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PREVIEW

**DEVELOPMENT AND VALIDATION OF A COLLEGE  
RESILIENCE QUESTIONNAIRE**

by

**Deborah Jean Carlson**

**A DISSERTATION**

**Presented to the Faculty of**

**The Graduate College at the University of Nebraska**

**In Partial Fulfillment of Requirements**

**For the Degree of Doctor of Philosophy**

**Major: Interdepartmental Area of Psychological and Cultural Studies**

**Under the Supervision of Professors Gregory Schraw and Christy Horn**

**Lincoln, Nebraska**

**August, 2001**

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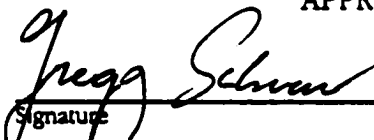
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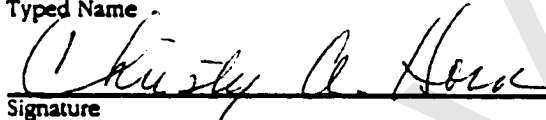


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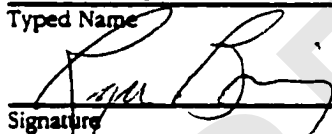


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GRADUATE COLLEGE  
UNIVERSITY OF NEBRASKA

**DEVELOPMENT AND VALIDATION OF A COLLEGE  
RESILIENCE QUESTIONNAIRE**

**Deborah J. Carlson, Ph.D.**

**University of Nebraska, 2001**

**Advisors: Gregory Schraw and Christy Horn**

Resilience is a complex interaction of risk factors and protective factors that lead to positive developmental outcomes. The transition from high school to college introduces new risk factors (e.g., loneliness, financial) and the need for new or altered protective factors (e.g., social and problem solving skills). Reasons for dropping out are many, ranging from lack of long-term goals and commitments to a sense of isolation and not belonging. Two factors that have been found to promote persistence in college are academic and social engagement (Tinto, 1993). Both constructs have also been linked to increasing long-term goals, problem solving and social skills in students (Pascarella, 1989).

This dissertation describes the development and initial validation of the College Resilience Questionnaire (CRQ), an instrument designed to predict students' resilience via the two constructs of academic and social engagement. Because of the exploratory nature of this research, three separate studies were conducted. The common goals of each study were to determine the factor structure of the CRQ and

to evaluate the internal consistency of each factor. The intent of Study 1 was to validate the CRQ by testing the convergent and discriminate validity of the instrument. The intent of Study 2 was to look at the relationship of the CRQ to a number of behaviors in which students engage in an attempt to view the aspects of the classroom environment that impact resilience. The intent of Study 3 was to test the predictive validity of the CRQ with intent to persist in college. The items in the CRQ were modified after each study to reflect the new information provided by each study. The final version of the CRQ is a more concise 27-item scale that is an improvement over the original 40-item scale, in that the factors correlated better with behaviors. The initial evaluations of the psychometric properties of the CRQ are reported and directions for future research are considered.

PREVIEW

## ACKNOWLEDGEMENTS

I would like to dedicate this book to my children, Todd, Jon, Lindsey and Laurie, in hopes that they will always set high goals and go after their own dreams. To my husband Duane, thanks for your never-ending love and support that kept me going.

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PREVIEW

## CHAPTER 1

### INTRODUCTION

The past decade ushered in positive psychology as a way of understanding human development. Seligman and Csikszentmihalyi (2000) argue that the challenge of future psychology is not just to study and try to fix pathology, weakness, and damage, but also to study and nurture strength and virtue. Resilience theory is designed to capitalize on positive human functioning by focusing on human strengths (often referred to as protective factors) in overcoming adversity. The basis of resilience theory is the belief that every person can overcome adversity if important protective factors are present in that person or their environment (Krovetz, 1999). The concept of resilience has been well developed, emphasizing both the importance of the person in areas such as ability and social/cognitive problem solving skills, and the relevance of the environment in areas such as family, mentors and schools in the avoidance of negative outcomes (Brook, 1994; Werner, 1988). These personal and environmental factors interact to counter or buffer the effects of challenging or threatening circumstances and lead to successful resolutions of problems (Garmezy, 1993).

Research on resiliency has primarily focused on youth and adolescents with the exception of Werner's (1989) longitudinal study. Currently there are few studies that examine resilience in first year college students. It could be argued that young adults in college would not be considered at risk because of the very fact that they are college students. Indeed, going to college has been one way to measure successful outcomes in adolescents. However, college adjustment literature states

that the first year is a critical time in determining which students will complete their college degree. Tinto (1993) reported that over 40% of first year students do not return the second year. One reason may be that transitions in life (e.g., entering college) and stresses associated with major life roles (e.g., being a student) increase an individual's vulnerability (Miller, 1996). Added to that, protective factors that were in place in high school to help students cope may not be present in college or as useful. For instance, many students go to different colleges than their high school friends and therefore lose their support network. Crouse (1982) found that interactions with peers, including emotional support and encouragement, could be critical for college success. Students without the social skills to cultivate new friendships in an unfamiliar context may lack this important protective factor in their first year of college.

Historically, high school grade point average (GPA), academic achievement test (ACT), and standardized achievement test (SAT) scores have been used to identify at risk students. Yet, research on at risk students has found that other factors such as ineffective skills for resolving problems (Maxwell, 1979), stress-coping factors (Ryland, Riordan, & Brack, 1994), and poor social skills (Crouse, 1982; Mutter, 1992) are better predictors of non-persistent students. This suggests that measures of students' abilities to cope effectively with the college experience may be as or more important than measures of academic ability (Witherspoon, Long, & Chubick, 1999). However, just predicting non-persistent students has not been very effective in interventions (Catterall, 1998). The resilience literature states that in periods of transition vulnerability is high and choices that individuals make are critical to their

future trajectories (Windfield, 1994). As a result, it is important to know not only who is most vulnerable but also to know what factors have an impact in helping students cope with the vulnerability.

### The Present Study

This study focused on the development of an instrument to measure resilience in college students. Because of the exploratory nature of this research, three separate studies were conducted. The common goals of each study were to determine the factor structure of the instrument and to evaluate the internal consistency of each factor. The intent of Study 1 was to validate the instrument by testing the convergent and discriminate validity. The intent of Study 2 was to look at the relationship of the instrument to a number of behaviors in which students engage. The intent of Study 3 was to test the predictive validity of the instrument with intent to persist in college.

The development of an instrument to measure resilience in college students provides researchers a tool to begin to study the resilience model as applied to college students. In addition, looking at the questionnaire and its relationship to a number of student behaviors offered an opportunity to view aspects of the classroom environment that impact resilience.

There were seven main goals proposed in the present investigation:

1. To dimensionalize the properties of resilience from the existing literatures and to construct the College Resilience Questionnaire (CRQ) to assess these dimensions in first year college students.
2. To determine the factor structure of the CRQ.

3. To evaluate the internal consistency of each factor.
4. To determine the temporal stability of the CRQ using test/re-test correlations.
5. To examine the convergent and discriminant validity of each factor.

Several criterion measures were selected to evaluate convergent and discriminate validity: depression, loneliness, anxiety, hope, goals/attributions and strategy use. These measures are described in Study 1 of Chapter 3.

6. To examine the relationship between the CRQ and behaviors of college students. These behaviors consisted of students' interaction with web based tutorials, problem solving tasks, supplemental instruction, performance on exams, and also attendance in class. Factors that have been shown to influence students' behaviors were also measured. These included, self-efficacy about the course, goals for studying, expectations, and anxiety about the course. These measures are described in Study 2 of Chapter 3.
7. To test the predictive ability of the CRQ on intent to persist in college.

The following predictions were made. First, I expected the CRQ to yield two factors. The two factors are based on the cognitive and social characteristics of resilient individuals that emerged from prior studies (Brooks, 1994; Werner, 1988). Second, I expected each of the factors of the CRQ to yield a measure of internal consistency in excess of .80. Third, the CRQ factors were expected to correlate



negatively with measures of negative constructs such as depression, loneliness and anxiety; but correlate positively with measures of positive constructs such as hope, goals/attributions and strategy use. The CRQ factors were expected to correlate negatively with depression, loneliness and anxiety because when students are academically and socially engaged with college, the risk of feelings of isolation and hopelessness should be reduced. The CRQ factors were expected to correlate positively with hope, goals/attributions and strategy use because academic and social involvement is conducive to goal commitment and persistence. Fourth, both factors of the CRQ were expected to demonstrate temporal stability over a 4-week period, with a correlation coefficient between test/re-test of at least .70. Fifth, the CRQ factors were expected to correlate highly with students' expectations to return to college. Students that are academically and socially involved in college tend to persist in college (Tinto, 1993). Therefore, the CRQ factors were also expected to correlate positively with adaptive social and academic behaviors in which students engage. These include attendance in class, number of hours spent studying, and use of provided classroom tools such as question sets with feedback, web based tutorials, practice test, use of the textbook CD Rom, and participation in supplemental instruction.

## CHAPTER II

### REVIEW OF THE LITERATURE

This review begins with an historical overview of the resilience literature. Next, in-depth reviews of the factors associated with resilience are reported. These factors are grouped into two main areas; personal and social. The personal factors are subdivided into cognitive attributes, beliefs/attitudes, and temperament. The social factors are subdivided into family and non-family. These factors are displayed in Figure 1.

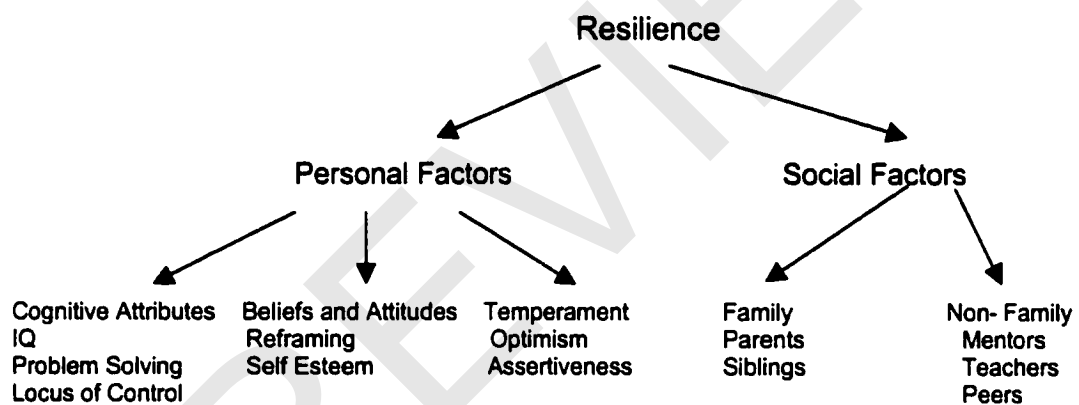


Figure 1. Diagram of factors that affect resilience.

Also described are a number of themes that emerged from the resilience literature that are relevant to the current study. Next, a case is made for considering first year college students as an at risk population. The college adjustment literature is reviewed and the two factors (academic and social integration) found most prevalent

in students who persist are discussed in more depth. Finally, the rationale for using the resilience perspective to study college students is discussed and a need for the CRQ is established.

### Historical Perspective

Resilience research is relatively new, developing over the past 25 years from such diverse disciplines as health, developmental psychology, and psychopathology. Initially, researchers in each of these areas were attempting to identify the stressors in individuals or in groups of people that led to outcomes such as poor health, maladaptive development, and academic/social failures. These stressors later became known as risk factors (Cicchetti & Garmezy, 1993).

Risk factors were first studied in medicine. For the past three decades, health researchers have been studying the risk factors that determine individuals' chances of diseases or other health problems (Garmezy, 1996). Today, we consider such risk factors as genetics, smoking, eating habits, social economic status, age, weight, etc., as they affect a variety of health outcomes.

The same theory was applied to developmental psychology research with the rationale that identifying risk factors in populations with poor outcomes might allow early interventions. Early risk studies in development placed their emphasis on infants and younger children with developmental disabilities (Cicchetti & Garmezy, 1993). Children were found to be especially vulnerable in early childhood to risks that developed from prenatal problems, developmental delays, disabilities, and anxious or demanding temperaments (Smith & Carlson, 1997). From these studies, screening and intervention efforts, such as Head Start, were begun for children.

Today, Head Start uses a checklist of risk factors to determine which children would benefit most from the program. These include health problems, parental income and education, and slow development in areas such as speech, motor skills, and/or physical impairments. In recent years, there has been an expansion in risk research to try to identify other groups that might benefit from intervention. For example, children with mentally disordered parents were found to have a higher chance of poor developmental outcomes than children of parents without mental disorders (Garnezy, 1996). Garnezy suggested that programs be expanded to include the children when treating mentally ill parents. Although risk factors were helpful in identifying people who were at risk for poor outcomes, they were far from perfect. In addition, risk factors do not seem to be specific to particular outcomes. For example, there is no simple correspondence between a single negative outcome and given risk factors. Rather, clusters of risk factors predict negative outcomes. (Leshner, 1999).

Researchers studying risk factors found correlations with risk factors and poor developmental outcomes, but not all outcomes were negative (e.g., the majority of children from divorced parents do not experience social and academic failures; Emery, 1999). A significant number of the participants studied in risk research survived serious risks and even thrived (Barbarin, 1993; Glantz & Johnson, 1999). Rutter (1987) was one of the first to recognize this phenomenon and called for future research in the area of resilience. He outlined a research agenda and stressed the importance of learning why many children do not succumb to deprivation and

risk. Despite the call for research by Rutter, it was not until the early 1990's that we first began to see focused research in the area of resilience.

The change of focus from risk factors to protective factors was slow, mostly because it challenged our culture's conventional wisdom that a childhood filled with early trauma cannot be undone (Butler, 1997). Many believe that if a child does not grow up under "normal" circumstances, they will not experience normal development. This "hardship view" of development has received support in a number of research studies. In retrospective research, children of divorce, violence, alcoholism, and incest were found to be over-represented among adults leading damaged lives (Butler, 1997). However, in emphasizing only problems and vulnerabilities in children and families, problems such as low hope, self-fulfilling prophecy, labeling, and expectations of failure become a risk. Barbarin (1993) stated that because empirical research has focused primarily on externalizing disorders (e.g., delinquency and aggression) in African American children, little is known about typical social development (e.g., emotional development and regulation) and the capacities of these children to overcome a range of environmental factors.

Another problem with focusing only on risk factors was that no single risk factor was emerging as a key factor in poor developmental outcomes. For example, poverty stands out as one of the most frequently identified risk factors associated with development of children; however, many poor children develop into effectively functioning adults (Barbarin, 1993). It is now widely believed that clusters of protective factors balance or even outweigh specific risk factors in a child's environment (Gore & Eckenrode, 1996; Rak & Patterson, 1996). This "balance

view” of resilience and protective factors has contributed greatly to recent thinking and offers a number of suggestions for school-based interventions.

The last decade of resilience research built on the considerable progress that has been made in identifying risk and protective factors. The emphasis has now turned to how these protective factors promote resilience (Gore & Eckenrode, 1996). Researchers have shifted their attention from “what” factors are related to risk to “how” protective factors actually prevent risk and negative outcomes. Leshner (1999) stated that in prevention and treatment programs it may be more practical to increase resilience than to eliminate risk. This is because many risk factors are ubiquitous and inevitable and many are not generally amenable to change. A more effective approach may be to help people to develop the strengths and resources to become resilient (Leshner, 1999; Rak & Patterson, 1996). This paradigm shift from eliminating risk factors to fostering protective factors would mean a substantial change in the focus of intervention. This shift is important as researchers search for solutions to the problems of at risk groups and to broaden knowledge about these groups across biological, psychosocial, and ecological domains (Nettle & Pleck, 1996).

In summary, identifying risk factors has been an important part of intervention research (Garmezy, 1996). However, the results of risk intervention have been complicated by the fact that risks are not 100% predictive. Werner (1995) found that one in three at risk children developed into competent, confident, and caring adults. Rutter (1987) also noted that it was unusual for more than half of those exposed to the most serious disadvantages to succumb. Another disadvantage of focusing on

risk factors (e.g., poverty, low self-esteem) is that it does not address the reasons why and how some children can overcome risk in their lives (Barbarin, 1993; Smith & Carlson, 1997).

Interest in how children can overcome risk in their lives spurred further research. By comparing the populations of poor outcomes to good outcomes, differences and similarities were found in person and environmental factors. For children in at risk situations, positive outcomes are related to qualities such as personal reflectiveness, self-efficacy, self-esteem, and a high level of cognitive skills (Garmezy, 1993). Social factors such as family functioning, social support in families, schools, and communities also have been found to increase resilience (Barbarin, 1993). Identifying how protective factors interact to build resilience in individual children becomes the challenge for the future of resilience research.

In the following section, previous conceptualizations of resilience are reviewed and a more comprehensive definition of resilience is suggested that includes definitions of risk factors and protective factors that contribute to the concept of resilience.

### Definitions and Summary of Findings

#### Resilience

Resilience is described as a complex interaction of risk factors and protective factors that lead to positive developmental outcomes (Rutter, 1987). Resilience has been defined as the “phenomenon of unexpected or unlikely positive outcomes among individuals at risk for psychosocial problems” (Carbonell, Reinherz & Giaconia, 1998, p. 259). Resilience also has been defined as the “capacity to be

unaffected by, to recover from, or even to gain strength from, or to grow from difficult life experiences” (Luther, 1991, p. 602). Definitions gleaned from past researchers describe three kinds of phenomena: Children who overcome adversity to achieve positive developmental outcomes (Masten & Coatsworth, 1998), sustained competence or coping in the presence of chronic or acute major life stressors (such as divorce) (Catterall, 1998), and recovery from trauma (Werner, 1993). A broad definition of resilience was given by Garnezy, Masten, and Tellegen (1984) as the process of, or a capacity for, an outcome of successful adaptation despite challenging or threatening circumstances. Rutter (1987) describes resilience as the response an individual exhibits to risk, asserting that different people will experience risk differently. Winfield (1994) suggests that successful adaptation to life tasks (stress) despite social disadvantage or highly adverse conditions is resilience. Similarly, Burger (1994) defined resilience as thriving in adverse conditions (e.g., such as children who show mastery and competence in harsh circumstances). These definitions share the basic premise that not all people are overcome by adverse circumstances (Butler, 1997), not all people fail when the circumstances suggest that they will (Finn & Rock, 1997), and some people successfully adapt despite challenging or threatening circumstances (Garnezy, 1993).

In summary, resilience is defined as the ability of individuals to survive and/or flourish despite risk. Resilience is associated with positive developmental outcomes that have a high correlation with specific protective factors in the individual (e.g., personal reflectiveness, self-efficacy, easy temperament, self-esteem, and a high