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PREVIEW

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**A validation study for the Problem Solving Inventory on an  
adolescent population**

**Corda, Bernard Anthony, Psy.D.**

**Pace University, 1991**

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PREVIEW

**A VALIDATION STUDY FOR THE PROBLEM SOLVING  
INVENTORY ON AN ADOLESCENT POPULATION**

**BERNARD ANTHONY CORDA**

**Submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Psychology in the  
Dyson School of Arts and Sciences,  
Pace University  
1990**

PREVIEW

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## ABSTRACT

This study attempted to validate a modified version of Heppner & Petersen's (1982) Problem Solving Inventory, (PSI) for a younger adolescent population with specific emphasis on its potential uses with learning disabled adolescents.

Results indicate the Problem Solving Inventory was not useful in differentiating Learning Disabled from non-Learning disabled youngsters. Since the self-appraisal of interpersonal problem solving ability of Learning Disabled students did not significantly differ from that of non-handicapped students, the Problem Solving Inventory did not add anything in the way of prediction to Grade Point Average beyond what can be predicted by standardized test scores. Age and gender differences were found for Problem Solving Confidence, Personal Control, and total PSI score. Finally, the lack of significant correlations between Hahnemann & PSI variables suggests a weak relationship between self-appraisal of problem solving skills and teacher-observed classroom behavior. Although the PSI did not distinguish between the self-appraised interpersonal problem solving of learning disabled and non-handicapped students, it is nevertheless useful in providing a reliable assessment of this aspect of social competence. This may prove to be a meaningful enhancement of school psychological evaluation.



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### INTRODUCTION:

There has been an increasing dissatisfaction with deficit models of mental health (Cowen, 1983), which has resulted in greater emphasis being placed on the search for meaningful alternatives (Felner, Jason, Moritsugu, & Farber 1983). Deficit models tend to dwell on an individual's psychological liabilities which may result in an inordinate amount of time spent analyzing maladaptive behavior or thought patterns with little meaningful change occurring (Golfried & Kent, 1971). Recent alternative approaches focus on identification and development of adaptive competencies and "ego strengths" that might serve as the foundation for positive therapeutic intervention (Heppner & Petersen, 1982). With this goal in mind, several researchers have introduced and developed molar constructs that can be viewed as equivalent to models of "healthy functioning" - for example, "competence" (Bower, 1963; White, 1957, 1979) and "adaptive behavior" (Hartmannn, 1958; Kirschenbaum & Karoly, 1977). In both instances, particular attention has been given to specifying the component abilities and skills comprising those constructs.

Interpersonal problem solving processes are playing an increasingly important role within modern models of psychological adjustment and behavior. In an early study, Jahoda (1953, 1958) postulated that the capacity to solve problems in life situations is one criterion for defining

positive mental health. Jahoda's theory served as a precursor to Spivack's model (1973) which conceived of healthy psychological functioning as being largely dependent upon an individual's ability to "solve interpersonal problems relevant to significant life roles." Numerous researchers have suggested that behavioral maladjustment and psychological stress are a consequence of ineffective interpersonal problem solving (e.g., Mechanic, 1968, 1970, 1974; D'Zurilla & Goldfried, 1971; Mahoney, 1974). Increasing evidence from several lines of research suggests the importance of problem solving processes in relation to behavioral maladjustment and perceived psychological stress (Mahoney & Thoresen, 1974; Meichenbaum, 1977). These processes include skills such as: (a) optional thinking, defined as generation of alternative solutions to interpersonal problems; (b) causal thinking with respect to interpersonal events; (c) consequential thinking, i.e., considering the consequences of interpersonal behaviors; and (d) problem recognition, as well as numerous other problem solving skills (Davis, 1966; Platt, Spivack & Bloom, 1971).

Recently, increased emphasis has been placed upon the self-appraisal of interpersonal abilities and its importance to personal adjustment (Antonovsky, 1979; Bandura, 1982). Recent research has focused on self-appraisal of problem solving skills (a metacognitive variable) and their relevance to actual interpersonal problem solving and adjustment (Butler & Meichenbaum, 1981; Heppner & Anderson,

1983). According to Heppner (1981), a central and yet unanswered question is whether social problem-solving self-appraisal is related to psychological adjustment. In essence, the issue is: does the appraisal of one's interpersonal problem solving abilities (which may or may not be accurate) relate to indices of psychological adjustment (i.e., social competence and/or social cognition). Heppner & Anderson (1983) assessed this relationship in adults and older adolescents and found that those who perceive themselves as effective problem solvers also appear to be better adjusted psychologically, as measured by several general indices of psychological adjustment, as well as several specific emotional adjustment scales. Previous research has found that appraisal of one's interpersonal problem solving skills will affect one's problem solving performance (Heppner, Hibel, et al., 1982; Heppner & Petersen, 1982). In their investigation of self-appraisal variables as they relate to the applied problem solving process, Heppner and colleagues (1982; 1983; 1985) have found that these variables have a bearing on affective, cognitive and behavioral processes pertinent to overall adjustment. The most recent research in this area suggests a strong relationship between self-appraisal of one's problem solving ability and indices of psychological adjustment (Heppner, Baumgardner & Jackson, 1985). It is unknown however, how one's problem solving appraisal is related to



indices of adjustment within the academic setting, particularly for a younger adolescent population.

The present research represents an attempt to expand upon previous investigations into self-appraisal of problem solving skill through utilization of the Problem Solving Inventory (Heppner & Petersen, 1982). This research is concerned with validation of this instrument for high school adolescents and in the process of validation, will investigate a number of cognitive, affective and behavioral processes pertinent to interpersonal problem solving.

Previous research on self-appraised problem solving (e.g., Heppner & Petersen, 1982; Heppner, Neal & Larson, 1984) has relied mainly on freshman and sophomore students from introductory psychology classes, with one study also focusing on upperclassmen, however there has been no previously documented attempt to make the instrument applicable for younger adolescents. The full validation of the Problem Solving Inventory for a younger adolescent population will ultimately be a lengthy and continuing process, involving tests of its concurrent discriminant validity, its predictive validity and its construct validity. The present research project was undertaken to demonstrate aspects of the concurrent and predictive validity of the PSI, including its ability to discriminate between high school adolescents with diagnosed learning disabilities and "non-identified" students, thus exploring the relevance of the instrument for a school psychological

assessment. The approach to assessment taken in the present study differs somewhat from more traditional approaches to the evaluation of adolescents within the academic setting in the emphasis placed on metacognition, self-appraisal and interpersonal problem solving.

This chapter will address the importance of interpersonal problem solving and its relevance to self-efficacy and social competence. The conceptual model of interpersonal problem solving processes will be discussed, with particular emphasis placed examination of the problem solving model postulated by Goldfried & D'Zurilla, since it represents the underlying framework utilized by Heppner and Petersen in developing the Problem Solving Inventory. A discussion of previous research into problem solving skills and stages will focus on metacognitive variables and the importance of self-appraisal. Discussion will also focus on social competence in adolescence with particular emphasis on how this affects academic performance. The relationship between interpersonal problem solving and learning disabilities will also be examined, as well as self-perception of students with learning disabilities and how this relates to their social competence. Previous research into interpersonal problem solving will be reviewed and the theoretical framework of the Problem Solving Inventory will be discussed leading to the rationale for it's use. Adolescent adjustment will be further explored through discussion of teacher perceptions, and indices of academic

achievement and self-concept. Finally, the problem statement and research hypotheses will be presented.

This research project represents an effort to extend the parameters of the Problem Solving Inventory {PSI} (Heppner & Petersen, 1982) by making it applicable for a younger adolescent population. The Problem Solving Inventory (PSI) was developed to assess self-perceptions of interpersonal problem-solving behaviors and attitudes. The original instrument was developed and standardized on a college population comprised principally of freshmen and sophomores. The PSI is a self-rating questionnaire on which low scores indicate attitudes and behaviors typically associated with "effective" problem solving. It was constructed as a face valid measure of each of the five problem-solving stages propounded by D'Zurilla & Goldfried (1971). Factor analysis was utilized to derive three distinct constructs: Problem solving confidence, Approach-avoidance style and Personal control, however scores on these factors should not be considered synonymous with actual level of in-vivo problem solving skills.

This study represents an effort to validate this instrument for use with high school adolescents. The data and conclusions from a number of previous studies utilizing the PSI indicate that the cognitive appraisal of one's problem solving skills is related to a number of affective, cognitive and behavioral processes pertinent to personal problem solving (Heppner, Baumgardner & Jackson, 1985;

Heppner, Reeder & Larson, 1983; Neal & Heppner, 1982; Heppner & Petersen, 1982; Phillips, Paziienza & Ferrin, 1984). A review of the literature indicates that these cognitive and behavioral processes appear to have relevance for the assessment of adolescents within an academic setting. Thus, the purpose of the present investigation is to conduct a series of validation studies utilizing the Problem Solving Inventory. Previous research indicates that PSI factors should demonstrate some relationship to indices of classroom adjustment and may demonstrate important differences between learning disabled youngsters and non-identified students. In addition, PSI factors may bear a relationship to achievement variables such as standardized test scores and overall grade point average, which can be considered barometers of demonstrated competence. Since the instrument was developed on a population primarily consisting of older adolescents and adults, questions remain regarding it's generalizability to a younger population.

#### **INTERPERSONAL PROBLEM SOLVING & SOCIAL COMPETENCE:**

Interpersonal problem-solving can be viewed as an important component of the functional process of **social competence**. Social competence has long been regarded as a integral part of human capabilities (Gresham & Reschly, 1987). In an early treatise, Thorndike (1927) suggested the existence of three types of intelligence, one of which was

social intelligence or social competence. Lee (1975) has defined social competence as the ability "...to develop consistent strategies of interaction through which a reciprocity of mutual exchange can be maintained. A panel convened by the U.S. Office of Child Development concluded that key facets of the domain of social competence include (a) morality and prosocial tendencies, (b) problem solving skills and (c) competence motivation (Anderson & Messick, 1974). Gresham (1986) has conceptualized social competence as being comprised of three subdomains: (a) adaptive behavior, (b) social skills and (c) peer acceptance. This conceptualization is based on two content areas (i.e., adaptive behavior and social skills) and an outcome or result of socially competent behavior (i.e., peer acceptance). Thus, adequate levels of adaptive behavior and social skills are associated with peer interaction and acceptance. Mischel (1973), in presenting a cognitive-social learning view of personality, emphasized the crucial importance to behavioral competence of the individual's ability to make sense out of interpersonal situations ("construction competencies") and generate effective strategies for dealing with other people ("encoding strategies"). This approach is quite similar to the "problem solving" approach to competence propounded by Goldfried and D'Zurilla (1971).

Effective performance in problematic social interactions (including compliance with the imposed structure of the

academic setting) places a heavy demand on an individual's perceptual, cognitive and affective processes. Past research (Pellegrini, 1980; Spivack et al., 1976; Spivack & Shure, 1974) indicates that socially competent adolescents are more cognitively resourceful; that is they are better able to think of ways to address interpersonal problem situations and to construct coherent plans or strategies for resolving them. There is also some evidence that these individuals are more likely to consider the possible consequences of their actions for themselves and others.

Ford (1981) researched the areas of social cognition and social competence and concluded that social cognition and interpersonal problem solving are related to effective social behavior. He stated that: "Adolescents who are judged as able to behave effectively in challenging social situations involving salient social objects assign relatively high priorities to interpersonal goals such as helping others, getting socially involved, and getting along with others, and are likely to describe themselves as possessing the intrapersonal resources required to accomplish this goal. They also tend to be more goal directed than their peers; that is, they set goals for themselves and control their own destiny rather than just "Go with the flow."

The "skill-oriented" approach to the definition of social competence is characterized by an emphasis on the interpersonal process used in achieving social objectives

and mastering one's social environment. Sundberg, Snowden & Reynolds (1978), for example, defined social competence as "personal characteristics (knowledge, skill and attitudes) which lead to attainments having adaptive payoffs in significant environments." The individual's ability to "use and understand" people effectively has been the focus of considerable research by developmental psychologists interested in the unfolding of ontogenetic sequences of social cognition (e.g., Chandler, 1977; Feffer, 1970; Flavell, 1974; Selman, 1974). A number of terms such as "role-taking", "referential communication", "social awareness" and "person perception", have been used to describe aspects of social-cognitive development. Due to the fact that the majority of this research has been conducted by investigators sharing a Piagetian perspective, efforts have been focused primarily on the discovery and validation of developmental stage sequences. While this approach has proved useful, relatively little attempt has been made to explore the broad content parameters of social problem solving, or to examine the implications for this dimension of competence for the social behavior and adjustment of the child and adolescent (Shantz, 1975).

Social competence and interpersonal problem solving are areas of functioning which historically have been underemphasized in the process of assessing a student's ability to function within the academic (and social) setting (Carroll, Bretzing & Harris, 1981). Interpersonal problem

solving is of special concern for professionals who are interested in helping others deal with problems that are particularly difficult. Teachers, counselors and school psychologists are a group of such professionals. The very existence of these professional specialties is based on the concept that individuals have problems that they are unable to cope with or solve by themselves (Krumboltz, 1965).

**A Definition of Social Competence:** For purposes of this research, social competence may be defined as that portion of an individual's perceived effectiveness in inter-personal situations and social roles which is attributable to qualities of temperament, cognition and social awareness. This definition, while making a distinction between **perceived outcome** (effectiveness in interpersonal situations and social roles) and perceived **behavioral** (temperament, cognition, and social awareness) aspects of social competence, also clearly implies a connection between the two. By defining social competence as that portion of effectiveness (outcome) attributable to the three **content** dimensions, the definition implies that it is best to use the term social competence to refer only to those behaviors which involve relationships with other people. While outcome (effectiveness) indices are of ultimate importance in validating behavioral approaches to defining and measuring social competence, the proposed definition clearly emphasizes the **behavioral** side of the equation as the one