as expected the strongest predictor was the pre-test which was statistically significant $F = 1474.701 > F_{crit} (1, 3226) = 3.84$ at $\alpha = 0.05$, ($R = .560, R\ Square = .314$) with a strong positive correlation $\beta = .560, p < .001$).

Gender was not statistically significant and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting creativity $F = 378.341 > F_{crit} (4, 3223) = 2.37$ at $\alpha = 0.05$ ($R = .565, R\ Square = .320$). In respect to individual variables from the block regarding Incoming first-year student’s prior year activities, and goals and values entering college reveals that the strongest positive significant relationship was found with importance of becoming involved in environmental clean-up (β = .046, p = .004). There was a modest negative relationship with creativity and the goal to participate in volunteer/community service work (β = -.053, p = .001) and importance of participating in a community action program (β = -.038, p = .030).

Student’s planned residence did not have a significant predictive relationship with predicting creativity and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 305.484 > F_{crit} (5, 3222) = 2.22$ at $\alpha = 0.05$, ($R = .567, R\ Square = .322$). Only one of the individual variables of the institutional characteristics was statistically significant and that was institutional selectivity (SATV+M) with a small negative correlation (β = -.047, p = .002), indicating students from less selective institutions tended to rate themselves higher with respect to creativity.
Student’s probable major was statistically significant $F = 256.813 > F_{crit}(6, 3221) = 2.1$ at $\alpha = 0.05$, ($R = .569$, $R^2 = .324$) with a small negative correlation ($\beta = -.045$, $p = .002$) indicating students in the arts and humanities tended to give themselves a higher rating in respect to creativity.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 159.683 > F_{crit}(10, 3217) = 1.83$ at $\alpha = 0.05$, ($R = .576$, $R^2 = .332$). In respect to individual variables within the block of college activities and student community service the strongest positive significant predictors were found in importance of becoming involved in programs to clean up the environment ($\beta = .065$, $p < .001$), importance of becoming a community leader ($\beta = .054$, $p = .002$), importance of helping to promote racial understanding ($\beta = .043$, $p = .017$). There was a negative relationship with importance of participating in a community action program ($\beta = -.078$, $p < .001$) and creativity.

Dependability
In respect to the results of community service variables on college student’s self-rating of “dependability” gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting dependability $F = 10.835 > F_{crit}(3, 3235) = 2.61$ at $\alpha = 0.05$ ($R = .100$, $R^2 = .010$). In respect to individual variables and the block regarding Incoming first-year student’s prior year activities, and goals and values entering college reveals that the strongest positive significant relationship was found with importance of becoming a community leader ($\beta = .073$, $p < .001$) and tutored another student ($\beta = .064$, $p < .001$), however, a moderate negative relationship were found with importance of helping to promote racial understanding ($\beta = -.054$, $p = .004$).
Students planned residence was not statistically significant in respect to dependability and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 8.664 > F_{crit} (5, 3233) = 2.22$ at $\alpha = 0.05$, $(R = .115, R^2 = .013)$. Two of the individual variables had a significant predictive relationship and those were institutional type (1-university, 2-4yr college, 3-2yr college) ($\beta = -.052, p = .004$), with students at universities tending to rate themselves higher than students at colleges or 2 yr colleges; and institutional selectivity with a small negative correlation ($\beta = -.037, p = .040$) with students at less selective institutions tending to rate themselves higher. (However, it is noteworthy, that while institutional selectivity had a significant predictive relationship with dependability under student peer relationships and community service, it was not significant under faculty-student interactions and student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Student’s planned major was not statistically significant and therefore did not enter the regression.

In respect to “dependability” and The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 9.285 > F_{crit} (7, 3231) = 2.01$ at $\alpha = 0.05$, $(R = .140, R^2 = .020)$. In respect to individual variables within the block of college activities and student community service the strongest positive significant relationship was found with importance of becoming a community leader ($\beta = .062, p = .001$), and tutored another college student ($\beta = .056, p = .002$).
Drive-to-achieve

In respect to the results of community service variables on college student’s self-rating of “drive-to-achieve” the strongest predictor as expected was the pre-test which was statistically significant $F = 695.610 > F_{crit} (1, 3232) = 3.84$ at $\alpha = 0.05$, ($R = .421$, $R^2 = .177$) with a strong positive correlation ($\beta = .421$, $p < .001$).

Gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting drive-to-achieve $F = 184.198 > F_{crit} (4, 3229) = 2.37$ at $\alpha = 0.05$ ($R = .431$, $R^2 = .186$). In respect to individual variables within the block regarding Incoming first-year student’s prior year activities, and goals and values entering college the strongest positive significant relationship was found with importance of becoming a community leader ($\beta = .102$, $p < .001$). There was a moderate negative relationship with importance of participating in a community action program ($\beta = -.049$, $p = .011$), and importance of helping to promote racial understanding ($\beta = -.042$, $p = .023$).

Student’s planned residence did not have a significant predictive relationship with predicting drive-to-achieve and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 151.494 > F_{crit} (5, 3228) = 2.22$ at $\alpha = 0.05$, ($R = .436$, $R^2 = .190$). Only one of the individual variables of the institutional characteristics entered the regression and that was institutional selectivity (SATV+M) which was a moderate negative relationship ($\beta = -.066$, $p < .001$), indicating a tendency for students at less selective institutions to give themselves a higher rating in respect to drive-to-achieve.
Student’s probable major did not add significantly to the model and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 116.645 > F_{crit} (8, 3225) = 1.94$ at $\alpha = 0.05$, ($R = .474$, $R Square = .224$). In respect to drive-to-achieve and the individual variables within the block of college activities and student community service the strongest positive significant relationship was found with importance of becoming a community leader ($\beta = .174$, $p < .001$), followed to a lesser degree by tutored another college student ($\beta = .091$, $p < .001$). There was a small negative relationship with helped at local houses of worship and drive-to-achieve ($\beta = -.041$, $p = .010$).

Leadership Ability
In respect to the results of community service variables on college student’s self-rating of “leadership ability,” as expected the strongest predictor was the pre-test which was statistically significant $F = 1320.643 > F_{crit} (1, 3232) = 3.84$ at $\alpha = 0.05$, ($R = .539$, $R Square = .290$) with a strong positive correlation ($\beta = .539$, $p < .001$).

Gender was statistically significant $F = 682.056 > F_{crit} (2, 3231) = 3.0$ at $\alpha = 0.05$, ($R = .545$, $R Square = .297$) with a moderate negative correlation ($\beta = -.083$, $p < .001$), with males tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting leadership ability $F = 283.469 > F_{crit} (5, 3238) = 2.22$ at $\alpha = 0.05$ ($R = .552$, $R Square = .305$). In respect to leadership ability and the individual variables within the block with incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest positive significant relationship was found with importance of becoming a community leader ($\beta = .095$, $p < .001$), followed to a lesser degree by tutored
another student ($\beta = .037$, $p = .013$). There was a negative relationship with importance of helping to promote racial understanding ($\beta = -.048$, $p = .003$).

None of the blocks of variables of planned residence, institutional characteristics, or student’s probable college major were statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 165.739 > F_{\text{crit}} (11, 3222) = 1.79$ at $\alpha = 0.05$, ($R = .601$, $R^2 = .361$).

In respect to leadership ability and the individual variables within the block of college activities, goals and values and student community service the strongest positive significance was found in importance of becoming a community leader ($\beta = .264$, $p < .001$), followed by helped friends with personal problems ($\beta = .074$, $p < .001$), tutored another college student ($\beta = .053$, $p < .001$), and performed other volunteer work ($\beta = .032$, $p = .039$). There was a moderate negative relationship between importance of helping to promote racial understanding and leadership ability ($\beta = -.060$, $p = .001$).

Self-confidence (Intellectual)

In respect to the results of community service variables on college student’s self-rating of “self-confidence (intellectual),” the strongest predictor as expected was the pre-test which was statistically significant $F = 562.597 > F_{\text{crit}} (1, 3232) = 3.84$ at $\alpha = 0.05$, ($R = .385$, $R^2 = .148$) with a strong positive correlation ($\beta = .385$, $p < .001$).

Gender was statistically significant $F = 303.164 > F_{\text{crit}} (2, 3231) = 3.0$ at $\alpha = 0.05$, ($R = .398$, $R^2 = .158$) with a negative correlation ($\beta = -.100$, $p < .001$), with males tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting intellectual self-confidence $F = 127.182 > F_{\text{crit}} (5, 3228) = 2.22$ at $\alpha = 0.05$ ($R = .406$, $R^2 = .165$). In
respect to intellectual self-confidence and the individual variables within the block with incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significance was found in importance of becoming a community leader ($\beta = .067, p < .001$) and tutored another student ($\beta = .055, p = .001$). There was a small negative relationship between importance of participating in a community action program and intellectual self-confidence ($\beta = -.044, p = .017$).

Student’s planned residence had a significant predictive relationship with predicting intellectual self-confidence $F = 107.025 > F_{crit}(6, 3227) = 2.1$ at $\alpha = 0.05$, ($R = .407, R_{Square} = .166$) with a small negative correlation ($\beta = -.038, p = .020$), indicating students living at home or in a private room/apartment tending to rate themselves higher. (However, it should be noted that the difference in $R_{square}$ from the previous block is slight and that the factor greatly diminishes in significance once institutional control enters the regression in the subsequent block; and while planned residence was significant for self-confidence (intellectual) under faculty-student interaction, it was not significant under student peer relationships and student spirituality. Again this typically reflects a different number of respondents for the various areas, as well as a different set of other variables together with the relative significance of the subsequent variable entering the regression.)

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 92.661 > F_{crit}(7, 3226) = 2.01$ at $\alpha = 0.05$, ($R = .409, R_{Square} = .167$). Only one of the individual variables of institutional characteristics had a significant predictive relationship and that was institutional control (1-public, 2-private) with a small negative correlation ($\beta = -.040, p = .018$) with students at a public institution rating themselves higher. (However, it should be noted, that while institutional control had a significant predictive relationship with intellectual self-confidence under student peer relationships, community service, and student spirituality, it was not significant under faculty-student interactions. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)
Student’s planned major added significantly to the model predicting intellectual self-confidence \( F = 81.688 > F_{\text{crit}} (8, 3225) = 1.94 \) at \( \alpha = 0.05 \), \( (R = .410, R^{2} = .168) \) with a small negative correlation \( (\beta = -.033, p = .040) \) indicating students majoring in the arts and humanities tended to rate themselves higher. (It should be noted, however, that while student’s planned major had a significant predictive relationship with intellectual self-confidence under faculty-student interactions and community service, it was not significant under student peer relationships or student spirituality. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model \( F = 61.803 > F_{\text{crit}} (12, 3221) = 1.76 \) at \( \alpha = 0.05 \), \( (R = .433, R^{2} = .187) \). In respect to intellectual self-confidence and the individual variables within the block of college activities, goals and values and student community service the strongest positive predictive relationship was found in tutored another college student \( (\beta = .113, p < .001) \), and to a lesser degree by importance of becoming a community leader \( (\beta = .071, p < .001) \), helped friends with personal problems \( (\beta = .041, p = .017) \). There was a small negative correlation between performed other volunteer work and intellectual self-confidence \( (\beta = -.035, p = .045) \).

4.4.2. Compassionate Self-concept

Altruism

In respect to the results of community service variables on college student’s self-rating of “altruism” gender was not statistically significant and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting altruism \( F = 26.127 > F_{\text{crit}} (4, 2939) = 2.37 \) at \( \alpha = 0.05 \), \( (R = .185, R^{2} = .034) \). In respect to altruism and statistically significant individual variables within the block with incoming first-year student’s
prior year activities, and goals and values entering college related to student community service, the strongest positive correlation was found in the goal to participate in volunteer/community service work (β = .106, p < .001), followed by importance of helping others who are in difficulty (β = .072, p < .001), importance of helping to promote racial understanding (β = .051, p = .010), and tutored another student (β = .038, p = .042).

Student’s planned residence did not have a significant predictive relationship with predicting altruism and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 24.841 > F_{crit}(5, 2938) = 2.22$ at $\alpha = 0.05$, ($R = .201$, $R^2 = .041$). Only one of the individual variables had a significant predictive relationship, and that was institutional selectivity (SATV+M) with a positive correlation ($β = .082, p < .001$), indicating that students at more selective institutions tended to give themselves a higher rating in respect to altruism.

Student’s planned residence did not have a significant predictive relationship with predicting altruism and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 28.563 > F_{crit}(10, 2933) = 1.83$ at $\alpha = 0.05$, ($R = .298$, $R^2 = .089$). In respect to altruism and the individual variables within the block of college activities, goals and values and student community service the strongest positive was found in importance of helping others who are in difficulty ($β = .134, p < .001$), followed by donated money to charity ($β = .095, p < .001$), tutored another college student ($β = .076, p < .001$), and a moderate positive relationship with importance of helping to promote racial understanding ($β = .055, p = .008$), and helped at local houses of worship ($β = .051, p = .007$).
Compassion
In respect to the results of community service variables on college student’s self-rating of “compassion” gender had a significant statistical impact $F = 42.143 > F_{crit}(1, 3236) = 3.84$ at $\alpha = 0.05$, ($R = .113$, $R^2 = .013$) with a positive correlation ($\beta = .113$, $p < .001$) indicating women tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting compassion $F = 53.553 > F_{crit}(4, 3233) = 2.37$ at $\alpha = 0.05$ ($R = .249$, $R^2 = .062$). In respect to compassion and statistically significant individual variables within the block with incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest positive correlation was found in importance of helping others who are in difficulty ($\beta = .182$, $p < .001$), and to a lesser degree, importance of helping to promote racial understanding ($\beta = .053$, $p = .004$), and performed volunteer work ($\beta = .050$, $p = .005$).

Student’s planned residence did not have a significant predictive relationship with predicting compassion and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 43.675 > F_{crit}(5, 3232) = 2.22$ at $\alpha = 0.05$, ($R = .252$, $R^2 = .063$). Only one of the individual variables within the block had a significant predictive relationship and that was institutional selectivity (SATV+M) with a small negative correlation ($\beta = -.035$, $p = .047$). (However, it should be noted, that while institutional selectivity had a significant predictive relationship with compassion under community service, it was not significant under faculty-student interactions, student peer relationships, and student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)
Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model predicting compassion $F = 52.804 > F_{crit} (9, 3228) = 1.88$ at $\alpha = 0.05$, ($R = .358$, $R^2 = .128$). In respect to compassion and the individual variables within the block of college activities, goals and values and student community service the strongest positive predictive relationship was found with importance of helping others who are in difficulty ($\beta = .201, p < .001$), helped friends with personal problems ($\beta = .127, p < .001$), and to a lesser degree, importance of becoming involved in programs to clean up the environment ($\beta = .050, p = .004$), and helped at local houses of worship ($\beta = .035, p = .042$).

Empathy

In respect to the results of community service variables on college student’s self-rating of “empathy” gender had a significant predictive relationship $F = 50.457 > F_{crit} (1, 3214) = 3.84$ at $\alpha = 0.05$, ($R = .124$, $R^2 = .015$) with a strong positive correlation ($\beta = .124, p < .001$), with women tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting empathy $F = 45.167 > F_{crit} (4, 3211) = 2.37$ at $\alpha = 0.05$ ($R = .231$, $R^2 = .053$). In respect to empathy and statistically significant individual variables within the block with incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest positive correlation was found in importance of helping others who are in difficulty ($\beta = .139, p < .001$), and to a lesser degree, importance of helping to promote racial understanding ($\beta = .058, p = .002$), and goal to participate in volunteer/community service work ($\beta = .057, p = .002$).
Student’s planned residence did not have a significant predictive relationship with predicting empathy and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, was not statistically significant and therefore did not enter the regression.

Students probable major was also did not add significantly to the model predicting empathy and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 42.936 > F_{\text{crit}} (8, 3207) = 1.94$ at $\alpha = 0.05$, ($R = .311$, $R^2 = .097$). In respect to empathy and the individual variables within the block of college activities, goals and values and student community service the strongest positive significant relationship was found with importance of helping others who are in difficulty ($\beta = .120$, $p < .001$), helped friends with personal problems ($\beta = .112$, $p < .001$), importance of helping to promote racial understanding ($\beta = .088$, $p < .001$), and helped at local houses of worship ($\beta = .039$, $p = .030$).

Forgiveness
In respect to the results of community service variables on college student’s self-rating of “forgiveness” gender had a significant predictive relationship $F = 8.398 > F_{\text{crit}} (1, 3239) = 3.84$ at $\alpha = 0.05$, ($R = .051$, $R^2 = .003$) with a small negative correlation ($\beta = -.052$, $p = .004$), with males tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting forgiveness $F = 25.285 > F_{\text{crit}} (2, 3238) = 3.0$ at $\alpha = 0.05$ ($R = .124$, $R^2 = .015$). In respect to forgiveness and statistically significant individual variables within the block with incoming first-year student’s prior year activities, and goals and values entering college related to
student community service, only one of the individual variables in the block and a significant correlation, which was importance of helping others, who are in difficulty ($\beta = 114, p < 0.001$).

Student’s planned residence did not have a significant predictive relationship with predicting forgiveness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 21.275 > F_{crit}(3, 3237) = 2.61$ at $\alpha = 0.05$, ($R = .139$, $R^{2} = .019$). Only one of the variables of the institutional characteristics had a significant predictive relationship and that was institutional selectivity (SATV+M) with a moderate negative relationship ($\beta = -.063, p < .001$), indicating that students at less selective institutions tended to rate themselves higher in respect to forgiveness.

Student’s probable major did was not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 26.348 > F_{crit}(8, 3232) = 1.94$ at $\alpha = 0.05$, ($R = .247$, $R^{2} = .061$). In respect to forgiveness and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with helped at local houses of worship ($\beta = .128, p < .001$), followed by importance of helping others who are in difficulty ($\beta = .114, p < .001$), followed to a lesser degree by helped friends with personal problems ($\beta = .070, p < .001$), importance of becoming involved in programs to clean up the environment ($\beta = .041, p = .021$). There was a small negative relationship with tutored another college student ($\beta = -.037, p = .032$).
Generosity

In respect to the results of community service variables on college student’s self-rating of “generosity” gender was not statistically significant and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting generosity $F = 29.375 > F_{\text{crit}} (3, 3232) = 2.61$ at $\alpha = 0.05$ ($R = .163$, $R^2 = .027$). In respect to generosity and statistically significant individual variables within the block with incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in importance of helping others who are in difficulty ($\beta = .145$, $p < .001$), and importance of becoming a community leader ($\beta = .061$, $p = .001$). There was a small negative relationship with generosity and the goal to participate in volunteer/community service work ($\beta = -.046$, $p = .016$).

Student’s planned residence had a significant predictive relationship with predicting generosity $F = 24.828 > F_{\text{crit}} (4, 3231) = 2.37$ at $\alpha = 0.05$, ($R = .173$, $R^2 = .030$) with a small negative correlation ($\beta = -.058$, $p = .001$), indicating a tendency to a higher self-rating by students living at home or in a private room/apartment.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 26.661 > F_{\text{crit}} (5, 3230) = 2.22$ at $\alpha = 0.05$, ($R = .199$, $R^2 = .040$). Only one of the individual variables had a significant predictive relationship, which was institutional selectivity (SATV+M) with a strong negative correlation ($\beta = -.105$, $p < .001$), indicating a tendency for students at less selective institutions to rate themselves higher with respect to generosity.

Student’s planned major was not statistically significant and therefore did not enter the regression.
The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 37.982 > F_{crit}(10, 3225) = 1.83$ at $\alpha = 0.05$, $(R = .325, R\text{ Square} = .105)$. In respect to generosity and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with importance of helping others who are in difficulty ($\beta = .167, p < .001$), donated money to charity ($\beta = .134, p < .001$), and to a lesser degree importance of becoming involved in programs to clean up the environment ($\beta = .051, p = .003$), importance of becoming a community leader ($\beta = .048, p = .017$), and helped friends with personal problems ($\beta = .040, p = .023$).

Gratefulness

In respect to the results of community service variables on college student’s self-rating of “gratefulness” gender was statistically significant $F = 13.562 > F_{crit}(1, 3237) = 3.84$ at $\alpha = 0.05$, $(R = .065, R\text{ Square} = .004)$ with a small positive correlation ($\beta = .065, p < .001$), indicating females tended to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting gratefulness $F = 34.639 > F_{crit}(3, 3235) = 2.61$ at $\alpha = 0.05$ $(R = .176, R\text{ Square} = .031)$. In respect to gratefulness and statistically significant individual variables within the block with incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in importance of helping others who are in difficulty ($\beta = .124, p < .001$), followed by goal to become a community leader ($\beta = .075, p < .001$).

Student’s planned residence had a significant predictive relationship with predicting gratefulness $F = 28.590 > F_{crit}(4, 3234) = 2.37$ at $\alpha = 0.05$ $(R = .185, R\text{ Square} = .034)$ with a moderate negative correlation ($\beta = -.055, p = .001$), indicating students who lived at home or in a private room/apartment tended to rate themselves higher.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 26.037 > F_{crit} (5, 3233) = 2.22$ at $\alpha = 0.05$, ($R = .197$, $R^2 = .039$). Only one of the individual variables within the block of institutional characteristics had a significant predictive relationship and that was institutional selectivity (SATV+M) which had a moderate negative relationship ($\beta = -.071$, $p < .001$), indicating students at less selective institutions tended to rate themselves higher with respect to gratefulness.

Student’s probable major did not add significantly to the model and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 28.010 > F_{crit} (9, 3229) = 1.88$ at $\alpha = 0.05$, ($R = .269$, $R^2 = .072$). In respect to gratefulness and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with importance of helping others who are in difficulty ($\beta = .126$, $p < .001$), followed to a lesser degree by importance of becoming a community leader ($\beta = .080$, $p < .001$), helped at local houses of worship ($\beta = .056$, $p = .001$), and helped friends with personal problems ($\beta = .046$, $p = .013$).

Helpfulness
In respect to the results of community service variables on college student’s self-rating of “helpfulness” gender had a significant predictive relationship $F = 18.861 > F_{crit} (1, 3237) = 3.84$ at $\alpha = 0.05$, ($R = .076$, $R^2 = .006$) with a relatively small positive correlation ($\beta = .076$, $p < .001$), indicating females tended to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting helpfulness $F = 44.914 > F_{crit} (3, 3235) = 2.61$ at $\alpha = 0.05$ ($R = .200$, $R^2 = .040$). In respect to
helpfulness and statistically significant individual variables within the block with incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest positive correlation was found in importance of helping others who are in difficulty ($\beta = .156, p < .001$), followed to a lesser degree by performed volunteer work ($\beta = .074, p < .001$).

Student’s planned residence had a significant predictive relationship with predicting $F = 36.788 > F_{ct} (4, 3234) = 2.37$ at $\alpha = 0.05$, ($R = .209$, $R^2 = .044$) with a moderate negative relationship ($\beta = -.060, p = .001$), indicating students living at home or in a private room/apartment tended to rate themselves higher in respect to helpfulness.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 32.792 > F_{ct} (5, 3233) = 2.22$ at $\alpha = 0.05$, ($R = .220$, $R^2 = .048$). Only one of the individual variables within the block had a significant predictive relationship and that was institutional selectivity (SATV+M) with a moderate negative relationship ($\beta = -.073, p < .001$), indicating students from less selective institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 34.281 > F_{ct} (11, 3227) = 1.79$ at $\alpha = 0.05$, ($R = .323$, $R^2 = .105$). In respect to helpfulness and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with importance of helping others who are in difficulty ($\beta = .134, p < .001$) and importance of becoming a community leader ($\beta = .093, p < .001$), and to a lesser degree helped friends with personal problems ($\beta = .077, p < .001$), importance of becoming involved in programs to clean up the environment ($\beta = .047, p = .007$), donated
money to charity \((\beta = .046, p = .009)\), and tutored another college student \((\beta = .042, p = .014)\).

Kindness
In respect to the results of community service variables on college student’s self-rating of “kindness” gender had a significant predictive relationship \(F = 7.510 > F_{crit} (1, 3235) = 3.84\) at \(\alpha = 0.05\), \((R = .048, R^2 = .002)\) with a small positive correlation \((\beta = .048, p = .006)\), with females tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting kindness \(F = 24.895 > F_{crit} (3, 3233) = 2.61\) at \(\alpha = 0.05\), \((R = .150, R^2 = .023)\). In respect to kindness and statistically significant individual variables within the block with incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest positive correlation was found in importance of helping others who are in difficulty \((\beta = .111, p < .001)\), followed to a lesser degree by importance of helping to promote racial understanding \((\beta = .059, p = .002)\).

Student’s planned residence had a significant predictive relationship with predicting kindness \(F = 21.120 > F_{crit} (4, 3232) = 2.37\) at \(\alpha = 0.05\), \((R = .160, R^2 = .025)\) with a small negative correlation \((\beta = -.054, p = .002)\), with students living at home or in a private room/apartment off-campus tending to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \(F = 18.101 > F_{crit} (5, 3231) = 2.22\) at \(\alpha = 0.05\), \((R = .165, R^2 = .027)\). Only one of the variables of either the institutional characteristics had a significant predictive relationship and that was institutional selectivity (SATV+M) with a small negative correlation \((\beta = -.044, p = .015)\) indicating a tendency for students at less selective institutions to rate themselves higher.
Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 24.515 > F_{crit} (10, 3236) = 1.83$ at $\alpha = 0.05$, ($R = .266, R^2 = .071$).

In respect to kindness and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with importance of helping others who are in difficulty ($\beta = .122, p < .001$), helped friends with personal problems ($\beta = .103, p < .001$), followed to a lesser degree by importance of becoming a community leader ($\beta = .051, p = .008$), importance of becoming involved in programs to clean up the environment ($\beta = .044, p = .015$), and performed other volunteer work ($\beta = .042, p = .025$).

Patience

In respect to the results of community service variables on college student’s self-rating of “patience” gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting patience $F = 10.670 > F_{crit} (2, 3237) = 3.0$ at $\alpha = 0.05$ ($R = .081, R^2 = .007$). In respect to patience and statistically significant individual variables within the block with incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in importance of helping others who are in difficulty ($\beta = .050, p = .008$), and importance of helping to promote racial understanding ($\beta = .048, p = .011$).

Student’s planned residence did not have a significant predictive relationship with predicting patience and therefore did not enter the regression.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 10.024 > F_{\text{crit}}(3, 3236) = 2.61$ at $\alpha = 0.05$, ($R = .096$, $R^2 = .009$). Only one of individual variables of institutional characteristics was statistically significant and that was institutional selectivity (SATV+M) with a small negative correlation ($\beta = -.052$, $p = .003$), indicating a slight tendency for students at less selective institutions to rate themselves higher in respect to patience.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 11.347 > F_{\text{crit}}(8, 3231) = 1.94$ at $\alpha = 0.05$, ($R = .165$, $R^2 = .027$). In respect to patience and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationships were found with importance of helping others who are in difficulty ($\beta = .069$, $p = .001$), importance of helping to promote racial understanding ($\beta = .071$, $p = .002$), importance of becoming involved in programs to clean up the environment ($\beta = .065$, $p = .001$), and helped at local houses of worship ($\beta = .055$, $p = .002$). There was a small negative relationship once again to importance of participating in a community action program ($\beta = -.047$, $p = .030$).

### 4.4.3. Social

**Cooperativeness**

In respect to the results of community service variables on college student’s self-rating of “cooperativeness” the strongest predictor, as expected, was the pretest $F = 328.153 > F_{\text{crit}}(1, 3227) = 3.84$ at $\alpha = 0.05$, ($R = .304$, $R^2 = .092$) with a strong positive correlation ($\beta = .304$, $p < .001$).
Gender did not add significantly to the model predicting cooperativeness and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting cooperativeness $F = 167.054 > F_{crit} (2, 3226) = 3.0$ at $\alpha = 0.05$ ($R = .306$, $R Square = .097$). In respect to cooperativeness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the only individual variable with a significant positive correlation was found in the goal to participate in volunteer/community service work ($\beta = .040$, $p = .019$).

Student’s planned residence did not have a significant predictive relationship with predicting cooperativeness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 115.368 > F_{crit} (3, 3225) = 2.61$ at $\alpha = 0.05$, ($R = .311$, $R Square = .097$). Only one of the individual variables within the block of institutional characteristics had a significant predictive relationship and that was institutional selectivity (SATV+M) with a relatively small negative correlation ($\beta = -.057$, $p = .001$), indicating that students at less selective institutions had a tendency to rate themselves higher with respect to cooperativeness.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 54.507 > F_{crit} (7, 3221) = 2.01$ at $\alpha = 0.05$, ($R = .325$, $R Square = .106$). In respect to cooperativeness and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive
relationship was found with helped friends with personal problems ($\beta = .049, p = .004$),
helped at local houses of worship ($\beta = .047, p = .007$), becoming a community leader ($\beta = .039, p = .029$), and becoming involved in programs to clean up the environment ($\beta = .034, p = .048$).

**Humility**

In respect to the results of community service variables on college student’s self-rating of
“humility” gender was statistically significant $F = 4.220 > F_{\text{crit}} (1, 3223) = 3.84$ at $\alpha = 0.05$,
($R = .036, R \text{ Square} = .001$) with a small negative correlation ($\beta = -.036, p = .040$), indicating
males had a tendency to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals
and values entering college added significantly to the model predicting humility $F = 15.152$
$> F_{\text{crit}} (4, 3220) = 2.37$ at $\alpha = 0.05$ ($R = .136, R \text{ Square} = .018$). In respect to humility and
statistically significant individual variables within the block for incoming first-year student’s
prior year activities, and goals and values entering college related to student community
service, the strongest significant positive correlation was found in importance of helping
others who are in difficulty ($\beta = .091, p < .001$), importance of helping to promote racial
understanding ($\beta = .086, p < .001$). There was a small negative relationship with importance
of becoming a community leader ($\beta = -.053, p = .006$).

Student’s planned residence did not have a significant predictive relationship with predicting
humility and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and
institutional selectivity, did not add significantly to the model predicting humility and
therefore did not enter the regression.

Student’s probable major was not statistically significant and therefore did not enter the
regression.
The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 16.870 > F_{crit} (7, 3217) = 2.01$ at $\alpha = 0.05$, ($R = .188$, $R^2 = .035$). In respect to humility and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with helped at local houses of worship ($\beta = .076, p < .001$), importance of becoming involved in programs to clean up the environment ($\beta = .071, p < .001$), importance of helping others who are in difficulty ($\beta = .067, p = .001$).

Loyalty

In respect to the results of community service variables on college student’s self-rating of “loyalty” gender had a significant predictive relationship $F = 21.991 > F_{crit} (1, 3234) = 3.84$ at $\alpha = 0.05$, ($R = .082$, $R^2 = .007$) with a negative correlation ($\beta = -.082, p < .001$), with males tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting loyalty $F = 18.907 > F_{crit} (2, 3233) = 3.0$ at $\alpha = 0.05$ ($R = .108$, $R^2 = .012$). In respect to loyalty and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the only significant individual positive correlation was found in the importance of helping others who are in difficulty ($\beta = .070, p < .001$).

Student’s planned residence had a significant predictive relationship with predicting loyalty $F = 14.259 > F_{crit} (3, 3232) = 2.61$ at $\alpha = 0.05$, ($R = .114$, $R^2 = .013$) with a negative correlation ($\beta = -.039, p = .027$), indicating that students living at home or in private rooms or apartments tended to give higher ratings with respect to loyalty.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, was not statistically significant and therefore did not enter the regression.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 21.976 > F_{crit}(6, 3229) = 2.1$ at $\alpha = 0.05$, ($R = .198$, $R^2 = .039$). In respect to loyalty and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with helped friends with personal problems ($\beta = .122$, $p < .001$), followed by importance of becoming a community leader ($\beta = .077$, $p < .001$), and donated money to charity ($\beta = .041$, $p = .021$).

Open-mindedness
In respect to the results of community service variables on college student’s self-rating of “open-mindedness” gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting open-mindedness $F = 44.137 > F_{crit}(3, 3241) = 2.61$ at $\alpha = 0.05$ ($R = .198$, $R^2 = .039$). In respect to open-mindedness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was a very strong positive significant relationship with importance of becoming involved in environmental clean-up ($\beta = .138$, $p < .001$), and respect to importance of helping to promote racial understanding ($\beta = .132$, $p < .001$). There was a negative relationship with the importance of participating in a community action program ($\beta = -.069$, $p = .001$).
Student's planned residence did not have a significant predictive relationship with predicting open-mindedness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 35.563 > F_{crit}(4, 3240) = 2.37$ at $\alpha = 0.05$, ($R = .205, R\ Square = .042$). Only one of the individual variables of the institutional characteristics had a significant predictive relationship and that was institutional control (1-public, 2-private) with a negative correlation ($\beta = -.054, p = .002$), with students at public universities tending to rate themselves higher in respect to open-mindedness.

Student's probable major was not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 36.659 > F_{crit}(11, 3233) = 1.79$ at $\alpha = 0.05$, ($R = .333, R\ Square = .111$). In respect to open-mindedness and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with importance of helping to promote racial understanding ($\beta = .218, p < .001$), followed to a lesser degree by importance of becoming involved in programs to clean up the environment ($\beta = .082, p < .001$), helped friends with personal problems ($\beta = .076, p < .001$), and performed other volunteer work ($\beta = .048, p = .011$). There was a negative relationship in respect to self-rated open-mindedness with helped at local houses of worship ($\beta = -.155, p < .001$), importance of participating in a community action program ($\beta = -.079, p < .001$), and donated money to charity ($\beta = -.036, p = .044$). The negative correlation with helped out at local houses of worship would seem to reflect the tendency for more conservative religious students to consider themselves less open-minded and this may also be the reason why there is a slight negative relationship with donated money to charity as religious groups often present opportunities to donate money to charity. The survey results often show a negative correlation with participating in community action
programs which may well reflect a tendency for this cohort of students to view volunteer service in a very positive manner, while having some negative feelings about community action, perhaps as more political in nature than simple volunteering or community service.

Respectfulness
In respect to the results of community service variables on college student’s self-rating of “respectfulness” gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting respectfulness $F = 31.080 > F_{crit}(2, 3234) = 3.0$ at $\alpha = 0.05$ ($R = .137$, $R Square = .019$). In respect to respectfulness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in importance of helping others who are in difficulty ($\beta = .100$, $p < .001$), and importance of becoming a community leader ($\beta = .067$, $p < .001$).

Student’s planned residence had a significant predictive relationship with predicting respectfulness $F = 25.701 > F_{crit}(3, 3233) = 2.61$ at $\alpha = 0.05$, ($R = .153$, $R Square = .023$) with a moderate negative correlation ($\beta = -.067$, $p < .001$), indicating those living at home or in a private room/apartment were more likely to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 20.880 > F_{crit}(4, 3232) = 2.37$ at $\alpha = 0.05$, ($R = .159$, $R Square = .025$). Only one of the individual variables of the institutional characteristics was statistically significant and that was institutional selectivity (SATV+M) with a small negative correlation ($\beta = -.045$, $p = .012$), indicating students from less selective institutions had a slight tendency to rate themselves higher.
Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 16.132 > F_{crit} (10, 3226) = 1.83$ at $\alpha = 0.05$, ($R = .218$, $R^2 = .048$). In relationship to respectfulness and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with helped at local houses of worship ($\beta = .086, p < .001$), importance of becoming a community leader ($\beta = .069, p = .001$), importance of helping others who are in difficulty ($\beta = .047, p = .020$), donated money to charity ($\beta = .044, p = .017$), and helped friends with personal problems ($\beta = .042, p = .022$). There was a small negative relationship with performed other volunteer work ($\beta = -.041, p = .034$).

Self-awareness

In respect to the results of community service variables on college student’s self-rating of “self-awareness” gender had a significant predictive relationship $F = 13.532 > F_{crit} (1, 3234) = 3.84$ at $\alpha = 0.05$, ($R = .065$, $R^2 = .004$) with a relatively small negative correlation ($\beta = -.065, p < .001$), with males tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting self-awareness $F = 29.199 > F_{crit} (3, 3232) = 2.61$ at $\alpha = 0.05$ ($R = .162$, $R^2 = .026$). In respect to self-awareness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in importance of becoming a community leader ($\beta = .126, p < .001$), followed by importance of helping others who are in difficulty ($\beta = .049, p = .009$).
Student’s planned residence did not have a significant predictive relationship with predicting self-awareness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model predicting self-awareness and therefore did not enter the regression.

The block with student’s probable major proved to add significantly to the model $\frac{\text{error}}{\text{crit}} (4, 3231) = 2.37$ at $\alpha = 0.05$, ($R = .169$, $R^2 = .028$) with a small negative correlation ($\beta = -.045$, $p = .009$), indicating a slight tendency for students majoring in the arts or humanities to rate themselves higher in respect to self-awareness. (It should also be noted that while student’s planned major had a significant predictive relationship with self-awareness under faculty-student interactions, community service, and student spirituality, it was not significant under student peer relationships. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $\frac{\text{error}}{\text{crit}} (7, 3228) = 2.01$ at $\alpha = 0.05$, ($R = .204$, $R^2 = .041$). In respect to self-awareness and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with helped friends with personal problems ($\beta = .085$, $p < .001$), importance of helping to promote racial understanding ($\beta = .049$, $p = .012$), and importance of becoming a community leader ($\beta = .043$, $p = .042$).

Self-confidence (Social)
In respect to the results of community service variables on college student’s self-rating of “self-confidence (social),” the strongest predictor as expected was the pre-test $\frac{\text{error}}{\text{crit}} (1, 3230) = 3.84$ at $\alpha = 0.05$, ($R = .507$, $R^2 = .257$) with a strong positive correlation ($\beta = .507$, $p < .001$).
Gender did not have a significant predictive relationship with predicting social self-confidence and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting social self-confidence $F = 574.798 > F_{\text{crit}} (2, 3229) = 3.0$ at $\alpha = 0.05$ ($R = .512$, $R^2 = .263$). However, in respect to social self-confidence and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, only one of the individual variables within the block had a significant predictive relationship, which was importance of becoming a community leader ($\beta = .079$, p < .001).

Student’s planned residence did not have a significant predictive relationship with predicting social self-confidence and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model and therefore did not enter the regression.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 316.446 > F_{\text{crit}} (4, 3227) = 2.37$ at $\alpha = 0.05$, ($R = .531$, $R^2 = .282$). In respect to social self-confidence and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with importance of becoming a community leader ($\beta = .104$, p < .001), and helped friends with personal problems ($\beta = .091$, p < .001).
Self-understanding

In respect to the results of community service variables on college student’s self-rating of “self-understanding,” as expected the pre-test was the strongest predictor and was statistically significant $F = 432.523 > F_{crit} (1, 3228) = 3.84$ at $\alpha = 0.05$, ($R = .344$, $R Square = .118$) with a strong positive correlation ($\beta = .344$, $p < .001$).

Gender was statistically significant $F = 219.369 > F_{crit} (2, 3227) = 3.0$ at $\alpha = 0.05$, ($R = .346$, $R Square = .120$) with a small negative correlation ($\beta = -.039$, $p = .018$) with males tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting self-understanding $F = 149.623 > F_{crit} (3, 3226) = 2.61$ at $\alpha = 0.05$ ($R = .349$, $R Square = .122$). However, in respect to self-understanding only one of the individual variables was significant within the block for incoming first-year student’s prior year activities, and goals and values entering college and that was importance of becoming a community leader ($\beta = .050$, $p = .003$).

Student’s planned residence did not have a significant predictive relationship with predicting self-understanding and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model and therefore did not enter the regression.

The block with student’s probable major proved to add significantly to the model $F = 113.933 > F_{crit} (4, 3225) = 2.37$ at $\alpha = 0.05$, ($R = .352$, $R Square = .124$) with a small negative correlation ($\beta = -.041$, $p = .013$), indicating students in the arts and humanities had a tendency to rate themselves higher with respect to self-understanding.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly
to the model $F = 65.641 > F_{\text{crit}}(8, 3221) = 1.94$ at $\alpha = 0.05$, ($R = .374$, $R^2 = .140$). In respect to self-understanding and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with helped friends with personal problems ($\beta = .107$, $p < .001$), helped at local houses of worship ($\beta = .050$, $p = .004$), and importance of becoming a community leader ($\beta = .054$, $p = .004$). There was a small negative relationship with performed other volunteer work ($\beta = -.036$, $p = .047$)

Understanding of Others

In respect to the results of community service variables on college student’s self-rating of “understanding of others,” as expected, the strongest predictor was the pre-test $F = 414.140 > F_{\text{crit}}(1, 3229) = 3.84$ at $\alpha = 0.05$, ($R = .337$, $R^2 = .114$) with a strong positive correlation ($\beta = .337$, $p < .001$).

Gender did have a significant predictive relationship with predicting understanding of others $F = 210.424 > F_{\text{crit}}(2, 3228) = 3.0$ at $\alpha = 0.05$, ($R = .340$, $R^2 = .115$) with a small positive correlation ($\beta = .041$, $p = .014$), indicating women tended to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting understanding of others $F = 115.290 > F_{\text{crit}}(4, 3226) = 2.37$ at $\alpha = 0.05$ ($R = .354$, $R^2 = .125$). In respect to understanding of others and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in importance of helping others who are in difficulty ($\beta = .077$, $p < .001$), and importance of becoming involved in environmental clean-up ($\beta = .052$, $p = .002$).

Student’s planned residence did not have a significant predictive relationship with predicting understanding of others and therefore did not enter the regression.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, was not statistically significant and therefore did not enter the regression.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model \( F = 85.501 > F_{\text{crit}} (8, 3222) = 1.94 \) at \( \alpha = 0.05 \) (\( R = .412, R^2 = .170 \)). In respect to understanding of others and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was with helped friends with personal problems (\( \beta = .140, p < .001 \)) and importance of helping to promote racial understanding (\( \beta = .107, p < .001 \)), and to lessening degrees, importance of helping others who are in difficulty (\( \beta = .061, p = .001 \)), importance of becoming involved in programs to clean up the environment (\( \beta = .044, p = .021 \)).

### 4.4.4. Other Collegiate Outcomes

#### Emotional Health

In respect to the results of community service variables on college student’s self-rating of “emotional health,” as expected the strongest predictor was the pre-test \( F = 638.086 > F_{\text{crit}} (1, 3227) = 3.84 \) at \( \alpha = 0.05 \) (\( R = .406, R^2 = .165 \)) with a strong positive correlation (\( \beta = .406, p < .001 \)).

Gender was statistically significant in predicting emotional health \( F = 334.702 > F_{\text{crit}} (2, 3226) = 3.0 \) at \( \alpha = 0.05 \) (\( R = .415, R^2 = .172 \)) with a moderate negative correlation (\( \beta = -.083, p < .001 \)), with males tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting emotional health \( F = \)
103.231 > $F_{\text{crit}} (7, 3221) = 2.01$ at $\alpha = 0.05$ ($R = .428$, $R^2 = .183$). In respect to emotional health and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in goal to participate in volunteer/community service work ($\beta = .086$, $p < .001$), and importance of helping others who are in difficulty ($\beta = .041$, $p = .022$). There was a negative relationship with importance of helping to promote racial understanding ($\beta = -.050$, $p = .007$), tutored another student ($\beta = -.042$, $p = .010$), importance of becoming involved in environmental clean-up ($\beta = -.036$, $p = .040$).

Student’s planned residence had a significant predictive relationship with predicting emotional health $F = 91.037 > F_{\text{crit}} (8, 3220) = 1.94$ at $\alpha = 0.05$, ($R = .429$, $R^2 = .184$) with a small positive correlation ($\beta = .036$, $p = .028$), with students on campus or in fraternities or sororities tending to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model and therefore did not enter the regression.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 68.840 > F_{\text{crit}} (12, 3216) = 1.76$ at $\alpha = 0.05$, ($R = .452$, $R^2 = .204$). In respect to emotional health and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with helped at local houses of worship ($\beta = .109$, $p < .001$), importance of becoming a community leader ($\beta = .047$, $p = .007$), tutored another college student ($\beta = .042$, $p = .012$), and importance of helping others who are in difficulty ($\beta = .040$, $p = .030$).
Physical Health  
In respect to the results of community service variables on college student’s self-rating of “physical health,” was statistically significant $F = 1046.429 > F_{crit} (1, 3229) = 3.84$ at $\alpha = 0.05$, ($R = .495$, $R Square = .245$), and as expected the strongest predictor ($\beta = .495$, $p < .001$).

Gender had a significant predictive relationship $F = 532.300 > F_{crit} (2, 3228) = 3.0$ at $\alpha = 0.05$, ($R = .498$, $R Square = .248$) with a small negative correlation ($\beta = -.058$, $p < .001$), with males tending to rate themselves higher.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting physical health $F = 270.916 > F_{crit} (4, 3226) = 2.37$ at $\alpha = 0.05$ ($R = .501$, $R Square = .251$). In respect to physical health and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant correlation was found ironically in small negative correlations with importance of promoting racial understanding ($\beta = -.046$, $p = .003$) and tutored another student ($\beta = -.032$, $p = .037$).

Student’s planned residence did not have a significant predictive relationship with predicting physical health and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, was not statistically significant and therefore did not enter the regression.

Student’s probable major also was not statistically significant and so also did not enter the regression.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly
to the model $F = 218.614 > F_{crit}(5, 3225) = 2.22$ at $\alpha = 0.05$, ($R = 0.503$, $R^2 = 0.253$).

In respect to physical health and the individual variables within the block of college activities, goals and values and student community service the only significant positive relationship was found with importance of becoming a community leader ($\beta = 0.043$, $p < 0.001$).

**Spirituality**

Concerning the next two areas of self-rating, spirituality and religiousness/religiosity, there is considerable correlation. Once again, the authors' survey intentionally reflects contemporary culture which tends to view spirituality as broader and less institutional, and religiousness/religiosity as more narrow, institutional, and typically identified with a specific religion and its religious practices. The survey was also carefully designed to be applicable to all faiths and traditions including non-western religions.

In respect to the results of community service variables on college student’s self-rating of “spirituality,” as expected the strongest predictor was the pre-test and statistically significant $F = 1275.784 > F_{crit}(1, 3220) = 3.84$ at $\alpha = 0.05$, ($R = 0.533$, $R^2 = 0.284$) with a strong positive correlation ($\beta = 0.533$, $p < 0.001$).

Gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting spirituality $F = 196.571 > F_{crit}(7, 3214) = 2.01$ at $\alpha = 0.05$ ($R = 0.548$, $R^2 = 0.300$). In respect to spirituality and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in goal to participate in volunteer/community service work ($\beta = 0.088$, $p < 0.001$), importance of helping others who are in difficulty ($\beta = 0.080$, $p < 0.001$), and importance of becoming a community leader ($\beta = 0.039$, $p = 0.021$). However, there was a small negative relationship with
importance of helping to promote racial understanding ($\beta = -.044, p = .013$), performed volunteer work ($\beta = -.039, p = .021$), and importance of becoming involved in environmental clean-up ($\beta = -.037, p = .022$).

Student’s planned residence did not have a significant predictive relationship with predicting spirituality and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 172.925 > F_{crit} (8, 3213) = 1.94$ at $\alpha = 0.05$, ($R = .549, R \text{ Square} = .301$). Only one of the variables within the block of institutional characteristics was statistically significant and that was institutional control (1-public, 2-private) with a small positive correlation ($\beta = .036, p = .019$), with students in private colleges or universities tending to rate themselves higher, which seems logical given that many private colleges are religious in nature. (It should be noted, however, that while institutional control had a significant predictive relationship with spirituality under faculty-student interactions, student peer relationships, community service, it was not significant under student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

The block with student’s probable major proved to add significantly to the model $F = 154.632 > F_{crit} (9, 3212) = 1.88$ at $\alpha = 0.05$, ($R = .550, R \text{ Square} = .302$) with a small negative correlation ($\beta = -.036, p = .014$) indicating that students in the arts and humanities tended to rate themselves higher.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 155.087 > F_{crit} (13, 3208) = 1.72$ at $\alpha = 0.05$, ($R = .621, R \text{ Square} = .386$). In respect to spirituality and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with helped at local houses of worship ($\beta = .275, p < .001$), followed
to a much less degree by importance of helping others who are in difficulty ($\beta = .111$, $p < .001$), and donated money to charity ($\beta = .056$, $p < .001$). There was a small negative correlation with performed other volunteer work ($\beta = -.031$, $p = .048$).

Religiousness/Religiosity
In respect to the results of community service variables on college student’s self-rating of “religiousness/religiosity” gender did not have a significant statistical impact and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting religiousness/religiosity $F = 60.310 > F_{\text{crit}}(5, 3227) = 2.22$ at $\alpha = 0.05$ ($R = .292$, $R_{\text{Square}} = .085$). In respect to religiousness/religiosity and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in goal to participate in volunteer/community service work ($\beta = .158$, $p < .001$), importance of helping others who are in difficulty ($\beta = .154$, $p < .001$), and importance of becoming a community leader ($\beta = .099$, $p < .001$). There was a negative relationship with importance of becoming involved in environmental clean-up ($\beta = -.145$, $p < .001$), importance of helping to promote racial understanding ($\beta = -.065$, $p = .001$).

Student’s planned residence did not have a significant predictive relationship with predicting religiousness/spirituality and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 44.526 > F_{\text{crit}}(7, 3225) = 2.01$ at $\alpha = 0.05$, ($R = .297$, $R_{\text{Square}} = .088$). Two of the individual variable within institutional characteristics were significant and those were institutional selectivity (SATV+M) with a negative correlation ($\beta = -.059$, $p = .003$), indicating students at less selective institutions tended to rate themselves higher; and institutional control (1-public, 2-private) with a positive correlation ($\beta = .043$, $p = .033$), with students in private colleges or universities
tending to rate themselves higher, which seems logical given that many private colleges are religious in nature. (It should be noted, however, that while institutional control had a significant predictive relationship with religiosity/religiousness under faculty-student interactions, student peer relationships, community service, it was not significant under student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

The block with student’s probable major proved to add significantly to the model $F = 39.754 > F_{\text{crit}} (8, 3224) = 1.94$ at $\alpha = 0.05$, ($R = .300$, $R^2 = .090$), with a negative correlation ($\beta = -.041$, $p = .015$) indicating students in the arts and humanities tended to rate themselves higher with respect to religiousness/religiosity. (However, it should be noted that while student’s planned major had a significant predictive relationship with religiosity/religiousness under faculty-student interactions and community service, it was not significant under student peer relationships and student spirituality. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 82.660 > F_{\text{crit}} (18, 3214) = 1.61$ at $\alpha = 0.05$, ($R = .563$, $R^2 = .316$). In respect to religiousness/religiosity and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with helped at local houses of worship ($\beta = .444$, $p < .001$), importance of helping others who are in difficulty ($\beta = .128$, $p < .001$), donated money to charity ($\beta = .105$, $p < .001$), followed in a diminishing degree by importance of participating in a community action program ($\beta = .069$, $p < .001$). However, there was a negative relationship with importance of helping to promote racial understanding ($\beta = -.075$, $p < .001$), importance of becoming involved in programs to clean up the environment ($\beta = -.070$, $p < .001$), helped friends with personal problems ($\beta = -.047$, $p = .003$), and performed
other volunteer work (β = -.048, p = .006), tutored another college student (β = -.044, p = .004), and participated in community food/clothing drive (β = -.034, p = .040).

Sense of Community on Campus
In respect to the results of community service variables on college student’s self-rating of “sense of community on campus” gender did not have a significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting sense of community $F = 34.092 > F_{crit} (4, 3251) = 2.37$ at $\alpha = 0.05$ ($R = .201, R_{Square} = .040$). In respect to sense of community and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in goal to participate in volunteer/community service work (β = .186, p < .001), and importance of becoming a community leader (β = .044, p = .022). There was a negative relationship with importance of becoming involved in environmental clean-up (β = -.076, p < .001) and importance of helping to promote racial understanding (β = -.056, p = .005).

Student’s planned residence had a significant predictive relationship with predicting sense of community $F = 43.918 > F_{crit} (5, 3250) = 2.22$ at $\alpha = 0.05$, ($R = .252, R_{Square} = .063$) with a strong positive correlation (β = .155, p < .001), with students on campus housing or in a fraternity or sorority tending to give a higher rating.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 49.234 > F_{crit} (6, 3249) = 2.1$ at $\alpha = 0.05$, ($R = .289, R_{Square} = .083$). Only one of the individual variables within the block of institutional characteristics, was statistically significant and that was institutional control (1-public, 2-private) with a positive correlation (β = .152, p < .001), with students at private colleges and universities tending to give a higher rating for sense of community on campus.
The block with student’s probable major proved to add significantly to the model $F = 42.913 > F_{crit}(7, 3248) = 2.01$ at $\alpha = 0.05$, ($R = .291$, $R^2 = .085$), with a small negative correlation ($\beta = -.036$, $p = .031$), indicating students majoring in the arts or humanities tended to give a higher rating for sense of community.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 36.021 > F_{crit}(12, 3243) = 1.76$ at $\alpha = 0.05$, ($R = .343$, $R^2 = .118$). In respect to sense of community and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with importance of becoming a community leader ($\beta = .113$, $p < .001$), helped at local houses of worship ($\beta = .105$, $p < .001$), participated in community food or clothing drives ($\beta = .051$, $p = .004$), and helped friends with personal problems ($\beta = .047$, $p = .006$). There was a negative relationship with importance of becoming involved in programs to clean up the environment ($\beta = -.063$, $p = .001$).

Interaction With Other Students

In respect to the results of community service variables on college student’s self-rating of “interaction with other students” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting satisfaction with interaction with other students $F = 22.524 > F_{crit}(2, 3248) = 2.61$ at $\alpha = 3.0$ ($R = .117$, $R^2 = .014$). In respect to interaction with other students and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in goal to participate in volunteer/community service work ($\beta = .071$, $p < .001$), and performed volunteer work ($\beta = .065$, $p = .001$).
Student’s planned residence had a significant predictive relationship with predicting interaction with other students $F = 27.736 > F_{crit}(3, 3247) = 2.61$ at $\alpha = 0.05$, ($R = .158$, $R^2 = .025$) with a strong positive correlation ($\beta = .108$, $p < .001$), with students living on campus or in fraternities or sororities tending to give higher ratings for interactions with other students.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 24.563 > F_{crit}(5, 3245) = 2.22$ at $\alpha = 0.05$, ($R = .191$, $R^2 = .036$). Two of the individual variables within the institutional characteristics block were significant including institutional control (1-public, 2-private) with a positive correlation ($\beta = .126$, $p < .001$), with students at private colleges or universities tending to give a higher rating for satisfaction with other students; and institutional selectivity (SATV+M) with a negative correlation ($\beta = -.080$, $p < .001$), with students at less selective institutions tending to give a higher rating for satisfaction with interaction with other students.

The block with student’s probable major proved to add significantly to the model $F = 21.719 > F_{crit}(6, 3238) = 2.1$ at $\alpha = 0.05$, ($R = .197$, $R^2 = .039$), with a small negative correlation ($\beta = -.046$, $p = .007$), indicating that students in the arts or humanities tended to give a higher rating for interaction with other students.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 22.557 > F_{crit}(12, 3238) = 1.76$ at $\alpha = 0.05$, ($R = .278$, $R^2 = .077$). In respect to interaction with other students and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationships were found with helped friends with personal problems ($\beta = .098$, $p < .001$), performed other volunteer work ($\beta = .087$, $p < .001$), importance of becoming a community leader ($\beta = .086$, $p < .001$), tutored another college student ($\beta = .046$, $p = .008$), helped at local houses of worship ($\beta = .040$, $p = .025$). There was a negative relationship
with importance of becoming involved in programs to clean up the environment ($\beta = -.064$, $p < .001$).

Overall College Experience
In respect to the results of community service variables on college student’s self-rating of “overall college experience” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year students prior year community service activities, and goals and values entering college added significantly to the model predicting satisfaction with overall college experience $F = 28.010 > F_{\text{crit}} (2, 3247) = 3.0$ at $\alpha = 0.05$ ($R = .130$, $R^2 = .017$). In respect to overall college experience and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student community service, the strongest significant positive correlation was found in goal to participate in volunteer/community service work ($\beta = .131$, $p < .001$). There was a small negative relationship with importance of becoming involved in environmental clean-up ($\beta = -.038$, $p = .031$).

Student’s planned residence had a significant predictive relationship with predicting satisfaction with overall college experience $F = 25.005 > F_{\text{crit}} (3, 3246) = 2.61$ at $\alpha = 0.05$, ($R = .150$, $R^2 = .023$) with a positive correlation ($\beta = .076$, $p < .001$), indicating that students living on campus tended to give higher ratings.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 22.414 > F_{\text{crit}} (4, 3245) = 2.37$ at $\alpha = 0.05$, ($R = .164$, $R^2 = .027$), with institutional control (1-public, 2-private) with a positive correlation ($\beta = .071$, $p < .001$) indicating that students at private universities tended to give higher ratings for satisfaction with overall college experience.

The block with student’s probable major also proved to add significantly to the model $F = 20.678 > F_{\text{crit}} (5, 3244) = 2.22$ at $\alpha = 0.05$, ($R = .176$, $R^2 = .031$) with a moderate
negative correlation ($\beta = -.063, p < .001$), indicating that students majoring in the arts or humanities tended to give a higher rating.

The block with college student community service activities and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 19.125 > F_{crit} (12, 3237) = 1.76$ at $\alpha = 0.05$, ($R = .257$, $R^2 = .066$).

In respect to satisfaction with overall college experience and the individual variables within the block of college activities, goals and values and student community service the strongest significant positive relationship was found with helped at local houses of worship ($\beta = .089$, $p < .001$), helped friends with personal problems ($\beta = .072$, $p < .001$), importance of becoming a community leader ($\beta = .066$, $p < .001$), performed other volunteer work ($\beta = .044$, $p = .022$), tutored another college student ($\beta = .040$, $p = .022$), and donated money to charity ($\beta = .040$, $p = .029$). There was a negative relationship with importance of becoming involved in programs to clean up the environment ($\beta = -.060$, $p = .002$).

4.4.5. Main Results and Recommendations in Respect to Community Service Variables and the Prediction of Pro-social Character Development

As illustrated in the preceding analysis, student community service variables had a strong predictive relationship with college student self-rated pro-social character. Student community service activities have the strongest predictive relationship with compassionate self-concept and social character, as might be expected, but also had a considerable predictive relationship with other collegiate outcomes and even achievement-oriented character traits. Although each character self-rating is best examined in detail by itself, it is useful to take an overview of the four main groupings, achievement-oriented, compassionate self-concept, social, and other collegiate correlation outcomes, and make some summary comments. Again many of the self-ratings could be viewed in more than one grouping, and in some sense they are all inter-related.
Achievement-Oriented
[achievement orientation- courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intelligence)]

Incoming first-year student’s prior-year community service activities and related goals and values had a significant predictive relationship with all of the achievement-oriented character self-ratings. (It is also well to note for those who would like to see and even stronger correlations that may well reflect lack in opportunities for community service for high school students or community service opportunities for non-traditional students.) In respect to individual factors with the strongest predictive relationship were tutoring other students; in respect to related goals and values and entering first-year students the strongest predictive relationship were importance of becoming a community leader, followed to a lesser degree by importance of becoming involved in environmental clean-up, and importance of promoting racial understanding. As previously noted, students seemed to hold negative connotations with participating in a community action program.

College student community service activities and related goals and values, according to responses of third-year college students, had a significant predictive relationship with all of the self-rated character qualities. In respect to individual variables, the strongest significant positive relationship with students who indicated higher self-ratings in respect to the set of achievement-oriented character qualities were once again with the importance of becoming a community leader, followed by volunteering by tutoring other college students and help friends with personal problems. Also noteworthy were the importance of becoming involved in programs to clean up the environment and importance of promoting racial understanding, and perform other volunteer work. (Again students seemed to have a negative opinion of importance of participating in a community action program.)

Once again, in respect to the secondary factors, most have similar results except when the significance is very close to the pre-determined cutoff significance and therefore with a different number of respondents and a different constellation of individual factors which
must share the predictive power or there is a particularly strong variable entered in the regression immediately following, the outcome may change slightly.

In respect to gender, males had a tendency to rate themselves higher with respect to courage, leadership ability, and self-confidence (intelligence). Once again, reasons behind this finding may be interpreted from a variety of perspectives including that it reflects particular genetic predispositions, or more perhaps a more common view that it reflects the nurturing of the family of origin and the influence of social norms and expectations of the wider community. However, it would be very interesting to see if the more recent survey (SIF2004/CSBV2007) revealed a decrease in the disparity, particularly as women continue to make strides in corporate and academic achievement.

Planned residence did not have a significant predictive relationship with any of the achievement-oriented character qualities, with the exception of self-confidence (intellectual), where students living at home tended to rate themselves higher. However, as previously noted this reflected a small difference in change in $R^2$ from the previous block and was significant for self-confidence (intellectual) under faculty-student interactions, but not under student peer relationships or student spirituality.

In respect to institutional characteristics, institutional selectivity was the only factor that had a significant predictive relationship with more than one character quality; and surprisingly, institutional selectivity had a negative correlation with self-rated courage, creativity, dependability, and drive-to-achieve. (It is however, noteworthy, that while institutional selectivity had a significant predictive relationship with courage and dependability under community service, it was not significant under two of the other major areas. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Planned major had a significant predictive relationship with three of the character traits with a negative correlation with courage, creativity, and self-confidence (intellectual), with students majoring in the arts or humanities tending to rate themselves higher with respect to
these three character traits. (It should be noted, however, that while student’s planned major had a significant predictive relationship with intellectual self-confidence under faculty-student interactions and community service, it was not significant under student peer relationships or student spirituality. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

Compassionate Self-Concept

[Compassionate self-concept- altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience.]

Community service activities and related goals and values for incoming first-year students had a significant predictive relationship with all of the compassionate self-concept character traits. In terms of the strongest individual variables, performing volunteer work for entering first-year students seemed to have a moderate correlation through either performing volunteer work or tutoring other students (it may be the case in respect to actual volunteer service that students lacked opportunities for volunteer service or because of the nature of their involvement), however the goal of participating in future volunteer work had a relatively strong significant predictive relationship. In terms of goals and values related to community service and character qualities that were under compassionate self-concept the strongest factors with entering first-year students were importance of helping others who are in difficulty, importance of helping to promote racial understanding, the goal to participate in community service, and importance of becoming a community leader all had strong significant positive correlations with these character qualities.

College community service activities and related goals and values, according to responses of third-year college students, had a significant predictive relationship with all of the compassionate self-concept character traits. In terms of individual variables there was a significant positive predictive relationship with students who indicated a higher importance for goals and values for the importance of helping others who are in difficulty, importance of becoming a community leader, importance of helping to promote racial understanding,
importance of becoming involved in programs to clean up the environment. In terms of community service/volunteer activities, there was a general significant positive relationship with volunteer activities with the strongest overall in helped friends with personal problems, helped at local houses of worship, tutor other college students, as well as performed other volunteer work, and donated money to charity. (Once again students seemed to have a negative opinion of importance of participating in a community action program.)

On a secondary level, in respect to gender, once again males had a tendency to rate themselves higher with respect to forgiveness; while females had a tendency to rate themselves higher with respect to compassion, empathy, gratefulness, helpfulness, and kindness.

Planned residence had a significant predictive relationship with four of the nine character traits including generosity, gratefulness, helpfulness, and kindness, with students living at home or in off-campus housing tending to rate themselves higher.

In respect to institutional characteristics, institutional selectivity was the only factor that had a significant predictive relationship with more than one character quality; and surprisingly, institutional selectivity had a negative correlation with seven of the nine character qualities including compassion, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience. However, students at both more selective institutions tended to rate themselves higher with respect to altruism. (However, it should be noted, that while institutional selectivity had a significant predictive relationship with compassion under community service, it was not significant under faculty-student interactions, student peer relationships, and student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Planned major did not have a significant predictive relationship with any of the compassionate self-concept character qualities.
Social

[Social – cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-awareness, self-confidence (social), self-understanding, and understanding of others]

Involvement in community service and related goals and values for incoming first-year students had a significant predictive relationship with all of the social self-concept character traits. In terms of the strongest individual variables, actually performing volunteer work in the previous year for entering first-year students seem to have a moderate correlation, and may have been stronger had students been offered more opportunities for volunteer service.

In terms of related goals and values future volunteer work had a strong relationship with social character traits including importance of helping others who are in difficulty, importance of helping to promote racial understanding, importance of becoming a community leader, and importance of becoming involved in environmental clean-up.

College community service activities and related goals and values, according to responses by third-year college students, had a significant predictive relationship with all of the compassionate self-concept character traits. In terms of individual variables there was a strong positive relationship with students who indicated a higher importance for goals and values for the importance of becoming a community leader, importance of helping others who are in difficult, importance of helping to promote racial understanding, importance of becoming involved in programs to clean up the environment, and importance of becoming involved in community action programs.

In terms of community service/volunteer activities, there was a general significant positive relationship with volunteer activity with the strongest overall in helped friends with personal problems, helped at local houses of worship, performed other volunteer work, and donated money to charity.

On a secondary level, in respect to gender, males had a tendency to rate themselves higher with respect to humility, loyalty, self-awareness, and self-understanding; while females had a tendency to rate themselves higher with respect to understanding of others. Once again reasons behind this may either be viewed from a variety of perspectives including that it reflects particular genetic strengths, or more commonly the nurturing of the family of origin.
and the influence of social norms and expectations of the wider community. Again, it would be interesting to see if the more recent survey (SIF2004/CSBV2007) revealed similar results.

Planned residence had a significant predictive relationship with two of the character traits including loyalty and respectfulness, with students living at home or in off-campus housing tending to rate themselves higher.

In respect to institutional characteristics, institutional selectivity had a significant predictive relationship with cooperativeness and respectfulness, both with a negative correlation. Students at public institutions tended to rate themselves higher with respect to open-mindedness.

Planned major had a significant predictive relationship with two of the character traits including self-awareness and self-understanding; in both cases students majoring in the arts or humanities tended to rate themselves higher.

Other Collegiate Outcomes
[emotional health, physical health, spirituality, religiousness, satisfaction with sense of community, satisfaction with interaction with students, and satisfaction with overall college experience]

In respect to other collegiate outcomes the areas vary considerably and so are best considered on their own. However, one cannot resist some very general remarks.

Involvement in community service and related goals and values for incoming first-year students had a significant predictive relationship with all of the other collegiate outcomes. In respect to the individual factors with the strongest correlations for entering first-year students with these set of characteristics was goal of becoming involved in community service, importance of becoming a community leader, and importance of helping others in difficulty.
College community service activities and related goals and values, according to responses of third-year college students, had a significant predictive relationship with all of the other collegiate outcomes including emotional health, physical health, satisfaction with sense of community, satisfaction with interaction with other students, and satisfaction with overall college experience. In terms of individual variables with the strongest positive correlations were with students who indicated higher self-ratings in respect to the other collegiate outcomes character qualities in respect to goals and values were importance of becoming a community leader, followed by the importance of helping others in difficulty. In terms of community service/volunteer activities, there was a significant positive relationship with the full range of volunteer activities including tutor other college students, donate money to charity, participate in community food or clothing drives, help friends with personal problems, helped at local houses of worship, and other volunteer activities.

On a secondary level, in respect to gender, males had a tendency to rate themselves higher with respect to emotional health and physical health, otherwise gender did not have a significant predictive relationship with the other self-ratings for other collegiate outcomes.

Planned residence had a significant predictive relationship with all but three of the other collegiate outcomes including emotional health, satisfaction with sense of community, satisfaction with relevance of coursework, and satisfaction with overall college experience with students in on-campus housing tending to rate themselves higher in all cases.

In respect to institutional characteristics, institutional selectivity had a negative correlation with religiosity/religiousness, and satisfaction with relevance of coursework. However, students at private institutions tended to rate themselves higher with respect to spirituality, religiosity/religiousness, which may reflect the fact that many private educational institutions are religious in nature. Students at private institutions also gave higher ratings for satisfaction with relevance with coursework, sense of community, and satisfaction with overall college experience.
Planned major had a significant predictive relationship with all but two of the other collegiate outcomes with students majoring in the arts and humanities giving higher ratings for spirituality, religiosity/religiousness, satisfaction with sense of community, satisfaction with interaction of other students, and satisfaction with overall college experience.

In respect to the importance of participating in a community action program, as opposed to community service, often had a moderate negative correlation and appears to be the case that this cohort of students while tending to view volunteer service in a very positive manner, have some negative feelings about community action, perhaps as more political in nature than simple volunteering or community service.

When examining the impact of community service/volunteer activities and related goals and values these findings reflect a significant predictive relationship that these activities, goals, and values have on pro-social character development as well as other positive collegiate outcomes. While the positive impact of community service is often exhorted in terms of anecdotal stories and accounts, these findings represent tangible metrics for measuring the positive impact of community service activities, goals and values. In addition to learning vital information and skills related to knowledge, college students are presented with the opportunities to manage their life and freedom and acquire a stronger set of social skills as well as the opportunity for community service. The opportunities related to community service form a very vital set of habits and strengthen pro-social character qualities that shape individuals to become more engaged and participatory citizens.

Many colleges extol the virtues of community service and often give good publicity to students involved in such activities, but still view community service as largely extra-curricular and not at the heart of their mission. Rather than viewing this sort of activity as extra-curricular, or good community relations, colleges may well want to begin to view this range of activities as vital co-curricular activities that can be part of the very mission of colleges that take a view toward a holistic education and development of students. Some colleges and universities have viewed community service/volunteer activities as a core part
of their mission and often promote the virtues of such an emphasis, and these findings add weight to their endeavors.

Service learning is also a valuable avenue for promoting community service within the context of the classroom. Service learning takes community service to the next level by incorporating an element of community service with a regular class by making it a natural outgrowth as part of the studies and adding, in addition to participation in some form of related community service, a component of structured reflection in the form of journaling, reflection papers, and group discussions. This has advantages of further connecting class work with the greater community and involving both individual and group reflection to strengthen the depth of the activity and its impact on individuals, groups, as well as those being served, and the greater community. Colleges and universities that want to take a more pro-active role in pro-social character development in college students may want to encourage faculty to add a service learning component to selected courses where it would be relevant and beneficial.

Community service also has an important positive peer relationship component as well as community socialization dimension that work together to create a context for pro-social character to develop and find positive affirmation.

First-year students programs that help students and student groups become familiar with and involved in the range of opportunities for community service and service learning may well expedite and deepen this type of involvement and the actual pro-social character development process. Furthermore, colleges may want to consider encouraging a service learning component in many of the courses throughout the range of majors where a component of community service with reflection and discussion would enhance learning, promote civic engagement, and stimulate pro-social character development.

Although colleges and universities often wish to accommodate and even encourage community service and service learning as good community relations or a positive extra-curricular activity, colleges and universities may well want to re-assess the strength that such
programs offer individual college students in developing pro-social character development, and promote a stronger community within the campus, as well as a strong connection between the campus community and the wider community. Community service and service learning also have the advantage of coupling strong social skills and positive relationships across cultural, racial, religious, and socio-economic boundaries.

Students may have some sense of increased motivation through the self-determination of deciding in what social issues they wish to be engaged. There is additional positive reinforcement when students see they can make a positive difference in impacting social problems and the lives of individual families. This may be further heightened by the reaffirming social experience with other students and building relationships across boundaries and backgrounds with other students as well as people in the community. Awareness may also be heightened by experiencing firsthand the life challenges less-fortunate families experience and the positive reward of working to make a difference in a needed area of the community.

In sum, community service activities, and related goals and values proved to add significantly to the model predicting pro-social character development in both blocks for incoming first-year student’s prior year activities and related goals and values entering college, as well as the block for college community service activities and related goals and values as reported by third-year students. Community service can be a very valuable way for colleges and universities to promote the development of pro-social character in college students as well as educate students to be involved and engaged citizens in the community in college and in their later professional and community lives.
4.5. Results of Student Spirituality Variables in Predicting Pro-social Character Development in College Students

Concerning the spirituality and religiousness/religiosity, there is obviously considerable correlation. Once again, the authors intentionally reflect contemporary culture, which tends to view spirituality as broader and less institutional, and religiousness/religiosity as considered to be more narrow, institutional, and typically identified with a specific religion and its religious practices. Survey questions were carefully individual designed to be applicable to all faiths and traditions including non-western religions as well as both external practices or extrinsic spirituality and internal activities or intrinsic activities.

The results of the statistical analysis demonstrate the impact of activities, goals, and values related to spirituality on pro-social character development as well as other related outcomes in college students. The results of the CAMBRA analysis are contained below with a description of each of the variables in each block. A number of variables are included in the appendices in crosstab tables for those factors alone including: academic performance (college GPA, SAT-ACT scores), gender, institutional characteristics (institutional control (1-public, 2-private), institutional type (1-university, 2-4 yr college, 3-2-yr college, institutional selectivity (SATV+M)), race, religious preference, planned residence, years completed and degree aspirations.

Before proceeding it is helpful to remember that with a statistical model with so many blocks and numerous variables, the correlations are relatively small, however when examined they give very useful insight and analyses of the relative impact of each of the variables (Astin & Dey, 1996). The method pioneered by Astin and colleagues at HERI of UCLA has been proven over time and yielded in depth analyses. The variables in each block were entered by stepwise regression so that only the variables with significant predictive relationships would enter the regression ($\alpha = .05$) entered in order from greatest to least and would be taken out of the regression if the subsequent variable entering the block rendered its significance in excess of $\alpha = .10$. However, once the regression has moved on to the next block of
variables, all previous variables remain in the regression regardless of whether new variables entering the regression diminish their respective significance. The actual survey questions used are in each block below. Once again the diagram of the IEO model is useful for insight and understanding:

Three sources of data: 1) SIF 2000, 2) CSBV 2003, 3) CIRP Institutional Information Data linked through CIRP student identifier numbers and CIRP institutional identifier

The individual blocks of the CAMBRA with the corresponding variables are as follows:

Block 1: Pre-test where available (SIF2000):

Block 2: Demographic variables (SIF2000):

(Gender: 1-male, 2-female) (gender alone included here; other demographic analyses are included in the cross tab analysis including: academic outcomes, religious preference, parental education, and race)

Block 3: First-year college student’s prior-year activities; goals & values upon entering college (SIF2000):

Figure 4.4 Overview of IEO Design Model
attended a religious service
prayer/meditation (hrs per wk) 1=none, 2=less than one, 3=1 to 2, 4=3 to 5, 5=6 to 11, 6=11 to 15, 7=16 to 20, 8=over 20
importance of developing meaningful philosophy of life
importance of integrating spirituality into everyday life
Block 4: Fall planned residence (SIF2000):
1=with family or other relatives, 2=other private home, apartment, room
3=college dormitory, 4=fraternity or sorority house, 5=other campus student housing
Block 5: Institutional characteristics (CIRP institutional data):
institutional control (1-public, 2-private)
institutional type (1-university, 2-4 yr college, 3-2yr college
institutional selectivity (SATV+M)
Block 6: Student's planned major (SIF2000):
Block 7: College activities, goals, and values as reported by third-year college students (CSBV2003):
attended a religious service
religious beliefs and convictions strengthened in college
acceptance of people with different religious/spiritual values
importance of developing a meaningful philosophy of life
importance of integrating spirituality into life
practice prayer
practice meditation
practice religious singing or chanting
practice reading sacred texts
importance of seeking out opportunities to help me grow spiritually
helped at local houses of worship
found new meaning in rituals and practices of my religion
attended a class/workshop or retreat on matters related to religion/spirituality
friends share religious/spiritual values (none, some, most, all)
friends searching for meaning/purpose in life (none, some, most, all)
find religion to be personally helpful
spiritual beliefs are one of the most important things in my life
“spiritual beliefs help define the goals I set for myself”
spiritual beliefs provide me with strength, support, and guidance

Self-rated pro-social variables are listed below, which will be treated as outcome variables are part of the CSBV2003. Students were asked to rate themselves in each of the areas as:
1=Lowest 10%, 2=Below Average, 3=Average, 4=Above average, 5=Highest 10%. Other related collegiate outcomes were included and available in the self-rating section.

The results of the blocked regression analysis for each of the self-ratings will be examined in four useful groupings: achievement-oriented, compassionate self-concept, social, and other collegiate correlation outcomes. Many of the self-ratings could be viewed in more than one grouping, and in some sense they are all inter-related. However for the sake of manageability the character self-ratings are grouped under the following:

- achievement orientation- courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intelligence)
- compassionate self-concept- altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience
- social –cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-awareness, self-confidence (social), self-understanding, and understanding of others
- other collegiate outcomes- emotional health, physical health, spirituality, religiousness, respect for diverse religious/spiritual beliefs (included only under spirituality), opportunity for religious/spiritual reflection (included only under spirituality), satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under spirituality), satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with sense of community, satisfaction with interaction with students, and satisfaction with overall college experience (not all outcomes will relate to each main category but this paper will examine those outcomes that relate to the given main area)
The results of each block of the model available will be examined with reference to the model summary table and ANOVA table to see if there is a significant relationship of each block on the model predicting each character self-rating (α = .05) after all of the variables with a significant relationship have entered the particular block (α = .05).

Before examining the results in detail, it is imperative once again to understand that this the considerable advantages of putting so many variables into the statistical model in order to understand a wide range of variables on a particular outcome as well as the interaction of each variable is that the variables themselves register a diminished output due to the fact that there are so many variables sharing the predictive power in the regression analysis. Therefore researchers more attuned to using a few variables need to recognize the importance of smaller coefficients in the output using this model (Cf. Astin & Dey, 1996, p.13ff).

4.5.1. Achievement Orientation

Courage

In respect to the results of spirituality variables on college student’s self-rating of “courage” gender had a statistically significant predictive relationship $F = 100.785 > F_{crit} (1, 3118) = 3.84$ at $\alpha = 0.05$, ($R = .177$, $R^2 = .031$) with a strong negative correlation ($\beta = -.177$, $p < .001$), indicating males had a much higher tendency to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting courage $F = 37.861 > F_{crit} (3, 3116) = 2.61$ at $\alpha = 0.05$ ($R = .188$, $R^2 = .035$). In respect to courage and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the only significant positive correlation was found in prayer/meditation (hrs per wk) ($\beta = .060$, $p = .003$). There was a negative relationship with attended a religious service ($\beta = -.065$, $p = .001$).
Student’s planned residence did not have a significant predictive relationship with predicting courage and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model and therefore did not enter the regression.

The block with student’s probable major proved to add significantly to the model \( F = 31.315 > F_{\text{crit}} (4, 3115) = 2.37 \) at \( \alpha = 0.05 \), \( (R = .197, R \text{ Square} = .039) \) with a moderate negative correlation \( (\beta = -.059, p = .001) \), indicating that students majoring in the arts or humanities were more likely to rate themselves higher with respect to courage.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model \( F = 23.677 > F_{\text{crit}} (7, 3112) = 2.01 \) at \( \alpha = 0.05 \), \( (R = .225, R \text{ Square} = .051) \). In respect to courage and the individual variables within the block of college student activities, goals and values related to spirituality the strongest significant positive relationship was found with practice mediation \( (\beta = .088, p < .001) \), followed by find religion to be personally helpful \( (\beta = .073, p = .001) \). There was a negative correlation with attended a religious service \( (\beta = -.093, p < .001) \).

Creativity

In respect to the results of spirituality variables on college student’s self-rating of “creativity,” as expected the strongest predictor was the pre-test which was statistically significant \( F = 1468.947 > F_{\text{crit}} (1, 3112) = 3.84 \) at \( \alpha = 0.05 \), \( (R = .566, R \text{ Square} = .321) \) with a strong positive correlation \( (\beta = .566, p < .001) \).

Gender did not have a statistically significant predictive relationship and therefore did not enter the regression.
The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting creativity $F = 738.258 > F_{crit} (2, 3111) = 3.0$ at $\alpha = 0.05$ ($R = .567$, $R^2 = .322$). In respect to creativity and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the only significant correlation was found in a small negative correlation with attended a religious service ($\beta = -.035$, $p = .019$).

Student’s planned residence did not have a significant predictive relationship with predicting creativity and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 499.553 > F_{crit} (3, 3110) = 2.61$ at $\alpha = 0.05$, ($R = .570$, $R^2 = .325$). Only one of the individual variables within the block of institutional characteristics and that was institutional selectivity (SATV+M) with a negative correlation ($\beta = -.058$, $p < .001$), indicating that students at less selective institutions tended to rate themselves higher with respect to creativity.

The block with student’s probable major proved to add significantly to the model $F = 378.021 > F_{crit} (4, 3109) = 2.37$ at $\alpha = 0.05$, ($R = .572$, $R^2 = .327$), with a small negative correlation ($\beta = -.045$, $p = .002$), indicating that students majoring in the arts or humanities tended to rate themselves higher.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 223.233 > F_{crit} (7, 3106) = 2.01$ at $\alpha = 0.05$, ($R = .579$, $R^2 = .335$). In respect to creativity and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with importance of developing a meaningful philosophy of life ($\beta = .056$, $p < .001$), practice meditation ($\beta = .055$, $p < .001$). There were negative correlation with attended a religious service ($\beta = -.047$, $p = .012$).
Dependability
In respect to the results of spirituality variables on college student’s self-rating of “dependability” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block regarding incoming first-year student’s prior year activities, and goals and values entering college was not statistically significant in predicting dependability and therefore also did not enter the regression.

Student’s planned residence had a significant predictive relationship with predicting dependability $F = 4.242 > F_{crit} (1, 3122) = 3.84$ at $\alpha = 0.05$, ($R = .037$, $R^2 = .001$) with a small negative correlation ($\beta = -.037$, $p = .040$ with students at home or on off campus housing tending to rate themselves higher. (However, it is should be noted that the significance is marginal and that for the other three major areas planed residence did not have a significant predictive relationship with dependability, either due to the different number of respondents or the particular set of variables.)

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 5.450 > F_{crit} (2, 3121) = 3.0$ at $\alpha = 0.05$, ($R = .059$, $R^2 = .003$). Only one of the individual variables within the block of institutional characteristics was statistically significant and that was institutional type (1-university, 2-4yr college, 3-2yr college) with a small negative correlation ($\beta = -.046$, $p = .010$) with students attending universities tending to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 5.224 > F_{crit} (3, 3120) = 2.61$ at $\alpha = 0.05$, ($R = .071$, $R^2 = .005$). In respect to
dependability and the individual variables within the block of college activities, goals and values related to student spirituality the only individual variable with a significant positive was found in practice prayer ($\beta = .039, p = .029$).

**Drive-to-achieve**

In respect to the results of spirituality variables on college student’s self-rating of “drive-to-achieve,” as expected the pre-test was statistically significant $F = 662.165 > F_{crit} (1, 3119) = 3.84$ at $\alpha = 0.05$, ($R = .418$, $R^2 = .175$) and was the strongest predictor ($\beta = .418$, $p < .001$).

Gender was not statistically significant and therefore did to enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting drive-to-achieve $F = 225.993 > F_{crit} (3, 3117) = 2.61$ at $\alpha = 0.05$ ($R = .423$, $R^2 = .179$). In respect to drive-to-achieve and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the only significant individual variables were found in relatively small negative correlations with importance of developing meaningful philosophy of life ($\beta = -.038, p = .028$), and importance of integrating spirituality into everyday life ($\beta = -.036, p = .035$).

Student’s planned residence did not have a significant predictive relationship with predicting drive-to-achieve and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 173.223 > F_{crit} (4, 3116) = 2.37$ at $\alpha = 0.05$, ($R = .427$, $R^2 = .182$). Only one of the variables of either the institutional characteristics, plan of residence, or college major entered the regression, and that was institutional selectivity (SATV+M) with a negative correlation ($\beta = -.058, p < .001$), indicating that students at less selective institutions tended to rate themselves higher.
Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 104.057 > F_{\text{crit}} (7, 3113) = 2.01$ at $\alpha = 0.05$, ($R = .435$, $R \text{ Square} = .190$). In respect to drive-to-achieve and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with spiritual beliefs help define goals ($\beta = .077$, $p = .002$), and find religion to be personally helpful ($\beta = .051$, $p = .032$). There was a negative relationship with practice reading sacred texts ($\beta = -.082$, $p < .001$).

Leadership Ability
In respect to the results of spirituality variables on college student’s self-rating of “leadership ability,” was a statistically significant predictor $F = 1250.016 > F_{\text{crit}} (1, 3117) = 3.84$ at $\alpha = 0.05$, ($R = .535$, $R \text{ Square} = .286$), and as expected, the strongest predictor was the pre-test ($\beta = .535$, $p < .001$).

Gender was statistically significant predictive relationship $F = 645.074 > F_{\text{crit}} (2, 3116) = 3.0$ at $\alpha = 0.05$, ($R = .541$, $R \text{ Square} = .293$) with a negative correlation ($\beta = -.081$, $p < .001$) with males tending to rate themselves higher.

The block regarding Incoming first-year student’s prior year activities, and goals and values entering college in respect to student spirituality and leadership ability was not statistically significant and therefore did not enter the regression.

Student’s planned residence did not have a significant predictive relationship with predicting leadership ability and therefore did not enter the regression.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, also did not add significantly to the model predicting leadership ability.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 189.001 > F_{crit} (7, 3111) = 2.01$ at $\alpha = 0.05$, ($R = .546$, $R^2 = .298$). In respect to leadership ability and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with “spiritual beliefs help define the goals I set for myself” ($\beta = .086$, $p = .002$), and to a diminished degree, helped at local houses of worship ($\beta = .051$, $p = .008$), and practice prayer ($\beta = .049$, $p = .032$). There was a negative correlation with spiritual beliefs are one of the most important things in my life ($\beta = -.094$, $p = .002$), and practice reading sacred texts ($\beta = -.058$, $p = .010$).

Self-confidence (Intellectual)
In respect to the results of spirituality variables on college student’s self-rating of “self-confidence (intellectual),” the pre-test was statistically significant $F = 514.119 > F_{crit} (1, 3118) = 3.84$ at $\alpha = 0.05$, ($R = .376$, $R^2 = .142$), and as expected, was the strongest predictor ($\beta = .376$, $p < .001$).

Gender was statistically significant predictive relationship $F = 276.659 > F_{crit} (2, 3117) = 3.0$ at $\alpha = 0.05$, ($R = .388$, $R^2 = .151$) with a relatively strong negative correlation ($\beta = -.098$, $p < .001$) with men tending to rate themselves higher.

The block regarding incoming first-year student’s prior year activities, and goals and values entering college in respect to student spirituality and intellectual self-confidence did not add significantly to the model and therefore did not enter the regression.
Student’s planned residence did not have a significant predictive relationship with predicting intellectual self-confidence and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 187.042 > F_{crit} (3, 3116) = 2.61$ at $\alpha = 0.05$, ($R = .391$, $R Square = .153$). Only one of the individual variables within the block on institutional characteristics was statistically significant and that was institutional control (1-public, 2-private ) with a small negative correlation ($\beta = -.043$, $p = .009$), indicating students at public institutions tended to rate themselves higher. (However, it should be noted, that while institutional control had a significant predictive relationship with intellectual self-confidence under student peer relationships, community service, and student spirituality, it was not significant under faculty-student interactions. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 118.385 > F_{crit} (5, 3114) = 2.22$ at $\alpha = 0.05$, ($R = .400$, $R Square = .160$). In respect to intellectual self-confidence and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with importance of developing a meaningful philosophy of life ($\beta = .090$, $p < .001$), while there was a small negative correlation with importance of integrating spirituality into my life ($\beta = -.040$, $p = .024$).
4.5.2. Compassionate Self-concept

Altruism

In respect to the results of spirituality variables on college student’s self-rating of “altruism” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting altruism $F = 31.916 > F_{crit}(3, 2848) = 2.61$ at $\alpha = 0.05$ ($R = .180$, $R^2 = .033$). In respect to altruism and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in importance of developing meaningful philosophy of life ($\beta = .116$, $p < .001$), importance of integrating spirituality and life ($\beta = .074$, $p = .001$), and attended a religious service ($\beta = .054$, $p = .015$).

Student’s planned residence did not have a significant predictive relationship with predicting altruism and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 24.611 > F_{crit}(5, 2846) = 2.22$ at $\alpha = 0.05$, ($R = .204$, $R^2 = .041$). Two of the individual variables within the block of institutional characteristics were statistically significant and those were institutional selectivity (SATV+M) with a positive correlation ($\beta = .066$, $p = .002$), indicating that students at more selective institutions tended to rate themselves higher; and institutional control (1-public, 2-private) with a small positive correlation ($\beta = .044$, $p = .044$), with students in private colleges or universities tending to rate themselves higher. (However, it should be noted, that while institutional control had a significant predictive relationship with altruism under faculty-student interactions, student peer relationships, and student spirituality, it was not significant under community service. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)
Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 19.799 > F_{crit} (11, 2840) = 1.79$ at $\alpha = 0.05$, $(R = .267, R^2 = .071)$. In respect to altruism and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with “spiritual beliefs help define the goals I set for myself” ($\beta = .093, p = .001$), found new meaning in rituals and practices of my religion ($\beta = .070, p = .002$), seeking opportunities to grow spiritually ($\beta = .057, p = .039$), importance of developing a meaningful philosophy of life ($\beta = .048, p = .023$), and friends searching for meaning/purpose in life (none, some, most, all) ($\beta = .046, p = .026$). There was a negative correlation with friends share religious/spiritual values (none, some, most, all) ($\beta = -.069, p = .001$).

Compassion
In respect to the results of spirituality variables on college student’s self-rating of “compassion” gender was statistically significant $F = 38.934 > F_{crit} (1, 3122) = 3.84$ at $\alpha = 0.05$, $(R = .111, R^2 = .012)$ with a strong positive correlation ($\beta = .111, p < .001$) with females tending to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting compassion $F = 34.100 > F_{crit} (3, 3120) = 2.61$ at $\alpha = 0.05$ $(R = .178, R^2 = .032)$. In respect to compassion and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in importance of integrating spirituality into everyday life ($\beta = .118, p < .001$), and importance of developing a meaningful philosophy of life ($\beta = .045, p = .016$).
Student’s planned residence did not have a significant predictive relationship with predicting compassion and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, also did not add significantly to the model predicting compassion.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 35.349 > F_{crit} (8, 3115) = 1.94$ at $\alpha = 0.05$, ($R = .288$, $R^2 = .083$). In respect to compassion and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with importance of seeking out opportunities to help me grow spiritually ($\beta = .145$, $p < .001$), spiritual beliefs provide me with strength, support, and guidance ($\beta = .140$, $p < .001$), acceptance of people with different religious/spiritual values ($\beta = .091$, $p < .001$), practice mediation ($\beta = .063$, $p = .001$). There was a negative correlation with attended a religious service ($\beta = -.088$, $p < .001$).

Empathy

In respect to the results of spirituality variables on college student’s self-rating of “empathy” gender was statistically significant $F = 48.479 > F_{crit} (1, 3102) = 3.84$ at $\alpha = 0.05$, ($R = .124$, $R^2 = .015$) with a strong positive correlation ($\beta = .124$, $p < .001$), indicating that females tended to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting empathy $F = 42.535 > F_{crit} (3, 3100) = 2.61$ at $\alpha = 0.05$ ($R = .199$, $R^2 = .040$). In respect to empathy and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the
strongest significant positive correlation was found in importance of integrating spirituality into everyday life ($\beta = .109, p < .001$), followed by importance of developing meaningful philosophy of life ($\beta = .081, p < .001$).

Student’s planned residence did not have a significant predictive relationship with predicting empathy and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 37.921 > F_{crit} (7, 3096) = 2.01$ at $\alpha = 0.05$, ($R = .281, R^{2} = .079$). In respect to empathy and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with importance of seeking out opportunities to help me grow spiritually ($\beta = .116, p < .001$), followed by acceptance of people with different religious/spiritual values ($\beta = .097, p < .001$), importance of developing a meaningful philosophy of life ($\beta = .094, p < .001$), and practice meditation ($\beta = .054, p = .004$).

Forgiveness
In respect to the results of spirituality variables on college student’s self-rating of “forgiveness” gender was statistically significant $F = 6.191 > F_{crit} (1, 3124) = 3.84$ at $\alpha = 0.05$, ($R = .044, R^{2} = .002$) with a small negative correlation ($\beta = -.044, p = .013$), indicating males tended to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting forgiveness $F =$
25.319 > $F_{crit}(4, 3121) = 2.37$ at $\alpha = 0.05$ ($R = .177$, $R Square = .031$). In respect to forgiveness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in importance of integrating spirituality into everyday life ($\beta = .129$, $p < .001$), prayer/meditation (hrs per wk) ($\beta = .071$, $p = .001$). There was a small negative correlation with importance of developing meaningful philosophy of life ($\beta = -.037$, $p = .047$).

Student’s planned residence did not have a significant predictive relationship with predicting forgiveness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 23.475 > F_{crit}(5, 3120) = 2.22$ at $\alpha = 0.05$, ($R = .190$, $R Square = .036$). Only one of the individual variables within the block of institutional characteristics was statistically significant and that was institutional selectivity (SATV+M) with a negative correlation ($\beta = -.071$, $p = .001$), indicating students at less selective institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 25.144 > F_{crit}(10, 3115) = 1.83$ at $\alpha = 0.05$, ($R = .273$, $R Square = .075$). In respect to forgiveness and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with “spiritual beliefs help define the goals I set for myself” ($\beta = .099$, $p < .001$), importance of seeking out opportunities to help me grow spiritually ($\beta = .096$, $p < .001$), practice religious singing or chanting ($\beta = .059$, $p = .018$), religious beliefs and convictions strengthened in college ($\beta = .049$, $p = .019$), acceptance of people with different religious/spiritual values ($\beta = .043$, $p = .015$).
Generosity

In respect to the results of spirituality variables on college student’s self-rating of “generosity” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting generosity $F = 6.940 > F_{crit} (2, 3119) = 3.0$ at $\alpha = 0.05$ ($R = .067, \text{R Square } = .004$). In respect to generosity and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in prayer/meditation (hrs per wk) ($\beta = .063, p = .001$). There was a small negative correlation with very close to the pre-determined cutoff significance with importance of developing meaningful philosophy of life ($\beta = -.036$, $p = .050$).

Student’s planned residence had a significant predictive relationship with predicting generosity $F = 8.749 > F_{crit} (3, 3118) = 2.61$ at $\alpha = 0.05$, ($R = .091, \text{R Square } = .008$) with a moderate negative correlation ($\beta = -.063, p < .001$), indicating students living at home or in a private apartment/room off-campus tended to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 12.997 > F_{crit} (4, 3117) = 2.37$ at $\alpha = 0.05$, ($R = .128, \text{R Square } = .016$). Only one of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional selectivity (SATV+M) with a negative correlation ($\beta = -.094, p < .001$), indicating students at less selective institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.
The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model \( F = 18.223 > F_{crit} (10, 3111) = 1.83 \) at \( \alpha = 0.05 \), \((R = .235, R Square = .055)\). In respect to generosity and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with “spiritual beliefs help define the goals I set for myself” \( (\beta = .092, p < .001) \), followed by acceptance of people with different religious/spiritual values \( (\beta = .091, p < .001) \), religious beliefs and convictions strengthened in college \( (\beta = .070, p = .001) \), practice prayer \( (\beta = .083, p = .002) \), practice meditation \( (\beta = .063, p = .001) \). There was a negative relationship with attended a religious service \( (\beta = -.096, p < .001) \).

Gratefulness

In respect to the results of spirituality variables on college student’s self-rating of “gratefulness” gender was statistically significant \( F = 10.894 > F_{crit} (1, 3122) = 3.84 \) at \( \alpha = 0.05 \), \((R = .059, R Square = .003)\) with a moderate positive correlation \( (\beta = .059, p = .001)\), indicating females tended to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting gratefulness \( F = 31.032 > F_{crit} (3, 3120) = 2.61 \) at \( \alpha = 0.05 \) \((R = .170, R Square = .029)\). In respect to gratefulness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in importance of integrating spirituality into everyday life \( (\beta = .118, p < .001) \), followed by prayer/meditation (hrs per wk) \( (\beta = .060, p = .005)\).

Student’s planned residence had a significant predictive relationship with predicting gratefulness \( F = 25.689 > F_{crit} (4, 3119) = 2.37 \) at \( \alpha = 0.05 \), \((R = .179, R Square = .032)\) with a moderate negative correlation \( (\beta = -.054, p = .002)\), with students living at home or in a private room/apartment off-campus tending to rate themselves higher.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 23.989 > F_{crit}(5, 3118) = 2.22 \) at \( \alpha = 0.05, (R = .192, R^2 = .037) \). Only one of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional selectivity (SATV+M) with a negative correlation (\( \beta = -.075, p < .001 \)), indicating students at less selective institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model \( F = 27.130 > F_{crit}(12, 3111) = 1.76 \) at \( \alpha = 0.05, (R = .308, R^2 = .095) \). In respect to gratefulness and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with practice prayer (\( \beta = .134, p < .001 \)), and spiritual beliefs provide me with strength, support, and guidance (\( \beta = .114, p < .001 \)), followed to a diminished degree by acceptance of people with different religious/spiritual values (\( \beta = .073, p < .001 \)), found new meaning in rituals and practices of my religion (\( \beta = .069, p = .002 \)), religious beliefs and convictions strengthened in college (\( \beta = .056, p = .007 \)), practice mediation (\( \beta = .053, p = .004 \)). There was a significant negative correlation with attended a religious service (\( \beta = -.091, p < .001 \)).

Helpfulness

In respect to the results of spirituality variables on college student’s self-rating of “helpfulness” gender was statistically significant \( F = 17.057 > F_{crit}(1, 3122) = 3.84 \) at \( \alpha = 0.05, (R = .074, R^2 = .005) \) with a moderate positive correlation (\( \beta = .074, p < .001 \)) with females tending to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting helpfulness \( F = \)
16.038 > F_{crit} (2, 3121) = 3.0 at \( \alpha = 0.05 \) (\( R = .101, R \ Square = .010 \)). In respect to helpfulness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the only significant correlation was found in a positive correlation with prayer/meditation (hrs per wk) (\( \beta = .069, p < .001 \)).

Student’s planned residence had a significant predictive relationship with predicting helpfulness \( F = 13.271 > F_{crit} (3, 3120) = 2.61 \) at \( \alpha = 0.05 \), (\( R = .112, R \ Square = .013 \)) with a negative correlation (\( \beta = -.049, p = .006 \)), with students living at home or in a private room/apartment off-campus tending to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 12.172 > F_{crit} (4, 3119) = 2.37 \) at \( \alpha = 0.05 \), (\( R = .124, R \ Square = .015 \)). Only one of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional selectivity (SATV+M) with a negative correlation (\( \beta = -.055, p = .003 \)), indicating students at less selective institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model \( F = 16.755 > F_{crit} (9, 3114) = 1.88 \) at \( \alpha = 0.05 \), (\( R = .215, R \ Square = .046 \)). In respect to helpfulness and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with acceptance of people with different religious/spiritual values (\( \beta = .077, p < .001 \)), practice mediation (\( \beta = .073, p < .001 \)), practice prayer (\( \beta = .067, p = .014 \)), find religion to be personally helpful (\( \beta = .052, p < .001 \)), helped at local houses of worship (\( \beta = .053, p = .010 \)).
Kindness

In respect to the results of spirituality variables on college student’s self-rating of “kindness” gender proved to be statistically significant $F = 7.423 > F_{crit}(1, 3120) = 3.84$ at $\alpha = 0.05$, ($R = .049$, $R Square = .002$) with a relatively small positive correlation ($\beta = .049$, $p = .006$), with females tending to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting kindness $F = 9.069 > F_{crit}(2, 3119) = 3$ at $\alpha = 0.05$ ($R = .076$, $R Square = .006$). In respect to kindness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in importance of integrating spirituality into everyday life ($\beta = .058$, $p = .001$).

Student’s planned residence had a significant predictive relationship with predicting kindness $F = 9.900 > F_{crit}(3, 3118) = 2.61$ at $\alpha = 0.05$, ($R = .097$, $R Square = .009$) with a negative correlation ($= -.061$, $p = .001$), with students living at home or in a private room/apartment off-campus tending to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 8.873 > F_{crit}(4, 3117) = 2.37$ at $\alpha = 0.05$, ($R = .106$, $R Square = .011$). Only one of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional selectivity (SATV+M) with a negative correlation ($\beta = -.045$, $p = .017$), indicating students at less selective institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F =$
14.195 > \( F_{crit} (10, 3111) = 1.83 \) at \( \alpha = 0.05 \), (\( R = .209 \), \( R^2 = .044 \)). In respect to kindness and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with importance of integrating spirituality into life (\( \beta = .096, p = .001 \)), spiritual beliefs provide strength, support, guidance (\( \beta = .081, p = .003 \)), acceptance of people with different religious/spiritual values (\( \beta = .061, p = .001 \)), religious beliefs and convictions strengthened in college (\( \beta = .069, p = .001 \)), practice mediation (\( \beta = .059, p = .002 \). There was a negative correlation with practice reading sacred texts (\( \beta = -.058, p = .022 \)).

Patience
In respect to the results of spirituality variables on college student’s self-rating of “patience” gender proved to not be statistically significant and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting patience\( F = 9.833 > F_{crit} (1, 3123) = 3.84 \) at \( \alpha = 0.05 \) (\( R = .056 \), \( R^2 = .003 \)). In respect to patience and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in prayer/meditation (hrs per wk) (\( \beta = .056, p = .002 \)).

Student’s planned residence did not have a significant predictive relationship with predicting patience and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 7.686 > F_{crit} (2, 3122) = 3.0 \) at \( \alpha = 0.05 \), (\( R = .070 \), \( R^2 = .005 \)). Only one of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional selectivity (SATV+M) with a small negative correlation (\( \beta = -.042, p = .019 \)), indicating students at less selective institutions tended to rate themselves higher.
Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 11.005 > F_{crit}(7, 3117) = 2.01$ at $\alpha = 0.05$, ($R = .155$, $R^{2} = .024$). In respect to patience and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with practice religious singing or chanting ($\beta = .084$, $p < .001$), practice mediation ($\beta = .058$, $p = .002$), acceptance of people with different religious/spiritual values ($\beta = .057$, $p = .001$), and attended a class/workshop or retreat on matters related to religion/spirituality ($\beta = .051$, $p = .022$). There was a negative relationship between friends searching for meaning/purpose in life (none, some, most, all) ($\beta = .046$, $p = .018$) and self-rated patience.

4.5.3. Social

Cooperativeness

In respect to the results of spirituality variables on college student’s self-rating of “cooperativeness,” the pre-test was statistically significant $F = 315.895 > F_{crit}(1, 3114) = 3.84$ at $\alpha = 0.05$, ($R = .303$, $R^{2} = .092$), and as expected the strongest predictor ($\beta = .303$, $p < .001$).

Gender was not statistically significant and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting cooperativeness $F = 109.668 > F_{crit}(3, 3112) = 2.61$ at $\alpha = 0.05$ ($R = .309$, $R^{2} = .096$). In respect to cooperativeness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in attended a
religious service ($\beta = .042, p = .013$). There was a negative relationship with importance of
developing meaningful philosophy of life ($\beta = -.044, p = .010$).

Student’s planned residence did not have a significant predictive relationship with predicting
cooperativeness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and
institutional selectivity, added significantly to the model $F = 84.122 > F_{crit}(4, 3111) = 2.37$
at $\alpha = 0.05$, ($R = .312, R^2 = .098$). Only one of the individual variables within the
block of institutional characteristics proved to be statistically significant and that was
institutional selectivity (SATV+M) with a negative correlation ($\beta = -.045, p = .009$),
indicating students at less selective institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the
regression.

The block with college student spirituality and related goals and values as reported by the
same students in the spring of their third year of college added significantly to the model $F =
44.201 > F_{crit}(9, 3106) = 1.88$ at $\alpha = 0.05$, ($R = .337, R^2 = .114$). In respect to
cooparitiveness and the individual variables within the block of college activities, goals and
values related to student spirituality, the strongest significant positive relationships were
found with practice religious singing or chanting ($\beta = .115, p < .001$), find religion to be
personally helpful ($\beta = .066, p = .003$), acceptance of people with different
religious/spiritual values ($\beta = .053, p = .002$), practice mediation ($\beta = .044, p = .015$). There
were negative correlation with practice reading sacred texts ($\beta = -.070, p = .014$).

Humility
In respect to the results of spirituality variables on college student’s self-rating of “humility”
gender was statistically significant $F = 4.706 > F_{crit}(1, 3110) = 3.84$ at $\alpha = 0.05$, ($R = .039, R$
Square = .002) with a small negative correlation (β = -.039, p = .030) with males tending to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting humility $F = 13.089 > F_{crit}(2, 3109) = 3.0$ at $\alpha = 0.05$ ($R = .091, R^2 = .008$). In respect to humility and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the significant correlation was found in a strong positive correlation with importance of integrating spirituality into everyday life (β = .083, p < .001).

Student’s planned residence did not have a significant predictive relationship with predicting humility and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model predicting humility.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 13.354 > F_{crit}(8, 3103) = 1.94$ at $\alpha = 0.05,$ ($R = .182, R^2 = .033$). In respect to humility and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with importance of integrating spirituality into everyday life (β = .090, p = .001), acceptance of people with different religious/spiritual values (β = .087, p < .001), helped at local houses of worship (β = .059, p = .009), religious beliefs and convictions strengthened in college (β = .052, p = .014), practice meditation (β = .043, p = .024). There was a negative correlation with practice religious singing or chanting (β = -.055, p = .034).
Loyalty

In respect to the results of spirituality variables on college student’s self-rating of “loyalty”
gender proved to be statistically significant $F = 20.813 > F_{crit} (1, 3120) = 3.84$ at $\alpha = 0.05$, ($R = .081, R\text{ Square} = .007$) with a negative correlation ($\beta = -.081, p < .001$), indicating males tended to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals
and values entering college added significantly to the model predicting loyalty $F = 11.110 >$
$F_{crit} (3, 3118) = 2.61$ at $\alpha = 0.05$ ($R = .103, R\text{ Square} = .011$). In respect to loyalty
and statistically significant individual variables within the block for incoming first-year student’s
prior year activities, and goals and values entering college related to student spirituality, the
strongest significant positive correlation was found in prayer/meditation (hrs per wk) ($\beta =$
.068, $p = .001$), while there was a negative correlation with attended religious services ($\beta = -$
.059, $p = .005$).

Student’s planned residence did not have a significant predictive relationship with predicting
loyalty and therefore did not enter the regression. However, it is noteworthy that planned
residence was significant for loyalty under other three areas, faculty-student interactions,
student peer relationships, and community service. Again this typically reflects a different
number of respondents for the various areas, as well as a different set of other variables
together with the relative significance of the subsequent variable entering the regression.

The institutional characteristics block, including institutional control, institutional type, and
institutional selectivity, did not add significantly to the model.

Student’s probable major was also not statistically significant and therefore did not enter the
regression.

The block with college student spirituality and related goals and values as reported by the
same students in the spring of their third year of college added significantly to the model $F =$
$12.962 > F_{crit} (6, 3115) = 2.1$ at $\alpha = 0.05$, ($R = .156, R\text{ Square} = .024$). In respect to loyalty
and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with friends share religious/spiritual values (none, some, most, all) ($\beta = .66, p = .001$), and religious beliefs and convictions strengthened in college ($\beta = .046, p = .021$), practice prayer ($\beta = .068, p = .005$).

Open-mindedness
In respect to the results of spirituality variables on college student’s self-rating of “open-mindedness” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting open-mindedness $F = 56.326 > F_{crit} (3, 3123) = 2.61$ at $\alpha = 0.05$ ($R = .227, R \text{ Square} = .051$). In respect to open-mindedness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in importance of developing meaningful philosophy of life ($\beta = .138, p < .001$). There was a negative relationship in respect to self-rated open-mindedness with attended a religious service ($\beta = - .128, p < .001$), and importance of integrating spirituality into everyday life ($\beta = -.112, p < .001$).

Student’s planned residence had a significant predictive relationship with predicting open-mindedness $F = 43.796 > F_{crit} (4, 3122) = 2.37$ at $\alpha = 0.05$, ($R = .231, R \text{ Square} = .053$) with a small positive correlation ($\beta = .043, p = .015$), with students in on campus housing tending to rate themselves higher. However, for open-mindedness in the other three major areas planned residence was not found to be significant. Again this typically reflects a different number of respondents for the various areas, as well as a different set of other variables together with the relative significance of the subsequent variable entering the regression.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 36.948 > F_{\text{crit}} (5, 3121) = 2.22$ at $\alpha = 0.05$, ($R = .236$, $R^2 = .056$). Only one of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional control (1-public, 2= private) with a negative correlation ($\beta = -.056$, $p = .003$), indicating students at public institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 38.157 > F_{\text{crit}} (10, 3116) = 1.83$ at $\alpha = 0.05$, ($R = .330$, $R^2 = .109$). In respect to open-mindedness and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with practice mediation ($\beta = .113$, $p < .001$), acceptance of people with different religious/spiritual values ($\beta = .105$, $p < .001$), and spiritual beliefs give meaning/purpose to my life ($\beta = .075$, $p < .001$). There was a significant negative relationship with practice reading sacred texts ($\beta = -.179$, $p < .001$), and find religion to be personally helpful ($\beta = -.078$, $p < .001$).

The negative correlation with some of the spirituality practices may reflect the tendency for more religious students to consider themselves less open-minded and in fact might regard open-mindedness as antithetical to holding strongly to their beliefs. However it is important to note that such spiritual beliefs and practices throughout the results did not preclude accepting people with different religious/spiritual values.

Respectfulness
In respect to the results of spirituality variables on college student’s self-rating of “respectfulness” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.
The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting respectfulness $F = 23.846 > F_{crit}(2, 3119) = 3.0$ at $\alpha = 0.05$ ($R = .123$, $R Square = .015$). In respect to respectfulness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in importance of integrating spirituality into everyday life ($\beta = .089$, $p < .001$), and prayer/meditation (hrs per wk) ($\beta = .048$, $p = .026$).

Student’s planned residence had a significant predictive relationship with predicting respectfulness $F = 21.145 > F_{crit}(3, 3118) = 2.61$ at $\alpha = 0.05$, ($R = .141$, $R Square = .020$) with a moderate negative correlation ($\beta = -.070$, $p < .001$), with students living at home or in a private apartment/room tending to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 17.227 > F_{crit}(4, 3117) = 2.37$ at $\alpha = 0.05$, ($R = .147$, $R Square = .022$). Only one of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional selectivity (SATV+M) with a negative correlation ($\beta = -.043$, $p = .020$), indicating students at less selective institutions tended to rate themselves higher.

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 22.143 > F_{crit}(7, 3114) = 2.01$ at $\alpha = 0.05$, ($R = .218$, $R Square = .047$). With regard to respectfulness and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with spiritual beliefs provide me with strength, support, and guidance ($\beta = .113$, $p < .001$),
followed by religious beliefs and convictions strengthened in college ($\beta = .082, p < .001$), attended a class/workshop or retreat on matters related to religion/spirituality ($\beta = .050, p = .018$).

**Self-awareness**

In respect to the results of spirituality variables on college student’s self-rating of “self-awareness” gender was statistically significant $F = 12.741 > F_{crit}(1, 3119) = 3.84$ at $\alpha = 0.05$, ($R = .064, R^2 = .004$) with a moderate negative correlation ($\beta = -.064, p < .001$), indicating that males had a slight tendency to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting self-awareness $F = 46.772 > F_{crit}(2, 3118) = 3.0$ at $\alpha = 0.05$ ($R = .171, R^2 = .029$). In respect to self-awareness and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the only significant positive individual correlation was found in importance of developing meaningful philosophy of life ($\beta = .159, p < .001$).

Student’s planned residence did not have a significant predictive relationship with predicting self-awareness and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model.

The block with student’s probable major proved to add significantly to the model $F = 33.059 > F_{crit}(3, 3117) = 2.61$ at $\alpha = 0.05$, ($R = .176, R^2 = .031$) with a small negative correlation ($\beta = -.041, p = .019$), indicating that students majoring in the arts or humanities had a slight tendency to rate themselves higher with respect to self-awareness. (It should also be noted that while student’s planned major had a significant predictive relationship with self-awareness under faculty-student interactions, community service, and student spirituality, it was not significant under student peer relationships. This would again seem to
be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 23.910 > F_{crit}(8, 3112) = 1.94$ at $\alpha = 0.05$, ($R = .241$, $R Square = .058$). In respect to self-awareness and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with found new meaning in rituals and practices of my religion ($\beta = .069$, $p = .001$), importance of developing a meaningful philosophy of life ($\beta = .107$, $p < .001$), practice meditation ($\beta = .063$, $p = .001$), and friends searching for meaning/purpose in life (none, some, most, all) ($\beta = .041$, $p = .038$). There was a negative correlation with attended a religious service ($\beta = -.098$, $p < .001$).

**Self-confidence (Social)**

In respect to the results of spirituality variables on college student’s self-rating of “self-confidence (social),” was statistically significant $F = 1088.185 > F_{crit}(1, 3117) = 3.84$ at $\alpha = 0.05$, ($R = .509$, $R Square = .259$) and as expected, was the strongest predictor ($\beta = .509$, $p < .001$).

Gender did was not statistically significant and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college did not add significantly to the model predicting social self-confidence and therefore did not enter the regression.

Student’s planned residence did not have a significant predictive relationship with predicting social self-confidence and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model.
Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 227.612 > F_{crit} (5, 3113) = 2.22$ at $\alpha = 0.05$, ($R = .517, R^2 = .268$). In respect to social self-confidence and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with practice mediation ($\beta = .068, p < .001$), friends share religious/spiritual values (none, some, most, all) ($\beta = .050, p = .004$), acceptance of people with different religious/spiritual values ($\beta = .045, p = .004$). There were negative correlation with attended a religious service ($\beta = -.042, p = .016$).

Self-understanding
In respect to the results of spirituality variables on college student’s self-rating of “self-understanding,” the pre-test was statistically significant $F = 438.519 > F_{crit} (1, 3113) = 3.84$ at $\alpha = 0.05$, ($R = .351, R^2 = .123$), and as expected the strongest predictor ($\beta = .351, p < .001$).

Gender was statistically significant $F = 222.035 > F_{crit} (2, 3112) = 3.0$ at $\alpha = 0.05$, ($R = .353, R^2 = .125$) with a small negative correlation ($\beta = -.038, p = .026$), with males tending slightly to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting self-understanding $F = 95.940 > F_{crit} (5, 3109) = 2.22$ at $\alpha = 0.05$ ($R = .366, R^2 = .134$). In respect to self-understanding and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive relationships were found with importance of developing meaningful philosophy of life ($\beta = .064, p < .001$), and
prayer/meditation (hrs per wk) ($\beta = .068, p = .001$). There was a negative relationship with attended a religious service ($\beta = -.049, p = .012$).

Student’s planned residence did not have a significant predictive relationship with predicting self-understanding and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, also did not add significantly to the model.

The block with student’s probable major proved to add significantly to the model $F = 81.162 > F_{crit} (6, 3108) = 2.1 at \alpha = 0.05, (R = .368, R \ Square = .135)$ with a small negative correlation ($\beta = -.042, p = .011$) indicating that students majoring in the arts and humanities tended to rate themselves higher with respect to self-understanding.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 54.884 > F_{crit} (11, 3103) = 1.79 at \alpha = 0.05, (R = .404, R \ Square = .163)$. In respect to self-understanding and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with importance of developing a meaningful philosophy of life ($\beta = .100, p < .001$), “spiritual beliefs help me define my goals” ($\beta = .085, p < .001$), found new meaning in rituals and practices of my religion ($\beta = .064, p = .002$), practice mediation ($\beta = .061, p = .001$). There was a negative correlation with attended a religious service ($\beta = -.087, p < .001$).

Understanding of Others
In respect to the results of spirituality variables on college student’s self-rating of “understanding of others,” the pre-test was statistically significant $F = 392.210 > F_{crit} (1, 3116) = 3.84 at \alpha = 0.05, (R = .334, R \ Square = .112)$, and as expected, was the strongest predictor ($\beta = .334, p < .001$).
Gender was statistically significant $F = 198.819 > F_{\text{crit}} \left(2, 3115\right) = 3.0$ at $\alpha = 0.05$, ($R = .336, R^2 = .113$) with a small positive correlation ($\beta = .038, p = .026$), indicating that females were slightly more likely to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting understanding of others $F = 135.161 > F_{\text{crit}} \left(3, 3114\right) = 2.61$ at $\alpha = 0.05$ ($R = .339, R^2 = .115$). In respect to understanding of others and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the only significant correlation was found in a positive correlation with prayer/meditation (hrs per wk) ($\beta = .045, p = .008$).

Student’s planned residence did not have a significant predictive relationship with predicting understanding of others and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, also did not add significantly to the model.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 47.753 > F_{\text{crit}} \left(11, 3106\right) = 1.79$ at $\alpha = 0.05$, ($R = .380, R^2 = .145$). In respect to understanding of others and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with acceptance of people with different religious/spiritual values ($\beta = .079, p < .001$), importance of integrating spirituality into life ($\beta = .072, p = .003$), practice mediation ($\beta = .062, p = .001$), attended a class/workshop or retreat on matters related to religion/spirituality ($\beta = .052, p = .015$), found new meaning in rituals and practices of my religion ($\beta = .052, p = .016$), and importance of developing a meaningful philosophy of life
There was a negative relationship with attended a religious service (\(\beta = .074, p = .004\)) and practice reading sacred texts (\(\beta = -.053, p = .044\)).

### 4.5.4. Other Collegiate Outcomes

**Emotional Health**

In respect to the results of spirituality variables on college student’s self-rating of “emotional health” the pre-test was statistically significant \(F = 625.535 > F_{crit} (1, 3114) = 3.84\) at \(\alpha = 0.05\), \((R = .409, R\ Square = .167)\), and by far the strongest predictor (\(\beta = .409, p < .001\)).

Gender was statistically significant \(F = 330.215 > F_{crit} (2, 3113) = 3.0\) at \(\alpha = 0.05\), \((R = .418, R\ Square = .175\), with a negative correlation (\(\beta = -.089, p < .001\)), indicating males tended to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting emotional health \(F = 232.618 > F_{crit} (3, 3112) = 2.61\) at \(\alpha = 0.05\) \((R = .428, R\ Square = .183)\). In respect to emotional health and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the only significant correlation was found in a strong positive correlation with prayer/meditation (hrs per wk) (\(\beta = .091, p < .001\)).

Student’s planned residence had a significant predictive relationship with predicting emotional health \(F = 176.397 > F_{crit} (4, 3111) = 2.37\) at \(\alpha = 0.05\), \((R = .430, R\ Square = .185)\) with a small positive correlation (\(\beta = .041, p = .011\)), with students in on-campus housing ending to rate themselves higher.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model.
Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 78.272 > F_{crit}(11, 3104) = 1.79$ at $\alpha = 0.05$, ($R = .466$, $R^2 = .217$). In respect to emotional health and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with religious beliefs and convictions strengthened in college ($\beta = .104$, $p < .001$), attended a class/workshop or retreat on matters related to religion/spirituality ($\beta = .075$, $p < .001$), importance of developing a meaningful philosophy of life ($\beta = .052$, $p = .003$), spiritual beliefs are one of the most important things in my life ($\beta = .068$, $p = .039$), and spiritual beliefs helped define my goals ($\beta = .058$, $p = .055$). There were negative relationship with importance of integrating spirituality into life ($\beta = -.089$, $p = .001$), and importance of searching for meaning purpose in life ($\beta = -.050$, $pp = .005$).

Physical Health
In respect to the results of spirituality variables on college student’s self-rating of “physical health,” the pre-test was statistically significant $F = 1017.946 > F_{crit}(1, 3114) = 3.84$ at $\alpha = 0.05$, ($R = .496$, $R^2 = .246$), and as expected the strongest predictor ($\beta = .496$, $p < .001$).

Gender was statistically significant $F = 522.635 > F_{crit}(2, 3113) = 3.0$ at $\alpha = 0.05$, ($R = .501$, $R^2 = .251$) with a moderate negative correlation ($\beta = -.072$, $p < .001$), with males tending to rate themselves higher.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college did not add significantly to the model predicting physical health.

Student’s planned residence did not have a significant predictive relationship with predicting physical health and therefore did not enter the regression.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, did not add significantly to the model.

Student’s probable major was also not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 265.271 > F_{crit}(4, 3111) = 2.37$ at $\alpha = 0.05$, ($R = .504$, $R Square = .254$). In respect to physical health and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with importance of integrating spirituality into life ($\beta = .056$, $p = .001$), while there was a small negative correlation with importance of searching for meaning purpose in life ($\beta = -.034$, $p = .039$).

Spirituality

A word of caution is in order in examining the results of the next two character self-ratings as both are obviously religious in nature, and therefore one would expect a very high level of correlation between the individual factors related to religion and spirituality. There are however, helpful insights into the facets of religiosity and spirituality that can be extrapolated.

In respect to the results of spirituality variables on college student’s self-rating of “spirituality,” the pre-test was statistically significant $F = 1199.583 > F_{crit}(1, 3111) = 3.84$ at $\alpha = 0.05$, ($R = .528$, $R Square = .278$) and as expected the strongest predictor ($\beta = .528$, $p < .001$).

Gender was not statistically significant and therefore did not enter the regression.
The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting spirituality $F = 434.943 > F_{crit} (4, 3108) = 2.37$ at $\alpha = 0.05$ ($R = .599, R\ Square = .359$). In respect to spirituality and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in importance of integrating spirituality into everyday life ($\beta = .228, p < .001$), prayer/meditation (hrs per wk) ($\beta = .132, p < .001$), and attended a religious service ($\beta = .098, p < .001$).

Student’s planned residence did not have a significant predictive relationship with predicting spirituality and therefore did not enter the regression.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 349.195 > F_{crit} (5, 3107) = 2.22$ at $\alpha = 0.05$, ($R = .600, R\ Square = .360$). Only one of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional type (1- university, 2- 4 yr college, 3- 2yr college) with a small positive correlation ($\beta = .030, p = .037$), indicating students at two-year colleges or four-year colleges tended to rate themselves higher. (It should be noted, however, that while institutional type had a significant predictive relationship with spirituality under student spirituality, it was not significant under faculty-student interactions, student peer relationships, and community service. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

The block with student’s probable major proved to add significantly to the model $F = 292.447 > F_{crit} (6, 3106) = 2.1$ at $\alpha = 0.05$, ($R = .601, R\ Square = .361$) with a small negative correlation ($\beta = -.035, p = .015$), indicating students majoring in the arts or humanities had a slight tendency to rate themselves higher.
The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 287.894 > F_{\text{crit}} (18, 3094) = 1.61$ at $\alpha = 0.05$, ($R = .791$, $R_{\text{square}} = .626$). In respect to spirituality and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with spiritual beliefs are one of the most important things in my life ($\beta = .200, p < .001$), importance of integrating spirituality into life ($\beta = .146, p < .001$), importance of seeking out opportunities to help me grow spiritually ($\beta = .123, p < .001$), spiritual beliefs provide me with strength, support, and guidance ($\beta = .102, p < .001$), and to a lesser degree, religious beliefs and convictions strengthened in college ($\beta = .063, p < .001$), practice mediation ($\beta = .062, p < .001$), practice prayer ($\beta = .063, p = .001$), spiritual beliefs have helped define my goals ($\beta = .057, p = .012$), attended a religious service ($\beta = .057, p = .001$), attended a class/workshop or retreat on matters related to religion/spirituality ($\beta = .039, p = .007$), found new meaning in rituals and practices of my religion ($\beta = .033, p = .021$). There was a small negative relationship with friends share religious/spiritual values (none, some, most, all) ($\beta = -.032, p = .014$).

**Religiousness/Religiosity**

A word of caution is again in order in examining the results of the next character self-rating, like spirituality, it is obviously religious in nature, and therefore one would expect a very high level of correlation between the individual factors related to religion and spirituality. There are however, helpful insights into the various facets of religiosity and spirituality that can be extrapolated.

In respect to the results of spirituality variables on college student’s self-rating of “religiousness/religiosity” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting
In respect to religiousness/religiosity and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive relationships were found with importance of integrating spirituality into everyday life (β = .313, p < .001), attended a religious service (β = .271, p < .001), and prayer/meditation (hrs per wk) (β = .162, p < .001). There was a moderate negative relationship with importance of developing meaningful philosophy of life (β = -.077, p < .001).

Student’s planned residence had a significant predictive relationship with predicting religiousness/religiosity $F = 377.883 > F_{crit}(5, 3114) = 2.22$ at $\alpha = 0.05$, ($R = .615$, $R^2 = .378$), with a small negative correlation ($\beta = -.048$, $p = .001$) indicating that students living at home or in off-campus housing tended to rate themselves higher. However, students planned residence was not found to be significant with respect to religiosity/religiousness in the other major areas of faculty-student interactions, student peer relationships, or community service.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 272.246 > F_{crit}(7, 3112) = 2.01$ at $\alpha = 0.05$, ($R = .616$, $R^2 = .380$). Two of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional type (1- university, 2- 4 yr college, 3- 2yr college) with a small positive correlation ($\beta = .031$, $p = .034$), indicating students at two-year colleges or four-year colleges tended to rate themselves higher; and institutional selectivity (SATV+M) with a negative correlation ($\beta = -.030$, $p = .048$), indicating students at less selective institutions tended to rate themselves higher. (It should be noted, however, that while institutional type had a significant predictive relationship with religiosity/religiousness under student spirituality, it was not significant under faculty-student interactions, student peer relationships, and community service. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)
Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 308.405 > F_{crit} (21, 3098) = 1.56$ at $\alpha = 0.05$, ($R = .822$, $R Square = .676$). In respect to religiousness/religiosity and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with find religion to be personally helpful ($\beta = .211$, $p < .001$), spiritual beliefs are one of the most important things in my life ($\beta = .179$, $p < .001$), attended a religious service ($\beta = .150$, $p < .001$), practice prayer ($\beta = .109$, $p < .001$), and to a lesser degree, religious beliefs and convictions strengthened in college ($\beta = .075$, $p < .001$), found new meaning in rituals and practices of my religion ($\beta = .051$, $p < .001$), practice reading sacred texts ($\beta = .060$, $p = .001$), importance of seeking out opportunities to help me grow spiritually ($\beta = .050$, $p = .004$), importance of integrating spirituality into life ($\beta = .046$, $p = .020$), helped at local houses of worship ($\beta = .039$, $p = .004$), and attended a class/workshop or retreat on matters related to religion/spirituality ($\beta = .033$, $p = .017$). There were negative correlations with friends searching for meaning/purpose in life (none, some, most, all) ($\beta = -.046$, $p < .001$), importance of developing meaningful philosophy of life ($\beta = -.037$, $p = .003$), and accept people with different religious/spiritual values ($\beta = -.023$, $p = .027$).

Satisfaction with Sense of Community
In respect to the results of spirituality variables on college student’s self-rating of “sense of community” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting satisfaction with sense of community $F = 50.077 > F_{crit} (3, 3131) = 2.61$ at $\alpha = 0.05$ ($R = .214$, $R Square = .046$). In
respect to satisfaction with sense of community and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in attended a religious service (β = .172, p < .001), and importance of integrating spirituality into everyday life (β = .067, p = .002). However, there was a negative relationship with importance of developing meaningful philosophy of life (β = -.037, p = .045).

Student’s planned residence had a significant predictive relationship with predicting satisfaction with sense of community $F = 64.086 > F_{crit} (4, 3130) = 2.37$ at $\alpha = 0.05$, ($R = .275, R^2 = .076$) with a strong positive correlation ($β = .175, p < .001$), with students in campus housing tending to give higher ratings.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 69.620 > F_{crit} (5, 3129) = 2.22$ at $\alpha = 0.05$, ($R = .316, R^2 = .100$). Only one of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional control (1-public, 2-private) with a strong positive correlation ($β = .166, p < .001$) with students at private institutions tending to give higher ratings.

The block with student’s probable major proved to add significantly to the model $F = 58.950 > F_{crit} (6, 3128) = 2.1$ at $\alpha = 0.05$, ($R = .319, R^2 = .102$) with a small negative correlation ($β = -.038, p = .024$), indicating that students majoring in the arts or humanities tended to give higher ratings.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 38.439 > F_{crit} (14, 3120) = 1.69$ at $\alpha = 0.05$, ($R = .384, R^2 = .147$). In respect to satisfaction with sense of community and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationship was found with spiritual beliefs provide me with strength, support, and guidance
friends share religious/spiritual values (none, some, most, all) (β = .116, p < .001), attended a class/workshop or retreat on matters related to religion/spirituality (β = .071, p = .001), attended a religious service (β = .082, p = .003), religious beliefs and convictions strengthened in college (β = .068, p = .001), practice religious singing or chanting (β = .073, p = .012). There were negative correlations with spiritual beliefs are one of the most important things in my life (β = -.105, p = .003), and practice reading sacred texts (β = -.093, p = .002).

Opportunity for Religious/Spiritual Reflection
In respect to the results of spirituality variables on college student’s self-rating of satisfaction with “opportunity for religious/spiritual reflection” gender was not statistically significant and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting satisfaction with opportunity for religious/spiritual reflection $F = 365.243 > F_{crit} (2, 3129) = 3.0$ at $\alpha = 0.05$ ($R = .435$, $R^2 = .189$). In respect to satisfaction with opportunity for religious/spiritual reflection and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive relationships were found with attended a religious service (β = .255, p < .001), and importance of integrating spirituality into everyday life (β = .241, p < .001).

Student’s planned residence had a significant predictive relationship with predicting satisfaction with opportunity for religious/spiritual reflection $F = 270.580 > F_{crit} (3, 3128) = 2.61$ at $\alpha = 0.05$, ($R = .454$, $R^2 = .206$) with a strong positive correlation (β = .131, p < .001) indicating students in on-campus housing tended to give higher ratings.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 193.551 > F_{crit} (5, 3126) = 2.22$ at $\alpha = 0.05$, ($R = .486$, $R^2 = .296$). Two of the individual variables within the block of
institutional characteristics proved to be statistically significant and those were institutional control (1-public, 2-private) with a strong positive correlation ($\beta = .155$, $p < .001$) with students at private institutions tending to give higher ratings; and institutional selectivity ($\text{SATV+M}$) with a positive correlation ($\beta = .050$, $p = .007$), indicating students at more selective institutions tended to give higher ratings. (It should be noted, however, that while institutional selectivity had a significant predictive relationship with opportunity for religious/spiritual reflection under student spirituality, it was not significant the only other area which was under faculty-student interactions. This would again seem to be the impact of different number of respondents for the various areas as well as a different set of variables that must share predictive power.)

Student’s probable major was not statistically significant and therefore did not enter the regression.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 121.228 > F_{\text{crit}}(15, 3116) = 1.67$ at $\alpha = 0.05$, ($R = .607$, $R\text{ Square} = .369$). In respect to satisfaction with opportunity for religious/spiritual reflection and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with spiritual beliefs provide me with strength, support, and guidance ($\beta = .127$, $p < .001$), find religion to be personally helpful ($\beta = .124$, $p < .001$), attended a religious service ($\beta = .111$, $p < .001$), attended a class/workshop or retreat on matters related to religion/spirituality ($\beta = .102$, $p < .001$), friends share religious/spiritual values (none, some, most, all) ($\beta = .097$, $p < .001$), acceptance of people with different religious/spiritual values ($\beta = .055$, $p < .001$), practice religious singing/chanting ($\beta = .052$, $p = .038$), religious beliefs and convictions strengthened in college ($\beta = .049$, $p = .006$), and “spiritual beliefs help define the goals I set for myself” ($\beta = .058$, $p = .037$). There were negative relationships with practice reading sacred texts ($\beta = -.079$, $p = .002$).
Interaction with Other Students

In respect to the results of spirituality variables on college student’s self-rating of “interaction with other students” gender was not statistically significant and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting satisfaction with interaction with other students \( F = 31.246 > F_{crit} (1, 3130) = 3.84 \) at \( \alpha = 0.05 \) (\( R = .099, R^2 = .010 \)). In respect to satisfaction with interaction with other students and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in attended a religious service (\( \beta = .099, p < .001 \)).

Student’s planned residence had a significant predictive relationship with predicting satisfaction with interaction with other students \( F = 42.292 > F_{crit} (2, 3129) = 2.61 \) at \( \alpha = 0.05 \), (\( R = .162, R^2 = .026 \)) with a strong positive correlation (\( \beta = .129, p < .001 \)), indicating that students living on campus tended to give higher ratings.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model \( F = 32.381 > F_{crit} (4, 3127) = 2.37 \) at \( \alpha = 0.05 \), (\( R = .199, R^2 = .040 \)). Two of the individual variables within the block of institutional characteristics proved to be statistically significant and those were institutional control (1-public, 2-private) with a strong positive correlation (\( \beta = .138, p < .001 \)) indicating that students in private colleges and universities tended to give higher ratings; and institutional selectivity (SATV+M) with a negative correlation (\( \beta = -.083, p < .001 \)), indicating students at less selective institutions tended to rate themselves higher.

The block with student’s probable major proved to add significantly to the model \( F = 27.558 > F_{crit} (5, 3126) = 2.22 \) at \( \alpha = 0.05 \), (\( R = .205, R^2 = .042 \)) with a small negative correlation (\( \beta = -.049, p = .005 \)) indicating that students majoring in the arts or humanities tended to give higher ratings.
The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 21.646 > F_{crit}(10, 3121) = 1.83$ at $\alpha = 0.05$, ($R = .255$, $R^2 = .065$). In respect to satisfaction with interaction with other students and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with religious beliefs and convictions strengthened in college ($\beta = .099$, $p < .001$), attended class/workshop, or retreat on religion/spirituality ($\beta = .073$, $p = .001$), friends share religious/spiritual values (none, some, most, all) ($\beta = .066$, $p = .001$), and acceptance of people with different religious/spiritual values ($\beta = .060$, $p = .001$). There were negative correlation with, importance of seeking out opportunities to help me grow spiritually ($\beta = -.087$, $p < .001$).

Respect for Diverse Religious/Spiritual Beliefs

In respect to the results of spirituality variables on college student’s self-rating of “respect for diverse religious/spiritual beliefs” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.

The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting satisfaction with respect for diverse religious/spiritual beliefs $F = 22.037 > F_{crit}(1, 3126) = 3.84$ at $\alpha = 0.05$ ($R = .084$, $R^2 = .007$). In respect to satisfaction with respect for diverse religious/spiritual beliefs and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the strongest significant positive correlation was found in attended a religious service ($\beta = .084$, $p < .001$).

Student’s planned residence did not have a significant predictive relationship with predicting satisfaction with respect for diverse religious/spiritual beliefs and therefore did not enter the regression.
The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 20.034 > F_{crit}(3, 3124) = 2.61$ at $\alpha = 0.05$, ($R = .137, R Square = .019$). Two of the individual variables within the block of institutional characteristics proved to be statistically significant and those were institutional type (1-university, 2-4yr college, 3-2yr college) ($\beta = .102, p < .001$) with students at smaller two-year and four-year colleges tending to give higher ratings; and institutional control (1-public, 2-private) with a moderate negative correlation ($\beta = -.060, p = .001$) indicating that students in public colleges and universities tended to give higher ratings.

The block with student’s probable major proved to add significantly to the model $F = 16.889 > F_{crit}(4, 3123) = 2.37$ at $\alpha = 0.05$, ($R = .146, R Square = .021$) with a small negative correlation ($\beta = -.048, p = .007$), indicating students majoring in the arts and humanities tended to give a higher rating.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 21.400 > F_{crit}(11, 3116) = 1.79$ at $\alpha = 0.05$, ($R = .265, R Square = .070$). In respect to satisfaction with respect for diverse religious/spiritual beliefs and the individual variables within the block of college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with find religion to be personally helpful ($\beta = .098, p = .001$), acceptance of people with different religious/spiritual values ($\beta = .089, p < .001$), spiritual beliefs provide me with strength, support, and guidance ($\beta = .087, p = .003$),, religious beliefs and convictions strengthened in college ($\beta = .067, p = .002$), friends share religious/spiritual values (none, some, most, all) ($\beta = .060, p = .003$), helped at local houses of worship ($\beta = .044, p = .047$). There was a negative correlation with practice reading religious texts ($\beta = -.079, p = .002$).

### Satisfaction With Overall College Experience

In respect to the results of spirituality variables on college student’s self-rating of “overall college experience” gender did not have a statistically significant predictive relationship and therefore did not enter the regression.
The block for incoming first-year student’s prior year spiritual activities, and related goals and values entering college added significantly to the model predicting satisfaction with overall college experience $F = 58.762 > F_{crit}(1, 3129) = 3.84$ at $\alpha = 0.05$ ($R = .136, R \text{ Square} = .018$). In respect to satisfaction with overall college experience and statistically significant individual variables within the block for incoming first-year student’s prior year activities, and goals and values entering college related to student spirituality, the only significant correlation was a very strong positive correlation found in attended a religious service ($\beta = .136, p < .001$).

Student’s planned residence had a significant predictive relationship with predicting satisfaction with overall college experience $F = 46.361 > F_{crit}(2, 3128) = 3$ at $\alpha = 0.05$, ($R = .170, R \text{ Square} = .029$) with a strong positive correlation ($\beta = .103, p < .001$) with students living on campus tending to give higher ratings.

The institutional characteristics block, including institutional control, institutional type, and institutional selectivity, added significantly to the model $F = 38.273 > F_{crit}(3, 3127) = 2.61$ at $\alpha = 0.05$, ($R = .188, R \text{ Square} = .035$). Only one of the individual variables within the block of institutional characteristics proved to be statistically significant and that was institutional control (1-public, 2-private) with a positive correlation ($\beta = .086, p < .001$) indicating that students in private colleges and universities tended to give higher ratings.

The block with student’s probable major proved to add significantly to the model $F = 32.258 > F_{crit}(4, 3126) = 2.37$ at $\alpha = 0.05$, ($R = .199, R \text{ Square} = .040$) with a negative correlation ($\beta = -.065, p < .001$), indicating that students majoring in the arts or humanities tended to give higher ratings.

The block with college student spirituality and related goals and values as reported by the same students in the spring of their third year of college added significantly to the model $F = 25.105 > F_{crit}(10, 3120) = 1.83$ at $\alpha = 0.05$, ($R = .273, R \text{ Square} = .074$). In respect to satisfaction with overall college experience and the individual variables within the block of
college activities, goals and values related to student spirituality, the strongest significant positive relationships were found with religious beliefs and convictions strengthened in college \((\beta = .111, p < .001)\), spiritual beliefs provide me with strength, support, and guidance \((\beta = .063, p = .011)\), friends share religious/spiritual values (none, some, most, all) \((\beta = .075, p < .001)\), attended a class/workshop/retreat on religion/spirituality \((\beta = .071, p = .001)\), acceptance of people with different religious/spiritual values \((\beta = .043, p = .013)\). There was a negative correlation with importance of seeking out opportunities to help me grow spiritually \((\beta = -.071, p = .005)\).

4.5.5. Main Results and Recommendations in Respect to Student Spirituality Variables and the Prediction of Pro-social Character Development

As illustrated in the preceding analysis, student spirituality variables had a strong predictive relationship with college student self-rated pro-social character as well as other collegiate outcomes. However, student spirituality has a much stronger predictive relationship with compassionate self-concept and social oriented character and overall college outcomes than achievement-oriented character. However, it is interesting to note that spirituality can often have a significant predictive relationship with a wide range of character qualities. Although each character self-rating is best examined in detail in itself, it is useful to take an overview of the four main groupings, achievement-oriented, compassionate self-concept, social, and other collegiate correlation outcomes, and make some summary comments. Again many of the self-ratings could be viewed in more than one grouping, and in some sense they are all inter-related.

To reiterate, concerning the areas of self-rating, spirituality and religiousness/religiosity, there is considerable correlation. Again the survey’s authors intentionally reflect contemporary culture, which tends to view spirituality as broader and less institutional, and religiousness/religiosity as considered to be more narrow, institutional, and typically identified with a specific religion and its religious practices. Survey questions were carefully designed to be applicable to all faiths and traditions including non-western religions.
It is noteworthy that although it is well attested that attendance at religious services drops dramatically for students during the college years, spirituality does continue to be a substantial influence on many student’s lives as attested by results in this research.

Achievement-oriented Character

[Achievement orientation- courage, creativity, dependability, drive-to-achieve, leadership ability, self-confidence (intelligence)]

In respect to the block of student spirituality for incoming first-year students and previous year activities and related goals and values had a significant predictive relationship with three of the achievement-oriented character traits including courage, creativity, and drive-to-achieve. It might be expected, and indeed is the case, that spirituality does not have as strong of an influence on achievement-oriented character self-ratings as with compassionate self-concept, social, and other collegiate outcomes. However, some of the stronger individual variables were attended a religious service, prayer/meditation.

In respect to student spirituality and overall self-ratings of the achievement-oriented characteristics and related college student goals and values, there was a significant positive impact with all of the character traits. In respect to individual variables, the strongest correlations were found in find religion to be personally helpful, importance of developing a meaningful philosophy of life, “spiritual beliefs help define the goals I set for myself”, as well as some spiritual practices such as practice prayer, and practice meditation.

Once again, in respect to the secondary factors, most have similar results except when the significance is very close to the pre-determined cutoff significance, and therefore with a different number of respondents and a different constellation of individual factors which must share the predictive power or there is a particularly strong variable entered in the regression immediately following, the outcome may change slightly.

In respect to gender, males had a tendency to rate themselves higher with respect to courage, leadership ability, and self-confidence (intelligence). Once again, reasons behind this finding
may be interpreted from a variety of perspectives including that it reflects particular genetic predispositions, or more perhaps a more common view that it reflects the nurturing of the family of origin and the influence of social norms and expectations of the wider community. However, it would be very interesting to see if the more recent survey (SIF2004/CSBV2007) revealed a decrease in the disparity, particularly as women continue to make strides in corporate and academic achievement.

Planned residence did not have a significant predictive relationship with any of the achievement-oriented character qualities, with the exception of dependability, where students living at home or in a private house apartment off-campus had a slight tendency to rate themselves higher. However, as previously noted the significance was near the cutoff value and was not replicated in the other three major areas.

In respect to institutional characteristics, institutional selectivity was the only factor that had a significant predictive relationship with more than one character quality; and surprisingly, institutional selectivity had a negative correlation with self-rated creativity and drive-to-achieve.

Planned major had a significant predictive relationship with three of the character traits with a negative correlation with courage and creativity indicating students majoring in the arts or humanities tending to rate themselves higher with respect to these three character traits.

Compassionate Self-Concept

[Compassionate self-concept- altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience.]

In respect to the block of student spirituality for incoming first-year students and previous year activities and related goals and values entering college had a significant predictive relationship with all of the compassionate self-concept character traits. In respect to individual variables, the strongest predictive relationships were found in importance of
integrating spirituality into daily life, prayer/meditation (hrs per wk), and importance of
developing a meaningful philosophy of life.

In respect to student spirituality and overall self-ratings of the compassionate self-concept
characteristics and related college student goals and values according to students in their
third year of college, there was a significant positive predictive relationship with all of the
character traits. In respect to individual variables, the strongest correlations were found in
acceptance of people with different religious/spiritual values, practice meditation, and
religious beliefs and convictions strengthened in college. Spiritual concerns did not preclude
the respect for the spirituality of others as accept others with different spiritual/religious
practices figured prominently. Not only does this underscore the importance of spirituality
in the lives of many students and some if its positive ramifications, it also once again
underscores that a strong sense of spirituality does not preclude accepting others with
different beliefs and backgrounds.

Many students find in spirituality a significant positive impact in shaping their life direction
as indicated in responses to such variables as spiritual beliefs help define goals, importance
of integrating spirituality into life, importance of developing meaningful philosophy of life.
The importance of spiritual practices for students was found in the frequency of importance
of looking for opportunities to grow spiritually, as well as spiritual practices such as practice
prayer, meditation, religious singing, and found new meaning in rituals and practices of my
religion.

Practical resource of spirituality for students was underscored with responses such as
spiritual beliefs provide me with strength, support, and guidance, and find religion to be
personally helpful, and attended a retreat/workshop/class on religion/spirituality.

The importance of peer relationships in spirituality was found in friendships that shared
religious/spiritual values or which included, and friends searching for meaning/purpose in
life.
On a secondary level, in respect to gender the results were consistent with the other major areas of examination, males had a tendency to rate themselves higher with respect to forgiveness; while females had a tendency to rate themselves higher with respect to compassion, empathy, gratefulness, helpfulness, and kindness. Once again reasons behind this may either be argued from a variety of perspectives including that it reflects particular genetic strengths, or more commonly the nurturing of the family of origin and the influence of social norms and expectations of the wider community. However, it would be very interesting to see if the more recent survey (SIF2004/CSBV2007) revealed similar results.

Planned residence had a significant predictive relationship with four of the nine character traits including generosity, gratefulness, helpfulness, and kindness, with students living at home or in off-campus housing tending to rate themselves higher.

In respect to institutional characteristics, institutional selectivity was the only factor that had a significant predictive relationship with more than one character quality; and surprisingly, institutional selectivity had a negative correlation with six of the nine character qualities including forgiveness, generosity, gratefulness, helpfulness, kindness, and patience. However, students at both more selective institutions as well as private institutions tended to rate themselves higher with respect to altruism.

Planned major did not have a significant predictive relationship with any of the character qualities under compassionate self-concept.

Social

[Social – cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-awareness, self-confidence (social), self-understanding, and understanding of others]

In respect to the block of student spirituality for incoming first-year students and previous year activities and related goals and values had a significant predictive relationship with all of the social character traits, with the exception of self-confidence (social). In respect to individual variables, the strongest correlations were found in importance of developing a
meaningful philosophy of life, prayer/meditation (hrs per wk), and importance of integrating spirituality and life.

In respect to student spirituality and overall self-ratings of the social characteristics and related college student goals and values according to responses of the same students in their third year of college, there was a significant positive predictive relationship with all of the character traits. In respect to individual variables, the strongest positive relationships were found with practice meditation, religious beliefs and convictions strengthened in college, develop meaningful philosophy of life, and found new meaning in the rituals and practices of my religion, integrate spirituality into daily life, friends share religious/spiritual values, attended a class/workshop-retreat on spirituality. Spiritual concerns did not preclude the respect for the spirituality of others as acceptance of people with different religious/spiritual values also figured prominently.

On a secondary level, in respect to gender, males had a tendency to rate themselves higher with respect to humility, loyalty, self-awareness, and self-understanding; while females had a tendency to rate themselves higher with respect to understanding of others. Once again reasons behind this may either be viewed from a variety of perspectives including that it reflects particular genetic strengths, or more commonly the nurturing of the family of origin and the influence of social norms and expectations of the wider community. And once again, it would be interesting to see if the more recent survey (SIF2004/CSBV2007) revealed similar results.

Planned residence had a significant predictive relationship with two of the character traits with students living at home or in off-campus housing tending to rate themselves higher in respectfulness, and students living on campus tending to rate themselves higher with respect to open-mindedness. However in respect to open-mindedness planned residence was not found to be significant under faculty-student interactions, student peer relationships, or community service.
In respect to institutional characteristics, institutional selectivity had a significant predictive relationship with cooperativeness and respectfulness, both with a negative correlation. Students at public institutions tended to rate themselves higher with respect to open-mindedness.

Planned major had a significant predictive relationship with two of the character traits including self-awareness and self-understanding; in both cases students majoring in the arts or humanities tended to rate themselves higher.

Other Collegiate Outcomes

[other collegiate outcomes- emotional health, physical health, spirituality, religiousness, satisfaction with sense of community, satisfaction with interaction with faculty, satisfaction with relevance of coursework, satisfaction with interaction with students, and satisfaction with overall college experience]

In respect to other collegiate outcomes the areas vary considerably and so are best considered on their own. Of particular note is that religiosity/religiousness and spirituality are part of the other collegiate self-ratings and as such therefore have a close relationship to the factors related to spirituality. However other outcomes show significant and interesting relationships.

In respect to the block of student spirituality for incoming first-year students and previous year activities and related goals and values had a significant predictive relationship with all of the other collegiate outcomes with the exception of physical health. The strongest positive predictive relationships for individual variables with other collegiate outcomes as a whole were with importance of integrating spirituality into my life, attended a religious service, and prayer/meditation (hrs per wk).

In respect to college student spirituality and overall ratings of the other collegiate outcomes and related college student goals and values according to the responses of students in their third year of college, there was a significant positive predictive relationship with all of the
self-ratings. In respect to individual variables, the strongest predictive relationships were
found with religious beliefs and convictions strengthened in college, friendships which
shared religious/spiritual values, and accept people of different religious/spiritual values,
attend religious services, attended a class/workshop or retreat on matters related to
religion/spirituality, and spiritual beliefs are one of the most important things in my life,
importance of integrating spirituality into life, importance of seeking opportunities to grow
spiritually, find religion/spirituality to be personally helpful, and religion spirituality one of
the most important things in my life.

From a thematic perspective, spiritual practices such as practice prayer, practice mediation
figured prominently as did attended religious services, as did found new meaning in rituals
and practices of my religion, attended a class/workshop or retreat on matters related to
religion/spirituality.

Spiritual concerns did not preclude the respect for the spirituality of others as accept others
with different spiritual/religious practices figured prominently. Not only does this
underscore the importance of spirituality in the lives of many students and some if its
positive ramifications, it also once again underscores that a strong sense of spirituality does
not preclude accepting others with different beliefs and backgrounds.

Many students find in spirituality a significant positive impact in shaping their life direction
as indicated in responses to such variables as spiritual beliefs help define goals, importance
of integrating spirituality into life, importance of developing meaningful philosophy of life,
importance of looking for opportunities to grow spiritually.

Practical resource of spirituality for students was underscored with responses such as
spiritual beliefs provide me with strength, support, and guidance, and find religion to be
personally helpful, and attended a retreat/workshop/class on religion/spirituality.
The importance of peer relationships in spirituality was found in friendships that shared religious/spiritual values or which included, and friends searching for meaning/purpose in life.

On a secondary level, in respect to gender, males had a tendency to rate themselves higher with respect to emotional health and physical health, otherwise gender did not have a significant predictive relationship with the other self-ratings for other collegiate outcomes.

Planned residence had a significant predictive relationship with all but one of the other collegiate outcomes including emotional health, religiosity/religiousness, opportunity for religious/spiritual reflection, satisfaction with sense of community, satisfaction with interaction with other students, and satisfaction with overall college experience with students in on-campus housing tending to rate themselves higher in all cases except for self-rated religiosity/religiousness. Not impacted were physical health, spirituality, and respect for diverse religious/spiritual beliefs.

In respect to institutional characteristics, institutional selectivity had a negative correlation with religiosity/religiousness, and satisfaction with interaction with other students; however students at more selective institutions gave higher ratings for opportunity for religious spiritual reflection. Students at private institutions also tended to give higher ratings for with respect to opportunity for religious spiritual reflection, which may reflect the fact that many private educational institutions are religious in nature. Students at private institutions also gave higher ratings for satisfaction with sense of community, satisfaction with interaction with students, and satisfaction with overall college experience.

Planned major had a significant predictive relationship with a number of collegiate outcomes including spirituality, respect for diverse religious/spiritual beliefs, satisfaction with sense of community, satisfaction with interaction with other students, and satisfaction with overall college experience, with students majoring in the arts and humanities gave higher ratings.
In addition to learning a vast array of knowledge and skills, college students are presented with the opportunities to manage their life and freedom and acquire a stronger set of social skills as well as opportunities for spiritual growth and development. The opportunities related to spiritual growth and development or religious expression may well form a very vital set of habits and strengthen pro-social character qualities that shape individuals to become more engaged and participatory citizens. It is important to reiterate that spirituality here is broadly defined and not specific to one religion or belief system.

For colleges that have a religious or philosophic component as part of their mission, this may reinforce the importance of such activities and components. However, it is also well to recognize that student’s overall attendance at religious services drops dramatically in college. However, this does not seem to indicate that spirituality is less important. Despite this drop in attendance at religious services, students indicate spirituality however they might define it, continues to be important or even grows in importance as do many religious activities such as prayer, meditation, and reflection, as well as charitable involvement such as performing community service of various types or donating money to charities. Providers of religious services may well want to probe student expectations, needs, and desires to find out what is most relevant to student spirituality. Such colleges and universities, rather than viewing this sort of activity as extra-curricular, may well want to increase emphasis on this range of activities as vital co-curricular activities that are part of the very mission of colleges that take a view toward a holistic education and development of students.

Colleges and universities that are not religious or philosophic in nature, may want to recognize that the college years are a time of important spiritual exploration and development for students and want to identify and support a broad range of opportunities that are offered by the campus community or wider community.

Once again to reiterate comments made under faculty-student interactions, there was surprisingly broad positive predictive relationship with opportunities to discuss the purpose/meaning of life, encouragement to discuss religious/spiritual matters, by faculty. This was not simply in religious or private schools, but seemed to have a positive predictive
relationship with most though not all of the character self-ratings in the public universities. Clearly this sort of opportunity occurs more naturally and more often in religious or private institutions which have as part of their mission some religious or philosophic purpose, and would also occurs more often in classes that are religious or philosophic in nature. However, it might be noted that the variable did not specify that the students were lectured by faculty on the meaning/purpose of life or religious/spiritual matters but were given the opportunity to discuss such themes. Faculty less comfortable with religious/spiritual or philosophic discussions might well note that simply being able to facilitate such discussions when they are appropriate in a way that honors diversity of background and belief and the opinion of every individual is interesting and stimulating to students. Institutions may well consider holding occasional workshops that might help faculty know the best ways to facilitate such discussions. These deeper level discussions have often been some of the most innovative and influential in all of history as one can see in discussions promoted by teachers as diverse as Socrates, Plato, and Aristotle as well as Jesus, Buddha and Mohammad, all of which have had lasting impact on the societies of the world however, individuals may choose to view them.

Many spiritual goals, values, and activities have a positive predictive relationship with prosocial character development. This may work well with colleges and universities who have as part of their mission to promote some form of spirituality. However, many colleges and universities who are either not religious in orientation or state colleges and universities that are expressly religiously neutral may find relating at all to the spiritual dimension of student development uncomfortable. However, it is helpful to be reminded that the term spirituality was developed and here is used intentionally in the broadest possible manner and not meant to promote any specific religion, religious group, or belief; so also colleges and universities may find it helpful to simply support groups that offer such groups and activities on campus as long as they are not of a “cult-like” ilk and make students aware of the existence of these groups and activities along with all the other campus groups and activities that are offered. More colleges and universities are doing precisely this in the light of findings that have come from the results of the HERI’s findings from the CSBV.
Furthermore, colleges and universities may find in the theme of character development a way to bring together a broad and diverse group of religious and spiritual groups and relate their activities at least in part to character development as well as spiritual development. Moreover, this also gives a range of discussion that relates these religious/spiritual groups and activities to the broader campus groups and activities whereby they can come together and acknowledge those character components that they all can agree on even if there might be some character traits that they might that they differ.

The development of core character traits that the entire college and university where agreement can be shared with students as well as faculty and staff, and extol as defining their culture and community in a positive manner may help in promoting and developing these qualities in college students and the wider community as well. Many colleges and universities have their character code stated in negative prohibitory statements such as “do not steal” or “do not plagiarize.” A positive set of character qualities that the entire university community can agree on gives a set of qualities that diverse individuals and groups can agree upon and unite around in a positive, productive manner.
4.6. Limitations and Recommendations for Further Study

Although the data from the SIF2000/CSBV2003 provide a wealth of insight and information, further data will be available from the 2004SIF/CSBV2007 surveys by the HERI regarding this data will shed even greater light on these issues. (The data for this study, like others with the HERI, are exclusive to the institute for the first three years following the study, and should be available shortly.) A similar analysis of the 2004SIF/CSBV2007 could provide three important elements: First, the new data provides a pre-test not just for some but for all of the self-rated character traits. Secondly, it is a much larger sample across an even broader cross section of colleges and universities and could yield additional insights. Finally, a different cohort of students would yield additional confirmation of results as well as possible changes in social norms as a whole, such as gender roles and perceptions and institutional changes. The CSBV2007 in conjunction with the SIF2004 would provide an excellent pretest on all of the self-ratings for character, rather than on some but not all of the self-rated character traits as in the SIF2000/CSBV2003. It is hoped that this study will be followed by this researcher in the same process of examining the results of the SIF2004/CSBV2007, that allow for a pre-test for all of the self-rated outcomes. The more recent dataset also gives a much larger and more recent sample and would be excellent to provide additional corroboration for the findings, as well as compare the results for different cohorts to see if there are any changes.

A caveat is in order for the potential over-interpretation of relatively small betas of the individual variables, which though statistically significant, remain relatively small. The focus of this study has been on the blocks of variables themselves, and then subsequently the individual variables that are significant within those blocks. Although the reason for relatively small betas within the framework of numerous blocks of variables has been previously explained along with the corresponding small values due to that arrangement; however it is still worth cautioning that care should be made not to over-interpret these individual variables. Subsequent research will be conducted within these major areas that will also include individual variables run against each of these same self-rated outcomes, which will further illuminate pro-social character development in college students, which is beyond the scope of this research and would be too much to include in this study.
A second caveat is in order in respect to the fact that all indicators of development are self-ratings and therefore represent self-perceptions rather than any external measure of development. However, the greatest concern in this area usually relates to the flaws in memory, for example, Schacter (1999) has warned against seven flaws of memory, including transience (decreasing accessibility of information over time), absent-mindedness (inattentive or shallow processing contributing to weak memory), blocking (temporary inaccessibility to information stored in memory), misattribution (attributing a recollection or idea to the wrong source), suggestibility (memories implanted as a result of leading questions or expectations), bias (retrospective distortions and unconscious influences related to current knowledge and beliefs), persistence (pathological remembrances, information or events subject cannot forget, even though they may wish they could) (Cf. Chong). However, the major difficulties with self-ratings are absent or greatly diminished in respect to this survey due to the fact that these self-ratings are not related so much to memory as to the present time because students are asked to rate themselves in respect to each of these areas at the time of the survey. In other words, because these distortions are primarily related to memory and past events, and the self-ratings of this research are related to the present time, there is little reason for concern other than perhaps bias. A more relevant concern for reliability would be the impact of social-bias, where it may be deemed that the administrators of the test, or society at large, are looking for higher ratings in these socially desirable traits. However, the guaranteed anonymity of the student’s identities taking the survey, and the preservation of that anonymity, helps ensure a minimal impact of social bias. The Higher Education Research Institute has also attempted to assess and address the reliability of the CSBV in the design of the instrument and has also run Cronbach’s alpha on a number of these self-ratings (Cf. Astin & Astin, 2003, The development of the college students’ beliefs and values survey CSBV).

This study is also unable to provide insights and information into the enduring quality of changes in pro-social character development in college students post graduation and into their professional career and community lives. A further longitudinal study that surveyed these same students after graduating from college and entering the workforce and
community life would also offer insight into the long term impact of the level of holistic
development of college students beyond their college years into their professional careers
and community involvement.

The field could also benefit from qualitative studies of college students which might use
open-ended questions and focus groups, as well as peer evaluations to further elucidate
scholarly understanding of the impact of these four major areas and their impact on pro-
social character development in college students. Such qualitative studies could offer further
insight and information on the interaction of each of the major areas impacting pro-social
character development.
4.7. Contribution to the Literature and Recommendations for Improvement of Practice

As illustrated in the preceding statistical results and analysis of variables related to activities, goals and values related to the major areas of faculty-student interactions, student peer relationships, community service, and student spirituality variables had a strong predictive relationship with college student self-rated pro-social character as well as other collegiate outcomes. An overview of the predictive relationship of the blocks of variables and each of the character traits as well as the other collegiate outcomes can be seen in the tables on pages 277, 287, 299, and 310 as well as in the appendix, pages 336-343.

However, this research in no way diminishes the role of genetics and the family of origin, along with the wider community, in shaping character in the earlier years of life. In fact, the pre-test is a good measure of the impact of the confluence of these forces in shaping character up until the student enters college. The focus of this research is to highlight the influences of pro-social character development during the college years including faculty-student interactions, student peer relationships, community service, and spirituality, emphasizing that college students continue to develop in many important aspects including pro-social character development during their time in college.

The results of this study continue to add weight to the work of scholars who have claimed that college students change and develop in important ways during the college years (Chickering, 1981; Brown, 1972; Winston & Miller, 1987).

These changes touch not only the intellectual realm of development, but also include affective and psychosocial dimensions of development such as Chickering’s earlier seven vectors theory (1969, 1993) which looks at college student development along seven vectors including: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, clarifying purpose, and developing integrity.
Student psychosocial development along the lines of character can be a useful and measureable parameter that adds depth and clarity to many of these facets of student development.

Chickering and Reisser (1993) claimed there were seven major influences on college student development: 1) Clear and Consistent Objectives, 2) Institutional Size, 3) Student-Faculty Relationships, 4) Curriculum, 5) Teaching, 6) Friendships and Student Communities, 7) Student Development Programs and Services. Although this research does not attempt to verify all Chickering and Reisser’s major influences of college student development, this research supports that a number of the influences including institutional size, student-faculty relationships, friendships and student communities, and student development programs and services.

As illustrated in the analysis in the body of this research contained herein, the secondary factors including gender, institutional characteristics, and planned major had a significant predictive relationship on many, though not all, of the pro-social character traits as well as other collegiate outcomes.

In respect to gender and achievement-oriented character traits including courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intellectual), males had a tendency to rate themselves higher with respect to courage, leadership ability, and self-confidence (intelligence). Reasons behind this may either be argued from a variety of perspectives including that it reflects particular genetic strengths, or more commonly the nurturing of the family of origin and the influence of social norms and expectations of the wider community. However, it would be very interesting to see if the more recent survey (SIF2004/CSBV2007) revealed a decrease in the disparity, particularly as women continue to make strides in corporate and academic achievement.

In respect to gender and compassionate self-concept character traits, (including altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience), males had a tendency to rate themselves higher with respect to forgiveness; while
females had a tendency to rate themselves higher with respect to compassion, empathy, gratefulness, helpfulness, and kindness. Once again reasons behind this finding may be argued from a variety of perspectives including that gender differences reflect particular genetic strengths, or more commonly the nurturing of the family of origin and the influence of social norms and expectations of the wider community. However, it would be very interesting to see if the more recent survey (SIF2004/CSBV2007) revealed similar results.

In respect to gender and social character traits, (including cooperativeness, loyalty, openness-mindedness, respectfulness, humility, self-awareness, self-confidence (social), self-understanding, and understanding of others), males had a tendency to rate themselves higher with respect to humility, loyalty, self-awareness, and self-understanding; while females had a tendency to rate themselves higher with respect to understanding of others. Once again reasons behind this may either be viewed from a variety of perspectives including that it reflects particular genetic strengths, or more commonly the nurturing of the family of origin and the influence of social norms and expectations of the wider community. And once again, it would be interesting to see if the more recent survey (SIF2004/CSBV2007) revealed similar results. (Gender did not have a significant predictive relationship with humility under student peer relationships, although it did under all other major areas. This may be due to the different number of respondents in the different areas, particularly when the results are near the cutoff value for significance.)

In respect to gender and other collegiate outcomes, including emotional health, physical health, spirituality, religiousness, satisfaction with opportunity for religious/spiritual reflection, satisfaction with sense of community, satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under faculty-student interactions), and satisfaction with overall college experience, males had a tendency to rate themselves higher with respect to emotional health and physical health, otherwise gender did not have a significant predictive relationship with the other self-ratings for other collegiate outcomes. (Gender did not have a significant predictive relationship with satisfaction with sense of community under student peer relationships, although it did not under all other major areas. This may be due to the
different number of respondents in the different areas, particularly when the results are near the cutoff value for significance).

In respect to planned residence and achievement-oriented character traits including courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intellectual), planned residence did not have a significant predictive relationship with any of the achievement-oriented character qualities, except for intellectual self-confidence, which was significant for self-confidence (intellectual) under faculty-student interactions and community service and, but not under student peer relationships or student spirituality. (This may be due to the different number of respondents in the different areas, particularly when the results are near the cutoff value for significance.)

However, in respect to planned residence and compassionate self-concept character traits, (including altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience), planned residence had a significant predictive relationship with four of the nine character traits with students living at home or in off-campus housing tending to rate themselves higher with respect to generosity, gratefulness, helpfulness, and kindness. It may be that living in close proximity to other peers supports the strengthening of compassionate character traits.

In respect to planned residence and social character traits, (including cooperativeness, loyalty, open-mindedness, respectfulness, humility, self-awareness, self-confidence (social), self-understanding, and understanding of others, planned residence had a significant predictive relationship with two of the character traits including loyalty and respectfulness, with students living at home or in off-campus housing tending to rate themselves higher. It may be that students living at home maintain closer ties with family and this strengthens loyalty and respectfulness, though this is speculative. (However under student spirituality, planned residence had a positive relationship with open-mindedness, indicating that students living on campus tended to give higher ratings; also under spirituality loyalty was not found to have a significant relationship with planned residence.)
In respect to planned residence and other collegiate outcomes, (including emotional health, physical health, spirituality, religiousness, satisfaction with opportunity for religious/spiritual reflection (included only with faculty-student interactions and student spirituality), satisfaction with sense of community, satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under faculty-student interactions), satisfaction with interaction of other students (not included with faculty-student interactions), and satisfaction with overall college experience), planned residence had a significant predictive relationship with all but three of the other collegiate outcomes, with students in on-campus housing tending to rate themselves higher in emotional health, opportunity for religious/spiritual reflection (though not with self-rated spirituality or religiosity/religiousness), satisfaction with sense of community, satisfaction with amount of contact with faculty, relevance of coursework, and satisfaction with overall college experience. (Self-rated religiosity/religiousness was significant under student spirituality regression analysis alone, but was near the cutoff value.)

In respect to institutional characteristics and achievement-oriented character traits, (including courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intellectual)), institutional selectivity was the only factor that had a significant predictive relationship with more than one character quality; and surprisingly, institutional selectivity had a negative correlation with self-rated courage, creativity, and drive-to-achieve. (However, it is noteworthy, that while institutional selectivity had a significant predictive relationship with courage under faculty-student interactions and community service, it was not significant under student peer relationships and student spirituality. This may be related to the different number of respondents for the various areas as well as a different set of variables that must share predictive power for each of those respective major areas.)

In respect to institutional characteristics and compassionate self-concept character traits, (including altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience), institutional selectivity was the only factor that had a significant predictive relationship with more than one character quality; and surprisingly, institutional selectivity had a negative correlation with six of the nine character qualities including
forgiveness, generosity, gratefulness, helpfulness, kindness, and patience. However, students at both more selective institutions as well as private institutions tended to rate themselves higher with respect to altruism. It may be the case that students and their families who focus strongly on entrance into the more selective educational institutions, as well as the more selective institutions themselves, may focus on academic performance to a degree that diminishes other character qualities such as those that are part of compassionate self-concept. Students, and their families, as well as the more selective institutions, may wish to reflect on this, and depending on their goals, become more intentional about these character qualities.

In respect to institutional characteristics and social character traits, (including cooperativeness, loyalty, open-mindedness, respectfulness, humility, self-awareness, self-confidence (social), self-understanding, and understanding of others), institutional selectivity had a significant predictive relationship with cooperativeness and respectfulness, both with a negative correlation. Students at public institutions tended to rate themselves higher with respect to open-mindedness. (It should be noted, that while institutional selectivity had a significant predictive relationship with respectfulness under faculty-student interactions, it was not significant under student peer relationships, community service, and student spirituality. This would seem to be the influence of different number of respondents for the various areas as well as a different set of variables that must share predictive power. Also students at private institutions tended to rate themselves higher with respect to respectfulness under faculty-student interactions but not under any of the other major areas.)

In respect to institutional characteristics and other collegiate outcomes, (including emotional health, physical health, spirituality, religiousness, satisfaction with opportunity for religious/spiritual reflection (included only with faculty-student interactions and student spirituality), satisfaction with sense of community, satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under faculty-student interactions), satisfaction with interaction of other students (not included with faculty-student interactions), and satisfaction with overall college experience), institutional selectivity had a significant predictive relationship with spirituality,
religiosity/religiousness, and satisfaction with amount of contact with faculty, and satisfaction with interaction with other students all with a negative correlation. However, students at private institutions tended to rate themselves higher with respect to spirituality, religiosity/religiousness, opportunity for religious spiritual reflection, which may reflect the fact that many private educational institutions are religious in nature. Students at private institutions also gave higher ratings for satisfaction with relevance of coursework, satisfaction with interaction with other students, satisfaction with sense of community, and satisfaction with overall college experience.

In respect to student’s planned major and achievement-oriented character traits including courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intellectual), planned major had a significant predictive relationship with three of the character traits with a negative correlation with courage, creativity, and self-confidence (intelligence) with students majoring in the arts or humanities tending to rate themselves higher with respect to these three character traits. (It should be noted, however, that while student’s planned major had a significant predictive relationship with intellectual self-confidence under faculty-student interactions and community service, it was not significant under student peer relationships or student spirituality. Leadership ability had a significant relationship under student peer relationships, but not under any other major area. This would again seem to be the impact of different number of respondents for the different areas as well as a different set of variables that must share predictive power.)

In respect to student’s planned major and compassionate self-concept character traits, (including altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience), planned major did not have a significant predictive relationship with any of the character qualities related to compassionate self-concept, with the exception of compassion, which was significant only under faculty-student interactions and close to the cutoff significance.

In respect to student’s planned major and social character traits, (including cooperativeness, loyalty, open-mindedness, respectfulness, humility, self-awareness, self-confidence (social),
self-understanding, and understanding of others), planned major had a significant predictive relationship with two of the social character traits including self-awareness and self-understanding; in both cases students majoring in the arts or humanities tended to rate themselves higher. (Self-awareness was not significant under student peer relationships most likely due to the differing number of respondents for the different set of variables.)

In respect to student’s planned major and other collegiate outcomes, including emotional health, physical health, spirituality, religiousness, satisfaction with opportunity for religious/spiritual reflection (included only with faculty-student interactions and student spirituality), satisfaction with sense of community, satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under faculty-student interactions), satisfaction with interaction of other students (not included with faculty-student interactions), and satisfaction with overall college experience, planned major had a significant predictive relationship with all but two of the other collegiate outcomes. Students majoring in the arts and humanities gave higher ratings for spirituality, religiosity/religiousness, opportunity for religious/spiritual reflection, satisfaction with sense of community, satisfaction with amount of contact with faculty, relevance of coursework, and satisfaction with overall college experience. (Self-rated religiosity/religiousness was not significant under student peer relationships or student spirituality.

Previous research has confirmed that a broad range of college experiences influences student’s cognitive and social development. Astin (1993), Feldman and Newcomb (1969), Kuh, Vesper, Connolly & Pace (1997), and Pascarella and Terenzini (1991) all concluded that cognitive and social development of college students is influenced by a variety of factors including academic coursework, student effort, involvement in out-of-class experiences, and interaction with faculty and peers. This research continues to add support to the factors of several of those factors including student involvement in out-of-class experiences and faculty-student interactions.
This research supports that faculty-student interactions have a significant predictive relationship with pro-social character development in college students. The table with the results of the analysis of the blocks of variables relating to faculty-student interactions demonstrates the strong predictive relationship these blocks of variables with each of the character traits along with other collegiate outcomes (p. 265). Previous studies have emphasized that student involvement is positively related to cognitive and psychosocial development (Astin, 1977, 1993; Kuh, Vesper, Connolly, & Pace, 1997; Pascarella & Terenzini, 1991) and that involvement can take a number of different forms, including involvement with faculty, peer groups, or student organizations. Research continues to support the notion that faculty interaction is an important avenue of a sense of belongingness as well as academic and psychosocial development (Terenzini & Wright, 1987; Pascarella & Terenzini, 1978) and furthermore that positive faculty-student interaction has a positive correlation with students developing in broad and diverse manners including competence, autonomy, interdependence, identity, purpose, values, maturity and integrity (Erwin & Love, 1989; Chickering, 1969, 1993; Endo & Harpel, 1982; Org & Brasskamp, 1988; Stakenas, 1972). This research also supports the notion that such faculty interaction is quite significant and meaningful outside the classroom instruction format.

Although faculty-student interaction is often looked at largely in terms of academic development or cognitive development, this research tends to support broadening the impact to include psychosocial development, including pro-social character development.

As illustrated in this research analysis, faculty-student interactions have a significant predictive relationship with college student pro-social character self-ratings as well as other collegiate measures. The table with the results of the analysis of the blocks of variables relating to faculty-student interactions demonstrates the strong predictive relationship these blocks of variables have with each of the character traits along with other collegiate outcomes (p. 265). However, it is well to realize that the character self-ratings represent a broad cross-section of character and one would expect that the range of variables would not impact each character self-rating in the same way or to the same degree. Individual faculty-student interaction variables had a stronger predictive relationship with achievement-
oriented character traits and other collegiate outcomes, than compassionate self-concept and social character traits. However, faculty-student interaction variables had a predictive relationship with student pro-social character. It is again helpful to look at an overview of the character self-ratings in four useful groupings: achievement-oriented, compassionate self-concept, social, and other collegiate outcomes.

Concerning the overall group of character qualities that are more achievement-oriented, including achievement orientation- courage, creativity, dependability, drive-to-achieve, leadership ability, self-confidence (intelligence), the block of faculty-student interactions for entering first-year students for the previous year and related goals and values entering college had a significant predictive relationship with three of the achievement-oriented character self-ratings including courage, drive-to-achieve, and leadership ability. Both the individual variables related to faculty-student interactions “talking with teachers/faculty outside of class” as hours per week during the year prior to entering college, and goal of “communicating regularly with professors” often had a strong relationship with achievement-oriented character ratings.

In respect to college goals, values and activities related to faculty-student-interactions as reported by the same third-year college students, the block had a significant predictive relationship on all of the achievement-oriented character self-ratings. Some of the strongest predictive individual variables with significance were help in achieving professional goals, talking with faculty outside of class, (hrs per wk), and to a lesser degree “emotional support and encouragement”, showing respect, and “advice/guidance about education program.” It may be well that despite the fact that colleges and universities have trained professionals in these areas, faculty are often the first individuals students turn to in these situations, particularly with students living off campus or non-traditional students. Colleges would do well to help give some modest training to faculty in both of these areas and even offer some training in the best way to make a referral to the other professionals, areas that are not areas of training and expertise of faculty. Although most colleges have trained personnel in academic guidance and counseling, faculty are often the front-line individuals students see first. Offering faculty occasional workshops in academic guidance would be helpful for both
faculty and students. The same is true for counseling; offering faculty an invitation to the basic workshops or seminars that are offered of resident life staff would help faculty offer basic support to students, know how and to whom to make counseling referrals for students, as well as how to recognize a student who has more serious emotional needs and help insure that they see a trained professional.

Concerning the overall group of character qualities that are more compassionate self-concept, (including compassionate self-concept- altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience), and faculty-student interactions, the block of activities, goals, and values having to do with the year prior to entering college and related goals and values entering college had a significant predictive relationship with all but one of the character self-ratings. The strongest individual variable related to faculty-student interactions was goal of “communicating regularly with professors” in incoming first-year students on the SIF2000, followed by “talking with teachers outside of class” as hours per week during the year prior to entering college.

The block of college goals, values and activities related to faculty-student-interactions as reported by third-year students had a significant predictive relationship in every character self-rating related to compassionate self-concept. The strongest individual variables with significance were “encouragement to discuss religious/spiritual matters,” as well as time spent “talking with faculty outside of class” (hrs per wk), followed by emotional support and encouragement, advice and guidance about educational program, opportunities to discuss the purpose/meaning of life, and intellectual challenge and stimulation. It is again noteworthy, that there is a predictive relationship with pro-social character development and “encouragement to discuss religious/spiritual matters” and opportunities to discuss the purpose/meaning of life. Students for the most part seem to respond positively to the opportunity to have deeper level discussion about the meaning of life and religious/spiritual matters. It is important to note that this is different than attending a lecture on these topics rather the opportunity to discuss such topics. Many faculty at state institutions or faculty who do not feel comfortable on these topics may want to find ways to better facilitate discussions on such topics while remaining neutral and honoring the diverse backgrounds
and beliefs of a diverse student body. Colleges and universities may also want to help facilitate faculty members’ abilities in these areas by offering occasional workshops or seminars that help faculty improve in these skills.

Concerning the overall group of character qualities that are more social in nature, (including cooperativeness, loyalty, open-mindedness, respectfulness, humility, self-awareness, self-confidence (social), self-understanding, and understanding of others), and the block of activities for incoming first-year student’s prior year activities and related goals and values entering college, had a significant predictive relationship with all but one of the character self-ratings. Both the individual variables the goal of “communicating regularly with professors” and “talking with teachers outside of class” as hours per week during the year prior to entering college had a significant predictive relationship with most social character self-ratings.

In respect to the block of college goals, values and activities related to faculty-student-interactions as reported by third-year students, there was a significant predictive relationship with each of the social character self-ratings. Some of the strongest individual variables with significance were with time spent with faculty outside of class, encouragement to discuss religious/spiritual matters, and help in achieving professional goals.

In respect to other collegiate outcomes, (including emotional health, physical health, spirituality, religiousness, satisfaction with opportunity for religious/spiritual reflection, satisfaction with sense of community, satisfaction with interaction with faculty (included only under faculty-student interactions), satisfaction with relevance of coursework (included only under faculty-student interactions)), and satisfaction with overall college experience, the areas vary considerably and so are best considered on their own. However, some general remarks are in order. In terms of goals and values, entering first-year students, the block had a significant predictive relationship with most of the self-ratings. The strongest individual variable with these set of characteristics was overwhelmingly the goal of “communicating regularly with professors” in incoming first-year students on the SIF2000 which had a strong positive impact on most all of the self-ratings. It is well to note that good relationships with
teachers in the year prior to entering college, which in most though not all cases is high school, who also make themselves available outside the classroom makes for positive expectations for relationships and experiences with college faculty, and demonstrates a strong impact on shaping expectations for much of college life.

The block of college goals, values and activities related to faculty-student-interactions as reported by the same college students in the spring of their third year of college had a significant predictive relationship with all of the ratings under other collegiate outcomes. Some of the most predictive individual variables with positive correlation were a help in achieving professional goals, encouragement to discuss religious/spiritual matters, talking with professors outside of class: (hrs per wk), and advice and guidance about educational program.

In sum, in terms of the block of activities related to faculty-student interaction in the year prior to entering college and related goals and values of entering first-year students there is a significant predictive relationship of faculty-student interaction on character self-ratings including achievement-oriented character, compassionate self-concept character, social character traits, as well as other collegiate outcomes. The strongest individual variables with these set of characteristics was overwhelmingly the goal of “communicating regularly with professors” in incoming first-year students on the SIF2000. Therefore one of the best things that can be done to help students have good relationships with professors and have a good overall college experience is to encourage them to set a goal of communicating regularly with their professors. It is also well to note that good relationships with teachers in the year prior to entering college, (which in most, though not all, cases is high school), who also make themselves available outside the classroom makes for positive expectations for relationships and experiences with college faculty.

In respect to college goals, values and activities related to faculty-student-interactions as reported by third-year college students, this block had a significant predictive relationship with all of the self-ratings including achievement-oriented character, compassionate self-concept character, social character traits, as well as other collegiate outcomes. Some of the
strongest individual variables with significance were a number of factors including help in achieving professional goals, talking with faculty outside of class, advice and guidance about educational program, encouragement to discuss religious/spiritual matters, emotional support and encouragement, showing respect, and intellectual challenge and stimulation. Among the strongest variables related to faculty-student interactions was “talking with teachers/faculty outside of class” as hours per week during the year prior to entering college. It is well to note that the latter question does not specify communicating with faculty about class subjects and may include faculty interactions about other matters including college clubs and groups. Therefore one of the best things that can be done to help students have good relationships with professors and have a good overall college experience is not only to encourage them to set a goal of communicating regularly with their professors, but also to avail themselves of opportunities to communicate with professors outside the classroom, which may include not only office appointments with professors to discuss class performance and projects, but also to join groups where faculty are advisors and be able to spend time with faculty in that manner. Once again, “emotional support and encouragement” and “advice/guidance about education program” had a predictive relationship with a broad range of pro-social character as well as other collegiate outcomes. It may be that despite the fact that colleges and universities have trained professionals in these areas, faculty are often the first individuals students turn to in these situations, particularly with students living off campus or non-traditional students. Colleges would do well to help give some modest training to faculty in both of these areas and even offer some training in the best way to make a referral to the other professionals, areas that are not areas of training and expertise of faculty. Although most colleges have trained personnel in academic guidance and counseling, faculty are often the front-line individuals students see first. Offering faculty occasional workshops in academic guidance would be helpful for both faculty and students. The same is true for counseling; offering faculty an invitation to the basic workshops or seminars that are offered of resident life staff would help faculty offer basic support to students, know how and to whom to make counseling referrals for students, as well as how to recognize a student who has more serious emotional needs and help insure that they see a trained professional. It is again noteworthy, that there is a predictive relationship with pro-social character development and “encouragement to discuss
religious/spiritual matters” and opportunities to discuss the purpose/meaning of life. Students for the most part seem to respond positively to the opportunity to have deeper level discussion about the meaning of life and religious/spiritual matters. It is important to note that this is different than attending a lecture on these topics rather the opportunity to discuss such topics. Many faculty at state institutions or faculty who do not feel comfortable on these topics may want to find ways to better facilitate discussions on such topics while remaining neutral and honoring the diverse backgrounds and beliefs of a diverse student body. Colleges and universities may also want to help facilitate faculty members’ abilities in these areas by offering occasional workshops or seminars that help faculty improve in these skills.

It is also well to note faculty live busy lives often pressured to achieve academic research, submit professional articles, lecture in class, as well as grade student papers, projects and labs, and therefore their time is often limited. However, the time they spend with students outside of class whether counseling them in terms of academic programs, or class lectures, or mentoring them in co-curricular activities, has a strong and enduring impact on students’ lives in fostering a broad range of pro-social character qualities.

In an educational environment in which educational models are increasingly mirroring business models with metrics emphasizing productivity and efficiency, it is well to remember that this set of metrics revealed in this research underscores the broad positive impact of quality faculty-student interactions both in the classroom as well as beyond classroom in influencing student’s lives in a positive and enduring manner.
Table 4.1 Faculty-Student Interactions and Pro-social Character Development in College Students 
($\alpha=.05$) (Y = yes, N = no, N/A = not available (for pre-test), or not applicable for all others; F = female, M = male, A&H = Arts and Humanities)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Pre-test</th>
<th>Gender</th>
<th>High School Goals, Values, Experience</th>
<th>Planned Residence</th>
<th>Institution Control, Type, Selectivity</th>
<th>Planned Major</th>
<th>College Goals, Values, Experience</th>
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This research also supports the hypothesis that student peer relationships have a significant predictive relationship with pro-social character development in college students. Among the important elements of these changes are the concepts of differentiation and integration, both of which are important for college student retention and persistence, academic success, and continued psychosocial development. This research continues to add support to the dimensions outlined by Chickering (1975, 1993) and Tinto (1975, 1993) who provided a theoretical foundation for including the processes of differentiation and integration, arguing
student development requires both differentiation and integration of college experiences. (*Differentiation* is introducing and cultivating a variety of academic disciplines, augmenting academic experiences with rich and diverse experiences outside the classroom, and encouraging students to interact with other students different from themselves. *Integration* is the process where students are able to see relationships among diverse experiences and to draw on those various experiences in different contexts and combinations to solve complex and varied problems.) Studies have supported the importance of integration in the cognitive development of college students. For example, studies by Davis and Murrell (1993) and Pike (1995, 1999) provide evidence for the importance of integration in cognitive development. Pike (1999) also found that integration was strongly influenced by the effects of differentiation; and that integration mediated many of the effects of differentiation on cognitive development. Research by David and Murrell (1993) again supported the notion that optimum growth occurs when studies in the classroom find expression in other aspects of the student’s lives outside the classroom. This research again emphasizes the productive role that positive peer relationships can have in supporting pro-social character development.

Student peer relationships also influence students’ lives from the perspective of social integration, or the level of relatedness and “fitness” a student feels with the institution, its broader culture, and any subcultures or groups of which the student is a part, and is inversely related to a student’s feelings of isolation (Tinto, 1975, 1993; Kuh & Love, 2000). Social integration affects student’s perception of acceptance and self-perception of being part of the college community. Students who feel a strong sense of belonging and who have a sense of social integration with peers as well as faculty are more likely to grow and develop academically and personally (Kuh, Schuh, & White, 1991).

This research supports the importance of student peer relationships in developing pro-social character development and adds support to research such as Astin’s on the importance of peer relationships in such works as, *What Matters Most in College*, where he writes, “The student’s peer group is the single most potent source of influence on growth and development in the undergraduate years” (1993, p. 398). Broadly speaking, a diverse span of
research has highlighted that student communities and peer friendships have a profound impact on student development. As Chickering (1974) has stated, “student culture either amplifies or attenuates the impact of curriculum, teaching and evaluations, residence hall arrangements, and student faculty relationships.” Chickering and Reisser have claimed, “when students are encouraged to form friendships and to participate in communities that become meaningful subcultures, and when diversity of backgrounds and attitudes as well as significant interchanges and shared interests exist, development along the seven vectors is fostered” (Chickering & Reisser, 1993, p.316). And research by Kaufman and Creamer (1991) supports the notion that positive peer interaction correlates with personal and intellectual development. Pascarella and Terenzini (1991) further supported the notion that student peer interaction has a strong influence on psychological and attitudinal change and development. In Tinto’s student interaction model both academic and social integration are essential for students to successfully complete their academic tenure at residential colleges (1993). Numerous researchers have studied and confirmed the essential role of student involvement and commitment to the new institution in integration and the critical role it plays in persistence, competence, and feelings of belonging (Astin, 1977; Kuh, Schuh, & Whitt, 1991; Pascarella & Terenzini, 1991).

This research continues to support the thesis that student peer relationships have a profound and lasting impact on students’ lives during college, and also impact their psychosocial development in terms of pro-social character development as well as their experience of college life itself as can be seen in the predictive relationships with other collegiate outcomes such as satisfaction with overall college experience.

As illustrated in the preceding analysis, student peer relationship variables had a strong predictive relationship with college student self-rated pro-social character. The table with the results of the analysis of the blocks of variables relating to student peer relationships demonstrates the strong predictive relationship these blocks of variables have with each of the character traits along with other collegiate outcomes (p. 274). However, student peer relationships had a much stronger impact on social character traits, compassionate self-
concept and social oriented character and overall college outcomes than achievement-oriented character.

In respect to achievement orientated character self-ratings, including - courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intelligence, and student peer relationships and activities in the year prior to entering college and related goals and values for incoming first-year college students and self-ratings of the achievement-oriented character traits as a whole there was a significant predictive relationship with every character self-rating with the exception of creativity. The individual factors with the most positive significant predictive relationship were found in exercising or sports, followed by student clubs (hrs per wk).

In respect to student peer relationships and overall self-ratings of the achievement-oriented characteristics and college student peer interactions during the first three years of college as reported by third-year college students, there was a significant predictive relationship with every self-rated character trait. The individual factors with the most predictive relationships were interpersonal skills, socialized w/someone of different racial group, importance of promoting racial understanding, exercising/sports (hrs per wk), participated in leadership training, and student clubs/groups (hrs per wk).

From a thematic perspective, sensitivity to racial understanding as well as friendships which transcended racial, religious, or cultural boundaries had a positive impact on achievement-oriented character, which can be seen in student responses to importance of promoting racial understanding and socialized w/someone of different racial group. There was also a strong positive predictive relationship with interpersonal skills, as well as participating in leadership training on the achievement-oriented character self-ratings. Exercising/sports (hrs per wk) had a positive predictive relationship with the achievement-oriented set of character self-ratings, and underscores the social facet of sports and exercise. Under achievement-oriented character, partying (hrs per wk) had a positive correlation with courage (prior year activities) and a negative correlation with dependability (both prior year activities entering college, and activities during college). Healthy positive peer relationships predict
and may help foster achievement-oriented pro-social character development in college students.

In respect to student peer relationships and self-ratings of the compassionate self-concept character traits, including altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience, as a whole and incoming first-year student activities in the year prior to entering college and related goals and values entering college had a significant predictive relationship with every compassionate self-concept character trait. The individual factors with the most positive significant predictive relationships were found with importance of promoting racial understanding, student clubs or groups (hrs per wk), and exercising/sports (hrs per wk).

In respect to student peer relationships and overall self-ratings of the compassionate self-concept character traits and college student peer interactions during the first three years of college, according to responses of the same students in the spring of their third-year of college, had a significant predictive relationship with every compassionate self-concept character trait. The individual factors with the most positive significant predictive relationships were interpersonal skills, socialized w/someone of different racial group, importance of promoting racial understanding, get along with people of different race or ethnic group, friends share religious/spiritual values, friends searching for meaning/purpose in life, socializing with friends (hrs per wk), as well as participated in leadership training. Under compassionate self-concept character, partying (hrs per wk) had a negative predictive relationship for both prior year activities entering college and activities during college for altruism, empathy, kindness, and patience.

From a thematic perspective once again, sensitivity to racial understanding as well as friendships which transcended racial, religious, or cultural boundaries had a positive impact as can be seen in student responses to socialized w/someone of different racial group, get along with people of different race or ethnic group, and importance of promoting racial understanding. One can also see that peer relationships go beyond mere socializing to the deeper levels of faith, values, and meaning of life which can be seen in the relative strength
of responses to friends share religious/spiritual values, and friends searching for meaning/purpose in life. There was also a significant positive predictive relationship with interpersonal skills, as well as participated in leadership training and the compassionate self-concept self-ratings. Exercising/sports (hrs per wk) had a positive predictive relationship with the compassionate self-concept set of character self-ratings, and underscores the social facet of sports and exercise. Not surprisingly socializing with friends (hrs per wk) also had a positive impact on character ratings. Such healthy positive peer relationships may help foster pro-social character development in college students.

Student peer relationships and self-ratings of the social character traits, including cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-awareness, self-confidence (social), self-understanding, and understanding of others), as a whole, and activities in the year prior to entering college and related goals and values entering college had a significant predictive relationship with all of the social character traits with the exception of self-understanding. The individual factors with the most positive relationships were found with importance of helping to promote racial understanding, socializing with person of a different racial background, student clubs (hrs per wk), and exercising or sports.

College student peer relationships during the first three years of college according to responses of the same students in the spring of their third-year of college had a significant predictive relationship with all of the self-ratings of the social character traits. The individual factors with the most positive significant relationships were found with importance of helping to promote racial understanding, interpersonal skills, socialized w/someone of different racial group, friends share religious/spiritual values, friends searching for meaning/purpose in life, and took leadership.

Under social character, partying (hrs per wk) had a negative predictive relationship for both prior year activities entering college and activities during college for humility, respectfulness, and self-understanding (college activities only), while having a positive predictive relationship with open-mindedness and social self-confidence.
From a thematic perspective, again sensitivity to racial understanding as well as friendships that transcended racial, religious, or cultural boundaries had a positive predictive relationship with social character traits, which can be seen in student responses to importance of promoting racial understanding and socialized w/someone of different racial group. One can also see that peer relationships go beyond mere socializing to the deeper levels of faith, values, and meaning of life also seemed to predict higher self-ratings in the social set of character self-ratings as there was a significant positive relationships with “friends who shared their religious/spiritual values,” “friends who searching for meaning/purpose in life.” There was also a there was a significant positive predictive relationship between interpersonal skills, as well as participated in leadership training and the social character self-ratings. Exercising/sports (hrs per wk) had a positive relationship with the social set of character self-ratings, and underscores the social facet of sports and exercise. Not surprisingly socializing with friends (hrs per wk) also had a positive relationship as well. Such healthy positive peer relationships help foster pro-social character development in college students.

In respect to other collegiate outcomes, including emotional health, physical health, spirituality, religiousness, satisfaction with sense of community, satisfaction with relevance of coursework, satisfaction with interaction with students, and satisfaction with overall college experience, the areas vary considerably and so are best considered on their own. However, one cannot resist some very general remarks. In respect to student peer relationships in the year prior to entering college and related goals and values upon entering college there was significant predictive relationship with all of the other collegiate outcomes except emotional health. The individual variables with the most positive predictive relationships were found with exercising or sports, and student clubs or groups (hrs per wk).

In respect to student peer relationships in college and related goals and values and overall other outcomes, according to responses of the same students in the spring of their third-year of college, college student peer interactions had a significant predictive relationship with every outcome under other collegiate outcomes. The individual variables with the most positive predictive relationships were participated in leadership training, friends share
religious/spiritual values, student clubs or groups (hrs per wk), rated themselves higher in interpersonal skills, socializing with friends (hrs per wk), and exercise or sports (hrs per wk). There was also some positive impact with friends searching for meaning/purpose in life, socialized with someone of different racial group, and importance of promoting racial understanding all had a positive predictive relationship.

It is noteworthy that partying had interesting predictive relationships with a number of character traits some negative others positive. Under achievement-oriented character, partying (hrs per wk) had a positive correlation with courage (prior year activities) and a negative correlation with dependability (both prior year activities entering college, and activities during college). Under compassionate self-concept character, partying (hrs per wk) had a negative predictive relationship for both prior year activities entering college and activities during college for altruism, empathy, kindness, and patience. Under social character, partying (hrs per wk) had a negative predictive relationship for both prior year activities entering college and activities during college for humility, respectfulness, and self-understanding (college activities only), while having a positive predictive relationship with open-mindedness and social self-confidence. Under other collegiate outcomes, partying (hrs per wk) had a negative predictive relationship for both prior year activities entering college and activities during college for spirituality, religiosity/religiousness, and satisfaction with sense of community; as well as emotional health (college activities only). (It is also well to note that partying was not defined in a specific manner and is open to some interpretation, though college students as a whole seem to share a common understanding.)

From a thematic perspective, there was a significant positive predictive relationship between interpersonal skills, as well as participated in leadership training and other collegiate outcomes. Not surprisingly socializing with friends (hrs per wk) also had a positive predictive relationship. One can also see that peer relationships that go beyond mere socializing to the deeper levels of faith, values, and meaning of life also seemed to predict higher self-ratings in other collegiate outcomes as there was a significant positive impact with “friends who shared their religious/spiritual values,” “friends who searching for meaning/purpose in life.” Again sensitivity to racial understanding as well as friendships
that crossed racial, religious, or cultural boundaries had a positive predictive relationship with other collegiate outcomes, which can be seen in student responses to importance of promoting racial understanding, and socialized w/someone of different racial group. Exercising/sports (hrs per wk) had a positive impact on other collegiate outcomes, and underscores the social facet of sports and exercise. Such healthy positive peer relationships may help foster pro-social character development in college students.

In addition to learning vital information and skills related to knowledge, college students are presented with the opportunities to manage their life and freedom and acquire a stronger set of social skills as well as the opportunity for community service. The opportunities related to forming student peer relationships may well form a very vital set of habits and strengthen pro-social character qualities that shape individuals to become more engaged and participatory citizens.

Socializing is one of the activities college students will pursue with passion and energy, so colleges would do well to do all that can be done to make peer socialization as positive and productive as possible.

Rather than viewing this sort of activity as extra-curricular, colleges may well want to continue to increase emphasis in this range of activities as vital co-curricular activities that are part of the very mission of colleges that take a view toward a holistic education and development of students and continue to strengthen opportunities to shape these relationships by such activities as racial/cultural awareness workshops, and leadership training offered to a larger group of students. Colleges which offer a strong co-curricular or first-year student experience which encourages and offers racial/cultural awareness workshops and leadership training should be encouraged that these activities have a broad positive impact on pro-social character development. Colleges may also want to consider that leadership training had a broad positive predictive relationship with many pro-social character traits as well as other collegiate outcomes and consider offering such courses to more student groups and doing more to promote those programs already in place. Since interpersonal skills impacted such a broad range of pro-social character self-ratings, one of
the most helpful activities might be to include a workshop on interpersonal relationships with the first-year students orientation/experience set of requirements as well as offer occasional workshops or seminars to the students groups and the larger student body. Colleges that encourage a strong peer relationships/groups component in the first-year students experience would do even more to encourage the intentional development of strong positive peer relationships and the pro-social character development. Such activities to promote continued development in inter-personal skills could have a positive impact on a broad range of pro-social character as well as other positive collegiate outcome.

The development of core character traits that the entire college and university where agreement can be shared with students as well as faculty and staff, and extol as defining their culture and community in a positive manner may help in promoting and developing these qualities in college students and the wider community as well. A positive set of character qualities that the entire university community can agree on gives a set of qualities that diverse individuals and groups can unite around in a positive, productive manner.

Table 4.2 Student Peer Relationships and Pro-social Character Development in College

Students (α=.05) (Y = yes, N = no, N/A = not available (for pre-test), or not applicable for all others; F = female, M = male, A&H = Arts and Humanities)

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This research also supports the hypothesis that community service has a significant predictive relationship with pro-social character development in college students. This research also supports the notion that out-of-class experience in such activities as community service can stimulate pro-social character development, which may further support studies that have revealed that college education can help young adults advance to a higher level of moral reasoning but that it is often stimulated by experiences such as community service. Rest (1988), for example, concluded that the development is not attributable to classroom education, and instead is the result of 1) “dilemma discussion interventions” that engage students in actual problem-solving of controversial moral issues; and 2) personality developmental interventions that engage students in service experiences that engage them with needy people. This research would seem to support researchers who have claimed that it is not so much cognitive disequilibrium brought about by moral dilemmas or an introduction to higher levels of reasoning, but rather social disequilibrium in confronting the experiences and needs of others that is the most important factor in facilitating moral development (Haan, 1985; Walker, 1986). Social disequilibrium, according to Haan, is a “holistic, emotional and interactive experience wherein participants expose themselves to others’ complaints and even to the possibility that they themselves may be found morally wanting or even wrong” (Haan, 1985, p.997). Haan further argues that more emphasis should be placed on “the emotional interactive experience of moral-social conflict on moral development” (Haan, p.1005).

The possible positive role of such experiences has been extolled by such scholars as Dewey (1939) who championed the role of actual experience in confronting moral issues, including outside the classroom experiences and Kohlberg (1971) later supported this same concept of engaging in the real world outside the classroom. Most college courses on ethics have ignored this component of moral development. This research also supports the research
that in respect to elementary and secondary education the best programs for moral education and development are those which emphasize the role of community-based volunteer work or community experiences (Heller, 1989; Rozenweig, 1980; Honig, 1990). Research by Nucci (1985) further supported the notion that moral issues are most effective when focused on real life issues enhanced by actual social action. Research by Boss (1994) further supported the claims of Kohlberg (1971) and Dewey (1939) as well as Gardner (1991) regarding the fundamental importance of real life experience in confronting moral dilemmas and stimulating moral development.

The research results contained in this paper would also seem to support the notion that community service may help serve to foster feelings of social disequilibrium, which according to scholars such as Haan (1985) and Walker (1986), social disequilibrium rather than cognitive disequilibrium is more important for moral development of college students. Boss (1994) offers an explanation that the combination of social disequilibrium and cognitive disequilibrium through discussion of moral dilemmas, especially those dilemmas that arise out of community service work, combine to facilitate a move from conventional to post-conventional principled moral reasoning; which would also be in keeping with the findings of Rest (1988). Gilligan’s (1982) has suggested that the fullest potential of development comes from a successful integration of Kohlbergan justice or cognitive functions and the more feminine care or social affective perspectives. Others offer an alternate emphases claiming that the ability to reason combines with moral sensitivity and moral motivation and all come together as components of moral development (Rest, 1984), which can be enhanced by community service learning. Chickering and Reisser (1993) claim that empathy develops as part of mature interpersonal relationships and that college students learn to balance and manage emotions (Cf. Hoffman, 2000). Although moral development is not the same as pro-social character development, it is an integral component of character development. Pro-social character typically connotes a broader set of social and life skills than moral development. However, moral development is an essential component of character development. While it is important to note that theorists often differ over whether the focus of moral development should be moral cognition, moral affect, or moral behavior; there is much to be gained from an approach that is able to embrace
insights from each of these areas. Greek philosophers such as Plato and Aristotle often emphasized teaching that engaged students intellectually, emotionally, and socially, focusing on the three aspects from Greek educational thought: logos or critical thinking, pathos or the emotional make-up including moral empathy, and ethos or the connection between word and action, which might be thought of as modeling and mentoring action of teachers and parents.

One does not need to completely agree with how this particular confluence of forces may work to understand that community service or service learning can be a positive experience for students who can come to understand both intellectually and socially that others live lives less fortunate than they, and that they can also make a positive difference in their lives and society as a whole. Awareness may also be heightened by experiencing firsthand the life challenges less-fortunate families experience. There is also simply the positive reward of working to make a difference in a needed area of the community.

Research into the moral development of college students highlighted that moral development in college students appeared to be stimulated more from social disequilibrium than cognitive disequilibrium. It should not be surprising then that community service, particularly when coupled with a reflective component, has an impact on the pro-social character development of college students. A growing amount of research has shed light on the positive impact of volunteer community service and service learning on psychosocial development of college students. Growing numbers of colleges and universities have been actively encouraging students to participate in volunteer service (Cohen & Kinsey, 1994; Levine, 1994; Markus, Howard, & King, 1993; O’Brien, 1993). A service component has been increasingly a part of college courses (Cohen & Kinsey, 1994; Levine, 1994). While most colleges do not require volunteer service, there is a growing number doing so or contemplating such a requirement (Markus, Howard, & King, 1993). The Campus Compact, a consortium of colleges and universities now numbering over 500, is dedicated to promoting community service among students and faculty.

This research supports the mounting empirical evidence concerning the benefits of community service (Astin, 1993, 1999; Astin & Astin, 1996; Hesser, 1995; Pascarella &
Terenzini, 1991; Batchelder & Root, 1994; Giles & Eyler, 1994; Eyler, Giles & Braxton, 1997; Eyler & Giles, 1999; Markus, Howard, & King, 1993; Rhoads, 1997). Research conducted by Astin & Sax (1998) suggests that community service positively affects student’s short-term cognitive and affective development. Among other things community service positively affects student’s commitments to their communities, helping others in difficulty, promoting racial understanding, and to influence social values. In their 1999 longitudinal study, Astin, Sax, & Avalos (1999) also found that a number of these outcomes had long-term effects lasting five years after graduation. Even though the effects were mitigated over time, there were long-term lasting effects on student’s affective, cognitive and behavioral outcomes. This study was further enhanced by Astin’s (2000) research on the effects of service learning in college education. Service learning is community service with an added element of academic reflection and discussion that positively enhances the impact of the experience on student’s lives. One might add that the latter may also enhanced by the feelings of self-efficacy and self-confidence that accomplishing tasks can bring about such as the results of community service.

Engagement in community service may help students identify themselves as moral agents (Boss, 1994), which in an important component of motivating one to engage in moral action (Rest, 1984; Blasi, 1983). According to Rest (1984) it is also important for students to meet role models who are successful in their fields and who are concerned about moral issues and are furthermore “active moral agents in a wider social world” (Rest, 1984, p.26). The broader experience of community service particularly with mentoring individuals is a valuable resource and relationships for such an experience (Cf. Boss, 1994). It is also important for moral development, according to Rest, for students to meet role models who are happy and successful in their fields, and who are concerned about moral issues and are "active moral agents in a wider social world" (Rest, 1984, p. 26). Bringing together the combined elements of faculty-student interactions and student peer relationships within a positive experience in community service offers a context for pro-social development of college students. (Though by no means necessary, for some students this may also involve the additional element of spirituality.)
The bottom line in much of the study is that classroom learning alone will not provide the stimulus needed for development in psychosocial dimensions such as moral development and civic-mindedness. Community service is one valuable avenue of learning that provides the kind of engagement students need for optimum psychosocial development in areas such as morality, social responsibility, character and values. Programs that engage students in local community problems or social issues provide a context for understanding of social problems and positive civic engagement. Community service programs such as building homes for the under-privileged with Habitat for Humanity also have a positive impact on the development of pro-social values and character. Programs that engage students overseas in digging wells or building irrigations systems, or offer creative programs for under-served people, provide a valuable community service, as well as engage students in problem solving, cross cultural communication, and global understanding. This is further heightened by the reaffirming social experience with other students and building relationships across boundaries and backgrounds with other students as well as people in the community.

Community service can be a very valuable way for colleges and universities to promote the development of pro-social character in college students as well as educate students to be involved and engaged citizens in the community in college and in their later professional and community lives.

As illustrated in the analysis contained in main body of this paper, student community service variables had a strong predictive relationship with college student self-rated pro-social character. The table with the results of the analysis of the blocks of variables relating to student community service demonstrates the strong predictive relationship these blocks of variables have with each of the character traits along with other collegiate outcomes (p. 285). Student community service activities have the strongest predictive relationship with compassionate self-concept and social character, as might be expected, but also had a considerable predictive relationship with other collegiate outcomes and even achievement-oriented character traits. Although each character self-rating is best examined in detail by itself, it is useful to take an overview of the four main groupings, achievement-oriented, compassionate self-concept, social, and other collegiate correlation outcomes, and make
some summary comments. Again many of the self-ratings could be viewed in more than one grouping, and in some sense they are all inter-related.

Incoming first-year student’s prior-year community service activities and related goals and values had a significant predictive relationship with all of the achievement-oriented character self-ratings, including courage, creativity, dependability, drive-to-achieve, leadership ability, and self-confidence (intelligence). (It is also well to note for those who would like to see and even stronger correlations that may well reflect lack in opportunities for community service for high school students or community service opportunities for non-traditional students.) In respect to individual factors with the strongest predictive relationship were tutoring other students; in respect to related goals and values and entering first-year students the strongest predictive relationship were importance of becoming a community leader, followed to a lesser degree by importance of becoming involved in environmental clean-up, and importance of promoting racial understanding. As previously noted, students seemed to hold negative connotations with participating in a community action program.

College student community service activities and related goals and values, according to responses of third-year college students, had a significant predictive relationship with all of the self-rated character qualities. In respect to individual variables, the strongest significant positive relationship with students who indicated higher self-ratings in respect to the set of achievement-oriented character qualities were once again with the importance of becoming a community leader, followed by volunteering by tutoring other college students and help friends with personal problems. Also noteworthy were the importance of becoming involved in programs to clean up the environment and importance of promoting racial understanding, and perform other volunteer work. (Again students seemed to have a negative opinion of importance of participating in a community action program.)

Community service activities and related goals and values for incoming first-year students had a significant predictive relationship with all of the compassionate self-concept character traits, including altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and patience. In terms of the strongest individual variables,
performing volunteer work for entering first-year students seemed to have a moderate
correlation through either performing volunteer work or tutoring other students (it may be
the case in respect to actual volunteer service that students lacked opportunities for
volunteer service or because of the nature of their involvement), however the goal of
participating in future volunteer work had a relatively strong significant predictive
relationship. In terms of goals and values related to community service and character
qualities that were under compassionate self-concept the strongest factors with entering
first-year students were importance of helping others who are in difficulty, importance of
helping to promote racial understanding, the goal to participate in community service, and
importance of becoming a community leader all had strong significant positive correlations
with these character qualities.

College community service activities and related goals and values, according to responses of
third-year college students, had a significant predictive relationship with all of the
compassionate self-concept character traits. Individual variables with significant positive
predictive relationships were goals and values including importance of helping others who
are in difficulty, importance of becoming a community leader, importance of helping to
promote racial understanding, importance of becoming involved in programs to clean up the
environment. In terms of community service/volunteer activities, there was a general
significant positive relationship with volunteer activities with the strongest overall in helped
friends with personal problems, helped at local houses of worship, tutor other college
students, as well as performed other volunteer work, and donated money to charity.

Involvement in community service and related goals and values for incoming first-year
students had a significant predictive relationship with all of the social self-concept character
traits, including cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-
awareness, self-confidence (social), self-understanding, and understanding of others). In
terms of the strongest individual variables, actually performing volunteer work in the
previous year for entering first-year students seem to have a moderate correlation, and may
have been stronger had students been offered more opportunities for volunteer service. In
terms of related goals and values future volunteer work had a strong relationship with social
character traits including importance of helping others who are in difficulty, importance of helping to promote racial understanding, importance of becoming a community leader, and importance of becoming involved in environmental clean-up.

College community service activities and related goals and values, according to responses by third-year college students, had a significant predictive relationship with all of the compassionate self-concept character traits. In terms of individual variables there was a strong positive relationship with students who indicated a higher importance for goals and values for the importance of becoming a community leader, importance of helping others who are in difficult, importance of helping to promote racial understanding, importance of becoming involved in programs to clean up the environment, and importance of becoming involved in community action programs. In terms of community service/volunteer activities, there was a general significant positive relationship with volunteer activity with the strongest overall in helped friends with personal problems, helped at local houses of worship, performed other volunteer work, and donated money to charity.

In respect to other collegiate outcomes, including emotional health, physical health, spirituality, religiousness, satisfaction with sense of community, satisfaction with interaction with students, and satisfaction with overall college experience, the areas vary considerably and so are best considered on their own. However, one cannot resist some very general remarks.

Involvement in community service and related goals and values for incoming first-year students had a significant predictive relationship with all of the other collegiate outcomes. In respect to the individual factors with the strongest correlations for entering first-year students with these set of characteristics was goal of becoming involved in community service, importance of becoming a community leader, and importance of helping others in difficulty.

College community service activities and related goals and values, according to responses of third-year college students, had a significant predictive relationship with all of the other
collegiate outcomes including emotional health, physical health, satisfaction with sense of community, satisfaction with interaction with other students, and satisfaction with overall college experience. In terms of individual variables with the strongest positive relationships were with students who indicated higher self-ratings in respect to the other collegiate outcomes character qualities in respect to goals and values were importance of becoming a community leader, followed by the importance of helping others in difficulty. In terms of community service/volunteer activities, there was a significant positive relationship with the full range of volunteer activities including tutor other college students, donate money to charity, participate in community food or clothing drives, help friends with personal problems, helped at local houses of worship, and other volunteer activities.

In respect to the importance of participating in a community action program, as opposed to community service, this variable often had a moderate negative relationship with pro-social character development. It appears to be the case that this cohort of students while tending to view volunteer service in a very positive manner, has some negative feelings about community action. It may be that this cohort views community action as more political in nature than simple volunteering or community service.

When examining the impact of community service/volunteer activities and related goals and values on character ratings, findings from this study reflect a significant predictive relationship between these activities, goals, and values and pro-social character development as well as other positive collegiate outcomes. While the positive impact of community service is often exhorted in terms of anecdotal stories and accounts, these findings represent tangible metrics for measuring the positive impact of community service activities, goals and values. In addition to learning vital information and skills related to knowledge, college students are presented with the opportunities to manage their life and freedom and acquire a stronger set of social skills as well as the opportunity for community service. The opportunities related to community service form a very vital set of habits and strengthen pro-social character qualities that shape individuals to become more engaged and participatory citizens.
Many colleges extol the virtues of community service and often give good publicity to students involved in such activities, but still view community service as largely extra-curricular and not at the heart of their mission. Rather than viewing this sort of activity as extra-curricular, or good community relations, colleges may well want to view this range of activities as vital co-curricular activities that can be part of the very mission of colleges that take a view toward a holistic education and development of students. Some colleges and universities have viewed community service/volunteer activities as a core part of their mission and often promote the virtues of such an emphasis, and these findings add weight to their endeavors.

Service learning is also a valuable avenue for promoting community service within the context of the classroom. Service learning takes community service to the next level by incorporating an element of community service with a regular class by making it a natural outgrowth as part of the studies and adding, in addition to participation in some form of related community service, a component of structured reflection in the form of journaling, reflection papers, and group discussions. This has advantages of further connecting class work with the greater community and involving both individual and group reflection to strengthen the depth of the activity and its impact on individuals, groups, as well as those being served, and the greater community. Colleges and universities that want to take a more pro-active role in pro-social character development in college students may want to encourage faculty to add a service learning component to selected courses where it would be relevant and beneficial.

Community service also has an important positive peer relationship component as well as community socialization dimension that work together to create a context for pro-social character to develop and find positive affirmation.

First-year students programs that help students and student groups become familiar with and involved in the range of opportunities for community service and service learning may well expedite and deepen this type of involvement and the actual pro-social character development process. Furthermore, colleges may want to consider encouraging a service-
learning component in many of the courses throughout the range of majors where a component of community service with reflection and discussion would enhance learning, promote civic engagement, and stimulate pro-social character development.

Although colleges and universities often wish to accommodate and even encourage community service and service learning as good community relations or a positive extracurricular activity, colleges and universities may well want to re-assess the strength that such programs offer individual college students in developing pro-social character development, and promote a stronger community within the campus, as well as a strong connection between the campus community and the wider community. Community service and service learning also have the advantage of coupling strong social skills and positive relationships across cultural, racial, religious, and socio-economic boundaries.

Students have heightened motivation when making choices in respect to where they are involved and what issues they are choosing to address. There is additional positive reinforcement when students see they can make a positive difference in impacting social problems and the lives of individual families. This may be further heightened by the reaffirming social experience with other students and building relationships across boundaries and backgrounds with other students as well as people in the community. A broader social awareness may also be heightened by experiencing firsthand the life challenges less-fortunate families experience bringing to mind theories of cognitive disequilibrium and particularly social disequilibrium. There is also simply the positive reward of working to make a difference in a needed area of the community.

In sum, community service activities, and related goals and values proved to add significantly to the model predicting pro-social character development in both blocks for incoming first-year student’s prior year activities and related goals and values entering college, as well as the block for college community service activities and related goals and values as reported by third-year students. Community service can be a very valuable way for colleges and universities to promote the development of pro-social character in college students as well as
educate students to be involved and engaged citizens in the community in college and in their later professional and community lives.

Table 4.3 Community Service and Pro-social Character Development in College Students ($\alpha = .05$)

$Y = \text{yes, } N = \text{no, } N/A = \text{not available (for pre-test), or not applicable for all others; } F = \text{female, } M = \text{male, } A&H = \text{Arts and Humanities}$

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This research also supports the hypothesis that spirituality has a significant predictive relationship with pro-social character development in college students. Though perhaps the more controversial of the main factors due to the vast differences in student and faculty beliefs and backgrounds at most schools, spirituality broadly defined, has a significant predictive relationship with pro-social character development in college students. This research continues to support recent work by Astin and other researchers (Astin & Astin, 2003) and has shed light on the spiritual development of students during their college years and adds weight to the idea that this dimension should be included in the list of factors.

| Opportunity for religious/spiritual reflection | N/A | N/A | N/A | N/A |
| Satisfaction with sense of community | N/A | N | Y | Y (+) |
| Satisfaction with interaction with faculty | N/A | N/A | Y (-) | A&H |
| Satisfaction with relevance of coursework | N/A | N/A | CONT (+) private | A&H |
| Satisfaction with interaction with students | N/A | N | Y | Y (+) |
| Satisfaction with overall college experience | N/A | N | Y | Y (+) |

| | CONT (+) private | Y (-) | Y | A&H |
| | SEL (-) | Y (-) | Y | A&H |
impacting the psychosocial development of college students. This spiritual development is also inter-related to moral, affective and psychosocial development of college students.

Although attendance at religious services declines among most college students during the college years, spirituality remains influential in many student’s lives during their college years. Research by Astin & Astin (2003) reflects notable development during the college years, and much more is to be learned. Survey results show that students experience substantial spiritual change and development in the college years and are actively engaged in a spiritual journey or quest. Results shed light on development of spirituality in college students and the importance of spiritual concerns and development for college students. Students report substantial spiritual change and development during college years, but indicate there is little support from college programs, professors, and classroom engagement (Astin, 2003).

According to research by Astin (2003), over half of all students place a high value on “integrating spirituality into my life” and substantial numbers of 3rd year students express a strong interest in spiritual matters. Students also affirmed that people can reach a higher plane of spiritual consciousness through meditation and prayer (72% agree) and fifty-eight percent of students rated as essential or important integrating spirituality into their life and forty percent indicated they were seeking opportunities for spiritual growth. More than two-thirds of all third-year students demonstrate a substantial level of religious engagement and commitment, with 77% indicating they prayed and 70 % attended a religious service in the past year. Seventy-eight percent indicated they had discussed religion or spirituality with a friend (Astin, p.1, 2). Students further indicated that their religion or spiritual beliefs helped them personally, socially, and emotionally with seventy-three percent indicating faith helped them develop their identity, and seventy-four percent indicating that their faith provided them with strength, support and guidance, while sixty-seven percent indicated that spirituality gave them meaning and purpose to life (Astin, p.3).

Despite these findings on religious commitment, students also expressed a high degree of religious tolerance with eighty-eight percent of students indicating that non-religious people
can lead lives that are just as moral as those of religious people and seventy percent indicating that most people can grow spiritually without being religious.

Spiritual development correlated highly with a number of important areas of civic and social responsibility: In terms of civic responsibility, results strongly supported charitable involvement ($r=.37$) and social activism ($r=.40$). In terms of empathy or understanding of/caring for others, results again strongly supported: “spirituality is positively associated with the importance of “reducing pain and suffering in the world” ($r=.43$); “feeling connected to all humanity” ($r=.41$); and compassionate self-concept ($r=.30$) (p.4). Racial and ethnic awareness and tolerance also had a strong positive correlation to spirituality. Results of Astin’s study strongly supported spirituality being positively associated with promoting racial understanding, attending a racial/cultural awareness workshop, and ability to get along with people of different races/cultures. Substantial numbers of students also rated themselves at least “above average” on various pro-social qualities such as compassion (74%), kindness (74%), helpfulness (71%), generosity (62%), forgiveness (59%), empathy (57%) (p.2).

As illustrated in the preceding analysis, student spirituality variables had a strong predictive relationship with college student self-rated pro-social character as well as other collegiate outcomes. The table with the results of the analysis of the blocks of variables relating to student spirituality demonstrates the strong predictive relationship these blocks of variables have with each of the character traits along with other collegiate outcomes (p. 297). Student spirituality has a much stronger predictive relationship with compassionate self-concept and social oriented character and overall college outcomes than achievement-oriented character. However, it is interesting to note that spirituality can often have a significant predictive relationship with a wide range of character qualities. Although each character self-rating is best examined in detail in itself, it is useful to take an overview of the four main groupings, achievement-oriented, compassionate self-concept, social, and other collegiate correlation outcomes, and make some summary comments. Again many of the self-ratings could be viewed in more than one grouping, and in some sense they are all inter-related.
To reiterate, concerning the areas of self-rating, spirituality and religiousness/religiosity, there is considerable correlation. Again, authors of the survey intentionally reflect contemporary culture that tends to view spirituality as broader and less institutional, and religiousness/religiosity as considered to be more narrow, institutional, and typically identified with a specific religion and its religious practices. Survey questions were intentionally designed to be applicable to all faiths and traditions including non-western religions.

It is noteworthy that although it is well attested that attendance at religious services drops dramatically for students during the college years, spirituality does continue to be a substantial influence on many student’s lives as attested by results in this research.

In respect to the block of student spirituality for incoming first-year students and previous year activities and related goals and values had a significant predictive relationship with three of the achievement-oriented character traits including courage, creativity, and drive-to-achieve. It might be expected, and indeed is the case, that spirituality does not have as strong of an influence on achievement-oriented character self-ratings as with compassionate self-concept, social, and other collegiate outcomes. However, some of the stronger individual variables were attended a religious service, prayer/meditation.

In respect to student spirituality and overall self-ratings of the achievement-oriented characteristics and related college student goals and values, there was a significant positive impact with all of the character traits. In respect to individual variables, the strongest correlations were found in find religion to be personally helpful, importance of developing a meaningful philosophy of life, “spiritual beliefs help define the goals I set for myself”, as well as some spiritual practices such as practice prayer, and practice meditation.

In respect to the block of student spirituality for incoming first-year students and previous year activities and related goals and values entering college had a significant predictive relationship with all of the compassionate self-concept character traits, including altruism, compassion, empathy, forgiveness, generosity, gratefulness, helpfulness, kindness, and
patience. In respect to individual variables, the strongest predictive relationships were found in importance of integrating spirituality into daily life, prayer/meditation (hrs per wk), and importance of developing a meaningful philosophy of life.

In respect to student spirituality and overall self-ratings of the compassionate self-concept characteristics and related college student goals and values according to students in their third year of college, there was a significant positive impact with all of the character traits. In respect to individual variables, the strongest correlations were found in acceptance of people with different religious/spiritual values, practice meditation, and religious beliefs and convictions strengthened in college. Spiritual concerns did not preclude the respect for the spirituality of others as accept others with different spiritual/religious practices figured prominently. Not only does this underscore the importance of spirituality in the lives of many students and some if its positive ramifications, it also once again underscores that a strong sense of spirituality does not preclude accepting others with different beliefs and backgrounds.

Many students find in spirituality a significant positive impact in shaping their life direction as indicated in responses to such variables as spiritual beliefs help define goals, importance of integrating spirituality into life, importance of developing meaningful philosophy of life. The importance of spiritual practices for students was found in the frequency of importance of looking for opportunities to grow spiritually, as well as spiritual practices such as practice prayer, meditation, religious singing, and found new meaning in rituals and practices of my religion.

Practical resource of spirituality for students was underscored with responses such as spiritual beliefs provide me with strength, support, and guidance, and find religion to be personally helpful, and attended a retreat/workshop/class on religion/spirituality.

The importance of peer relationships in spirituality was found in friendships that shared religious/spiritual values or which included, and friends searching for meaning/purpose in life.
In respect to the block of student spirituality for incoming first-year students and previous year activities and related goals and values, had a significant predictive relationship with all of the social character traits including cooperativeness, humility, loyalty, open-mindedness, respectfulness, self-awareness, self-understanding, and understanding of others, with the exception of self-confidence (social). In respect to individual variables, the strongest correlations were found in importance of developing a meaningful philosophy of life, prayer/meditation (hrs per wk), and importance of integrating spirituality and life.

In respect to student spirituality and overall self-ratings of the social characteristics and related college student goals and values according to responses of the same students in their third year of college, there was a significant positive predictive relationship with all of the character traits. In respect to individual variables, the strongest positive relationships were found with practice meditation, religious beliefs and convictions strengthened in college, develop meaningful philosophy of life, and found new meaning in the rituals and practices of my religion, integrate spirituality into daily life, friends share religious/spiritual values, attended a class/workshop/retreat on spirituality. Spiritual concerns did not preclude the respect for the spirituality of others as acceptance of people with different religious/spiritual values also figured prominently.

In respect to other collegiate outcomes, including emotional health, physical health, spirituality, religiousness, satisfaction with sense of community, satisfaction with interaction with faculty, satisfaction with relevance of coursework, satisfaction with interaction with students, and satisfaction with overall college experience, the areas vary considerably and so are best considered on their own. Of particular note is that religiosity/religiousness and spirituality are part of the other collegiate self-ratings and as such therefore have a close relationship to the factors related to spirituality. However other outcomes show significant and interesting relationships.

In respect to the block of student spirituality for incoming first-year students and previous year activities and related goals and values had a significant predictive relationship with all of
the other collegiate outcomes with the exception of physical health. The strongest positive predictive relationships for individual variables with other collegiate outcomes as a whole were with importance of integrating spirituality into my life, attended a religious service, and prayer/meditation (hrs per wk).

In respect to college student spirituality and overall ratings of the other collegiate outcomes and related college student goals and values according to the responses of the same students in their third year of college, there was a significant positive impact with all of the self-ratings. In respect to individual variables, the strongest predictive relationships were found with religious beliefs and convictions strengthened in college, friendships which shared religious/spiritual values, and accept people of different religious/spiritual values, attend religious services, attended a class/workshop or retreat on matters related to religion/spirituality, and spiritual beliefs are one of the most important things in my life, importance of integrating spirituality into life, importance of seeking opportunities to grow spiritually, find religion/spirituality to be personally helpful, and religion spirituality one of the most important things in my life.

From a thematic perspective, spiritual practices such as practice prayer, practice mediation figured prominently as did attended religious services, as did found new meaning in rituals and practices of my religion, attended a class/workshop or retreat on matters related to religion/spirituality.

Spiritual concerns did not preclude the respect for the spirituality of others as accept others with different spiritual/religious practices figured prominently. Not only does this underscore the importance of spirituality in the lives of many students and some if its positive ramifications, it also once again underscores that a strong sense of spirituality does not preclude accepting others with different beliefs and backgrounds.

Many students find in spirituality a significant positive impact in shaping their life direction as indicated in responses to such variables as spiritual beliefs help define goals, importance
of integrating spirituality into life, importance of developing meaningful philosophy of life, importance of looking for opportunities to grow spiritually.

Practical resource of spirituality for students was underscored with responses such as spiritual beliefs provide me with strength, support, and guidance, and find religion to be personally helpful, and attended a retreat/workshop/class on religion/spirituality.

The importance of peer relationships in spirituality was found in friendships that shared religious/spiritual values or which included, and friends searching for meaning/purpose in life.

In addition to learning vital information and skills related to knowledge, college students are presented with the opportunities to manage their life and freedom and acquire a stronger set of social skills as well as opportunities for spiritual growth and development. The opportunities related to spiritual growth and development or religious expression may well form a very vital set of habits and strengthen pro-social character qualities that shape individuals to become more engaged and participatory citizens. It is important to reiterate that spirituality here is broadly defined and not specific to one religion or belief system.

For colleges that have a religious or philosophic component as part of their mission, this may reinforce the importance of such activities and components. It is also well to recognize that student’s overall attendance at religious services drops dramatically in college. However, this does not seem to indicate that spirituality is less important. Despite this drop in attendance at religious services, students indicate spirituality however they might define it, continues to be important or even grows in importance as do many religious activities such as prayer, meditation, and reflection, as well as charitable involvement such as performing community service of various types or donating money to charities. Providers of religious services may well want to probe student expectations, needs, and desires to find out what is most relevant to student spirituality. Such colleges and universities, rather than viewing this sort of activity as extra-curricular, may well want to increase emphasis on this range of
activities as vital co-curricular activities that are part of the very mission of colleges that take a view toward a holistic education and development of students.

While Astin’s study (2003) emphasizes that students experience substantial spiritual change and development in the college years and are actively engaged in a spiritual journey or quest; students however report little support for spiritual change, development and growth during college years. According to the findings, colleges programs, professors or classroom engagement do not seem to provide much support for the questions students have during these years: Over half the students report that their professors never encourage discussion of religious/spiritual matters (62%); and 56% report that their professors never provide opportunities to discuss the purpose/meaning of life (Astin, p.3). Astin’s work demonstrates that spirituality is an important area of many college students’ lives and seems to have a correlation with pro-social character and values. Therefore it seems to be an important factor to include among other factors in this study.

Colleges and universities that are not religious or philosophic in nature, may want to recognize that the college years are a time of important spiritual exploration and development for students and want to identify and support a broad range of opportunities that are offered by the campus community or wider community.

Once again to reiterate comments made under faculty-student interactions, there was surprisingly broad positive impact of opportunities to discuss the purpose/meaning of life, encouragement to discuss religious/spiritual matters, by faculty. This was not simply in religious or private schools, but seemed to have a positive impact for most though not all of the character self-ratings in the public universities. Clearly this sort of opportunity occurs more naturally and more often in religious or private institutions which have as part of their mission some religious or philosophic purpose, and would also occurs more often in classes that are religious or philosophic in nature. However, it might be noted that the variable did not specify that the students were lectured by faculty on the meaning/purpose of life or religious/spiritual matters but were given the opportunity to discuss such themes. Faculty less comfortable with religious/spiritual or philosophic discussions might well note that
simply being able to facilitate such discussions when they are appropriate in a way that honors diversity of background and belief and the opinion of every individual is interesting and stimulating to students. Institutions may well consider holding occasional workshops that might help faculty know the best ways to facilitate such discussions. These deeper level discussions have often been some of the most innovative and influential in all of history as one can see in discussions promoted by teachers as diverse as Socrates, Plato, and Aristotle as well as Jesus, Buddha and Mohammad, all of which have had lasting impact on the societies of the world however, individuals may choose to view them.

Many spiritual goals, values, and activities have a positive impact on pro-social character development. This may work well with colleges and universities who have as part of their mission to promote some form of spirituality. However, many colleges and universities who are either not religious in orientation or state colleges and universities that are expressly religiously neutral may find relating at all to the spiritual dimension of student development uncomfortable. However, it is helpful to be reminded that the term spirituality was developed and here is used intentionally in the broadest possible manner and not meant to promote any specific religion, religious group, or belief; so also colleges and universities may find it helpful to simply support groups that offer such groups and activities on campus as long as they are not of a “cult-like” ilk and make students aware of the existence of these groups and activities along with all the other campus groups and activities that are offered. More colleges and universities are doing precisely this in the light of findings that have come from the results of the HERI’s findings from the CSBV.

Furthermore, colleges and universities may find in the theme of character development a way to bring together a broad and diverse group of religious and spiritual groups and relate their activities at least in part to character development as well as spiritual development. Moreover, this also gives a range of discussion that relates these religious/spiritual groups and activities to the broader campus groups and activities whereby they can come together and acknowledge those character components that they all can agree on even if there might be some character traits that they might that they differ.
Findings from the study may also motivate more colleges and universities across a wide spectrum to consider adopting a series of positive character goals for their institution that would apply to students, faculty and staff. This would not simply be in the form of prohibitive statement, but in the form of positive statements of values and character that inspire pride and community. The institutions could further promote and reinforce by being intentional about their prominence in the culture and even giving honors for outstanding character. The development of core character traits that the entire college and university where agreement can be shared with students as well as faculty and staff, and extol as defining their culture and community in a positive manner may help in promoting and developing these qualities in college students and the wider community as well. A positive set of character qualities that the entire university community can agree on gives a set of qualities that diverse individuals and groups can agree upon and unite around in a positive, productive manner.

Character offers an avenue of embraces a wide range of variables and allows a community to relate varying facets of human behavior and psychosocial development to the context of community and discuss differences of background, belief, belonging, and commitment and relate it to a common theme both ancient and modern.

When examining the impact of the four major factors that are the primary focus of this study including faculty-student interactions, student peer relationships, community service, and spirituality and their impact on pro-social character development in college students, these findings reflect consistent findings that the activities, goals, and values related to each of these major areas support pro-social character development. While the positive impact of each of these major factors is often exhorted in terms of anecdotal stories and accounts, these findings represent tangible metrics for measuring the positive impact of faculty-student interactions, positive peer relationships, community service, and student spirituality. In addition to learning vital information and skills related to knowledge of academic disciplines, college students are presented with the opportunities to become involved in a range of activities and relationships which can serve to form a very vital set of habits and strengthen
pro-social character qualities. These qualities may further shape individuals to become more engaged and participatory citizens.

Many colleges extol the virtues of one or more of these areas and even offer good publicity to quality faculty-student relationships, positive student peer relationships and activities, student community service activities, and in some cases, spirituality. Colleges and universities may well want to heighten emphasis in these programs that can be part of the very mission of colleges that take a view toward a holistic education and development of students. While requiring students to become involved in any of these areas may in some sense defeat the core purpose of this range of activities and relationships, colleges and universities can create an environment that supports students being actively engaged in the kind of activities and relationships that build pro-social character and help students develop into engaged citizens in a responsible society and global community.

Colleges and universities may also want to re-assess the strength that such programs offer individual college students in developing pro-social character development, and promote a stronger community within the campus, as well as a strong connection between the campus community and the wider community.

Student spirituality may be the area that would be most controversial since state institutions as well as many private educational institutions want to remain neutral in terms of religion. However, it is important here to remember that the study has looked at spirituality broadly defined and not related to a specific religion. Colleges may create an environment that supports spiritual exploration and involvement that is positive and respects the diversity of religious expression of the academic community and the wider global community. Students can also be encouraged to understand the beliefs of others in a respectful way that can encourage religious understanding and tolerance that is helpful for both a communal and global perspective.
Table 4.4 Student Spirituality and Pro-social Character Development in College Students

\( (\alpha = .05) \ (Y = \text{yes}, \ N = \text{no}, \ N/A = \text{not available (for pre-test), or not applicable for all others;}) \ F = \text{female}, \ M = \text{male}, \ A&H = \text{Arts and Humanities}) \)

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These major factors of faculty-student interactions, positive peer relationships, community service, and student spirituality provide avenues of pro-social character development that are positive for students as well as the academic community, the local community, as well as society at large. It is also hoped that colleges can find a useful and productive common denominator in talking about character that is deeper and more profound than simply the admonitions to not participate in unethical conduct, but embraces positive pro-social character that can better support and encourage students to embrace character that helps them lead positive and productive lives that are engaged in the local and global community. The study will hopefully add important understandings concerning the holistic development of college student in terms of pro-social character development, as well
as focus on what colleges could do to create an environment that would support and facilitate the development and reinforcement of pro-social values and character in college students, who in the truest sense hold in their hands the seeds of the future of our communities and the global community.
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BIBLIOGRAPHY


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APPENDICES
Appendix A.

Overview of Major Relevant Surveys:

- **General Experience/Information Surveys:**
  - College Student Expectations Questionnaire (CSXQ)
  - College Student Experiences Questionnaire (CSEQ)
  - CIRP First-year students Survey; also known as the Student Information Form (SIF); previously sometimes known as First-year students Year Survey (FYS)
  - Your First College Year Survey (YFCY); previously known as Early College Experiences Survey (ECES)
  - College Senior Survey (CSS) upper classmen; previously College Student Survey (CSS)
- **Development Intellectual**
  - Scale of Intellectual Development
- **Development Personality & Relationships Oriented**
  - Omnibus Personality Inventory (OPI)
  - Mines-Jensen Interpersonal Relationship Inventory (MJIRI)
  - Self-Perception Profile for College Students
- **Beliefs, Values, Behavior & Spirituality**
  - College Student Beliefs & Values (CSBV)
  - Rohrbaugh-Jessor Religiosity Scale
  - **Beliefs, Values, Behavior**
    - Rokeach Values Survey
    - Ethics Position Questionnaire (EPQ)
    - Values and Behavior Scale
    - Measure of Moral Values
- **Development Based on Kohlberg’s Stages**
  - Defining Issues Test (DIT) --Kohlberg’s 6 stages
  - Moral Judgment Interview --Kohlberg’s 6 stages
  - Social Reflection Questionnaire --Kohlberg’s 6 stages
  - Moral Judgment Test --Kohlberg’s 6 stages though more specifically Rest’s DIT
  - PROM (Pro-social Moral Reasoning) --Kohlberg’s 6 stages (related to)
- **Development Based on Chickering’s 7 Vectors**
  - Iowa Developing Autonomy Inventory Scales (IDAIS) --Chickering’s 7 Vectors
  - Student Development Task and Lifestyle Inventory (SDTLI) --Chickering’s 7 Vectors
  - Student Development Task and Lifestyle Assessment (SDTLA) --Chickering’s 7 Vectors
Appendix B.

Possible Model for Understanding Character Development

Figure B.1 Possible Model for Understanding Character Development

Possible Proposed Conceptual Model of College Student’s Values and Character

The diagram of the conceptual model represents a basic understanding of how values, behavior, and character are formed and the respective impact of significant individuals and groups.

The basic conceptual model is that an individual’s character is formed by genetics and gradually by values inculcated by the family and the community, including significant individuals and groups, which impacts behavior, and finally forms a more enduring character. Values, behavior, and character are all significantly impacted by the influence of role models and reinforcement by these significant individuals and groups. Furthermore, this influence is strongest when there is the maximum amount of congruence between the family and the community, and internal congruence between the significant individuals’ words and their actions.
**Impact of Role Models & Reinforcement:** Role models and reinforcement of character by individual accolades or affirmation is one of the strongest ways that a person grows to either affirm their values, behavior, and character, or one of the important ways that a person receives incentives to change and modify their values, behavior, and character. Significant role models and reinforcement can be found in families, both immediate family members and significant relationships among other relatives.

Significant role models and reinforcement are found in the culture and community in general, but more importantly in relationship to significant individuals, such as teachers, coaches, peers, as well as significant groups, such as interest groups, religious groups, sports groups, and other significant individuals or groups.

**Family Influence:** Family influence is by far the strongest formative force on values, behavior, and character early on, but finds competition as a child grows older with the larger community through school, peers, interest groups, and mentors, as well as the impact of mass media and the broader culture. It is important to note that although the conceptual model has family influence on one side and community on the other, it is not necessary that these are competing forces, and it is noteworthy that in a very real sense family is also part of community. However for the purposes of measuring the significant predictive relationship of family and community it is helpful to look at them as separate.

**Community Influence** (including school, peers, interest groups, and mentors): these factors are very important in the formation of character particularly as a child grows older, and increasingly in the college years, as a young adult continues to re-evaluate all that they have been taught to believe by family and earlier community influences.

**Peer/Interest Groups** - the various groups that an individual belongs to where common interest is the leading motivation to belonging to a group. These relationships can have a significant predictive relationship with a person’s values, behavior, and character over time.
Interest groups cover a wide range including general interest activities, sports groups, field of study groups, service groups, and religious groups.

**Spirituality & Faith Groups:** Spirituality or faith groups are a subset of interest groups, but are important to note since they often claim as a goal to impact and shape the values, behavior, and character of individuals. The impact of these groups has often been overlooked until more recent work, such as the studies by Dr. Alexander Astin and the Higher Education Research Institute at UCLA. The spiritual development of college students can be looked at as part of the holistic development of students, and it also overlaps the general development of character, the focus of this study is the latter.

**Leadership Roles/Development:** An important area of development that touches various areas of a student’s development including personally and socially, and may also touch emotional and spiritual development.

**Congruence:** between family influences and various community influences increases the impact on character development. The greater the congruence within the family or within the community influences the greater the impact of the overall community. The greater the congruence between family and community influences the greater the impact and formative force on most young people.

**Incongruence:** Conversely, the more incongruence there is between family members or incongruence between family and community forces or within the community influences themselves the less the impact on the young person’s character formation. It is hoped that this research will add significantly to understanding how college students develop holistically in terms of values, behavior, and character, and the ways in which individuals and groups in the family and the community including the campus community can have a significant predictive relationship with their development.
VITA
VITA

T.J. Jenney

EDUCATION

Purdue University, Ph.D. Educational Psychology and Higher Education Administration, 2010.
Dissertation: “The Holistic Development of College Students: Psychosocial & Emotional Development of College Students in Relation to Pro-social Character Development.”

Yale University, S.T.M., Philosophical Theology, 1985

Yale University, M.Div., 1983
Concentration: Historical Theology and Intellectual History

Evangel University, BA Religious Studies, 1979
Minors: Literature and Biblical Languages, Theta Alpha Kappa Distinguished Biblical Studies Award, Honors.

PROFESSIONAL EXPERIENCE

President & CEO, Habitat for Humanity of Coastal Fairfield County (2008-2009)
Responsible for overall leadership and operation of Habitat affiliate building 12-15 homes a year including multiple unit complexes of condominiums and townhouses along with traditional houses. Leadership of staff of 20 including construction, family services, volunteers, development, & Restore. Experienced in budget planning & development, publications, public relations, grant-writing, government relations, and fund raising. Excellent relationships with government leaders as well as corporate, community, faith groups, and educational groups.

Senior Pastor/Director of Campus Ministry, University Church at Purdue (1996-2008)
Responsible for providing leadership and pastoral direction to college students, faculty and staff from six mainline denominations, including leading worship services, fellowship activities,
service projects, mission programs, annual spring break mission trip, small group development, leadership development, and counseling. Also published newsletter, develop alumni relations, budget planning and fund raising. Maintain relationships with supporting denominations. Frequent participant in Purdue commencement ceremonies. Responsible for maintaining and improving large facility. Faculty Advisor for various groups including Campus Christian Fellowship; Youth Advocating Leadership & Learning; fraternity, Faculty Fellow residence halls; Fire-police Chaplain.

Adjunct Professor in Organizational Leadership & Development, Purdue University (part-time 1998-2008)
Lecturer in the Department of Organizational Leadership and Supervision at Purdue University. Taught classes on leadership, business management, organizational development, strategic planning, budget planning, team building, marketing, staff motivation and development, conflict management, and change management.

Volunteer Chaplain, Police Department and Fire Department
Responsible for acting as chaplain to the officers and their families, as well as rendering pastoral services to any community people that would need such as in the case of death notifications, serious traffic accidents, suicides and other traumatic events. Also served previously chaplain for the Purdue Police Department and Purdue Fire Fighters.

Pastor & Associate Pastor, various churches
Responsible for ministry to mid-sized churches in CT and VA, including worship, education, administration, fellowship activities, service projects, fund-raising and budget planning. Served on numerous local and regional committees. Responsibilities included ministry, education, fellowship, service, and leadership development.

Assistant Chaplain, Connecticut College, New London, CT and Westminster College, New Wilmington, PA
Responsible for assisting with student leadership development, student activity groups, counseling, chapel, issue forums, and volunteer office. Worked closely with Dean of Students Office and all student services personnel.
PUBLICATIONS
PUBLICATIONS

