

# SOCIAL PROBLEM SOLVING

Theory, Research, and Training

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# 1

## SOCIAL PROBLEM SOLVING: THEORY AND ASSESSMENT

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In this chapter we describe the social problem-solving model that has generated most of the research and training programs presented in the remaining chapters of this volume. We also describe the major assessment methods and instruments that have been used to measure social problem-solving ability and performance in research as well as clinical practice.

The term social problem solving refers to the process of problem solving as it occurs in the natural environment or “real world” (D’Zurilla & Nezu, 1982). The adjective social is not meant to limit the study of problem solving to any particular type of problem. It is used in this context only to highlight the fact that we are interested in problem solving that influences one’s adaptive functioning in the real-life social environment. Hence, the study of social problem solving deals with all types of problems that might affect a person’s functioning, including impersonal problems (e.g., insufficient finances, stolen property), personal or *intrapersonal* problems (emotional, behavioral, cognitive, or health problems), interpersonal *problems* (e.g., marital conflicts, family disputes), as well as broader community and societal problems (e.g., crime, racial discrimination). The model of social problem solving presented in this chapter was originally introduced by D’Zurilla and Goldfried (1971)

and later expanded and revised by D’Zurilla, Nezu, and Maydeu-Olivares (2002; D’Zurilla, 1986; D’Zurilla & Nezu, 1982, 1990, 1999; Maydeu-Olivares & D’Zurilla, 1995, 1996; Nezu & D’Zurilla, 1989).<sup>1</sup>

## MAJOR CONCEPTS

The three major concepts in the D’Zurilla et al. model are (a) problem solving, (b) problem, and (c) solution. It is also important for theory, research, and practice to distinguish between the concepts of problem solving and *solution implementation*. The definitions presented are based on concepts previously discussed by Davis (1966), D’Zurilla and Goldfried (1971), D’Zurilla and Nezu (1982, 1999), and Skinner (1953).

### Problem Solving

As it occurs in the natural environment, *problem solving* is defined as the self-directed cognitive–behavioral process by which an individual, couple, or group attempts to identify or discover effective solutions for specific problem encountered in everyday living. More specifically, this cognitive–behavioral process (a) makes available a variety of potentially effective solutions for a particular problem and (b) increases the probability of selecting the most effective solution from among the various alternatives (D’Zurilla & Goldfried, 1971). As this definition implies, social problem solving is conceived as a conscious, rational, effortful, and purposeful activity. Depending on the problem-solving goals, this process may be aimed at changing the problematic situation for the better, reducing the emotional distress that it produces, or both.

### Problem

A *problem* (or problematic situation) is defined as any life situation or task (present or anticipated) that demands a response for adaptive functioning but no effective response is immediately apparent or available to the person or people confronted with the situation because of the presence of one or more obstacles. The demands in a problematic situation may originate in the environment (e.g., objective task demands) or within the person

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<sup>1</sup>Several variations and modifications of this social problem-solving model have appeared in the clinical, counseling, educational, and health psychology literature (see Black & Frauenknecht, 1990; Crick & Dodge, 1994; Elias & Clabby, 1992; Frauenknecht & Black, 2003; Spivack et al., 1976; Tisdelle & St. Lawrence, 1986). In addition, similar models and perspectives have also been described in the literature on geropsychology and organizational psychology (see Poon, Rubin, & Wilson, 1989; Sinnott, 1989; Sternberg & Wagner, 1986).

(e.g., a personal goal, need, or commitment). The obstacles might include novelty, ambiguity, unpredictability, conflicting stimulus demands, performance skill deficits, or lack of resources. A particular problem might be a single time-limited event (e.g., missing a train to work, an acute illness), a series of similar or related events (e.g., repeated unreasonable demands from a boss, repeated violations of curfew by an adolescent), or a chronic, ongoing situation (e.g., continuous pain, boredom, or feelings of loneliness).

An interpersonal problem is a special kind of real-life problem in which the obstacle is a conflict in the behavioral demands or expectations of two or more people in a relationship (Jacobson & Margolin, 1979). In this context, interpersonal problem solving may be described as a cognitive–interpersonal process aimed at identifying or discovering a resolution to the conflict that is acceptable or satisfactory to all parties involved. Hence, according to this view, interpersonal problem solving is a “win–win” approach to resolving conflicts or disputes rather than a “win–lose” approach.

## Solution

A solution is a situation-specific coping response or response pattern (cognitive or behavioral) that is the product or outcome of the problem-solving process when it is applied to a specific problematic situation. An effective solution is one that achieves the problem-solving goal (i.e., changing the situation for the better or reducing the emotional distress that it produces), while at the same time maximizing other positive consequences and minimizing negative consequences. The relevant consequences include both personal and social outcomes, long-term as well as short-term. With specific reference to an interpersonal problem, an effective solution is one that resolves the conflict or dispute by providing an outcome that is acceptable or satisfactory to all parties involved. This outcome may involve a consensus, compromise, or negotiated agreement that accommodates the interests and well-being of all concerned parties.

## Problem Solving Versus Solution Implementation

Our theory of social problem solving distinguishes between the concepts of problem solving and solution implementation. These two processes are conceptually different and require different sets of skills. Problem solving refers to the process of finding solutions to specific problems, whereas solution implementation refers to the process of carrying out those solutions in the actual problematic situations. Problem-solving skills are assumed to be general, whereas solution-implementation skills are expected to vary across situations depending on the type of problem and solution. Because they are different, problem-solving skills and solution-implementation skills are not

always correlated. Hence, some individuals might possess poor problem-solving skills but good solution-implementation skills or vice versa. Because both sets of skills are required for effective functioning or social competence, it is often necessary in problem-solving therapy to combine training in problem-solving skills with training in other social and behavioral performance skills to maximize positive outcomes (McFall, 1982).

## DIMENSIONS OF SOCIAL PROBLEM-SOLVING ABILITY

One of the major assumptions of this theory is that social problem-solving ability is not a unity construct but, rather, a multidimensional construct consisting of several different, albeit related, components. In the original model described by D’Zurilla and Goldfried (1971) and later expanded and refined by D’Zurilla and Nezu (1982, 1990), it was assumed that social problem-solving ability consisted of two general, partially independent components: (a) problem orientation and (b) problem-solving skills (later referred to as “problem-solving proper,” D’Zurilla & Nezu, 1999, and then “problem-solving style,” D’Zurilla et al., 2002). Problem *orientation* was described as a metacognitive process involving the operation of a set of relatively stable cognitive–emotional schemas that reflect a person’s general beliefs, appraisals, and feelings about problems in living, as well as his or her own problem-solving ability. This process was believed to serve an important motivational function in social problem solving. Problem-solving *skills*, on the other hand, referred to the cognitive and behavioral activities by which a person attempts to understand problems and find effective “solutions” or ways of coping with them. The model identified four major skills: (a) problem definition and formulation, (b) generation of alternative solutions, (c) decision making, and (d) solution implementation and verification (D’Zurilla & Goldfried, 1971). These skills will be described in more depth.

Based on this theoretical model, D’Zurilla and Nezu (1990) developed the Social Problem-Solving Inventory (SPSI), which consisted of two major scales: the Problem Orientation Scale (POS) and the Problem-Solving Skills Scale (PSSS). The items in each scale were designed to reflect both positive (constructive or facilitative) and negative (dysfunctional) characteristics. The assumption that problem orientation and problem-solving skills are different, albeit related, components of social problem-solving ability was supported by findings that showed that the POS items correlated relatively high with the total POS score and relatively low with the total PSSS score, whereas the reverse was true for the PSSS items (D’Zurilla & Nezu, 1990).

In later studies, Maydeu-Olivares and D’Zurilla (1995, 1996) conducted exploratory and confirmatory factor analyses on the SPSI. Although the results showed moderate support for the original two-factor model (viz.,

problem orientation and problem-solving skills), a better fitting model was found to be a five-factor model consisting of two different, albeit related, problem-orientation dimensions and three different problem-solving styles. The two problem-orientation dimensions are positive problem orientation and negative problem orientation, whereas the three problem-solving styles are rational problem solving (i.e., effective problem-solving skills), impulsivity–carelessness style, and avoidance style. These five dimensions of social problem-solving ability are measured by the Social Problem-Solving Inventory — Revised (SPSI–R; D’Zurilla et al., 2002), which will be described later. Positive problem orientation and rational problem solving are constructive dimensions that have been found to be related to adaptive functioning and positive psychological well-being, whereas negative problem orientation, impulsivity–carelessness style, and avoidance style are dysfunctional dimensions that have been found to be associated with maladaptive functioning and psychological distress (see reviews by D’Zurilla & Nezu, 1999; D’Zurilla et al., 2002). As would be expected, the constructive dimensions are positively correlated with each other and negatively correlated with the dysfunctional dimensions and vice versa (D’Zurilla et al., 2002). Each dimension is described later in the chapter.

### **Problem-Orientation Dimensions**

Positive problem orientation is a constructive problem-solving cognitive set that involves the general disposition to (a) appraise a problem as a “challenge” (i.e., opportunity for benefit or gain), (b) believe that problems are solvable (“optimism”), (c) believe in one’s personal ability to solve problems successfully (“problem-solving self-efficacy”), (d) believe that successful problem solving takes time and effort, and (e) commit oneself to solving problems with dispatch rather than avoiding them. In contrast, negative problem Orientation is a dysfunctional or inhibitive cognitive–emotional set that involves the general tendency to (a) view a problem as a significant threat to well-being (psychological, social, economic), (b) doubt one’s own personal ability to solve problems successfully (“low problem-solving self-efficacy”), and (c) easily become frustrated and upset when confronted with problems (“low frustration tolerance”).

### **Problem-Solving Styles**

*Rational* problem solving is a constructive problem-solving style that is defined as the rational, deliberate, and systematic application of effective problem-solving skills. As noted earlier, this model identifies four major problem-solving skills: (a) problem definition and formulation, (b) generation of alternative solutions, (c) decision making, and (d) solution

implementation and verification. In problem definition and formulation, the problem solver tries to clarify and understand the problem by gathering as many specific and concrete facts about the problem as possible, identifying demands and obstacles, and setting realistic problem-solving goals (e.g., changing the situation for the better, accepting the situation, and minimizing emotional distress). In the generation of *alternative* solutions, the person focuses on the problem-solving goals and tries to identify as many potential solutions as possible, including both conventional and original solutions. In decision making, the problem solver anticipates the consequences of the different solutions, judges and compares them, and then chooses the “best” or potentially most effective solution. In the final step, solution implementation *and* verification, the person carefully monitors and evaluates the outcome of the chosen solution after attempting to implement it in the real-life problematic situation (for a more detailed description of these skills, the reader is referred to D’Zurilla & Goldfried, 1971; D’Zurilla & Nezu, 1999; D’Zurilla et al., 2002).

*Impulsivity–carelessness* style is a dysfunctional problem-solving pattern characterized by active attempts to apply problem-solving strategies and techniques, but these attempts are narrow, impulsive, careless, hurried, and incomplete. A person with this problem-solving style typically considers only a few solution alternatives, often impulsively going with the first idea that comes to mind. In addition, he or she scans alternative solutions and consequences quickly, carelessly, and unsystematically, and monitors solution outcomes carelessly and inadequately.

Avoidance style is another dysfunctional problem-solving pattern characterized by procrastination, passivity or inaction, and dependency. The avoidant problem solver prefers to avoid problems rather than confronting them head on, puts off problem solving for as long as possible, waits for problems to resolve themselves, and attempts to shift the responsibility for solving his or her problems to other people.

## THE SOCIAL PROBLEM-SOLVING PROCESS

Based on the social problem-solving model described earlier, the hypothesized social problem-solving process is depicted in Figure 1.1. As the figure shows, problem-solving outcomes in the real world are assumed to be largely determined by two general, partially independent processes: (a) problem orientation and (b) problem-solving style. The two problem orientation dimensions and the three problem-solving styles that make up the present model are also shown in the figure. Constructive or effective problem solving is depicted as a process in which positive problem orientation facilitates rational problem solving (i.e., the deliberate, systematic application of effec-

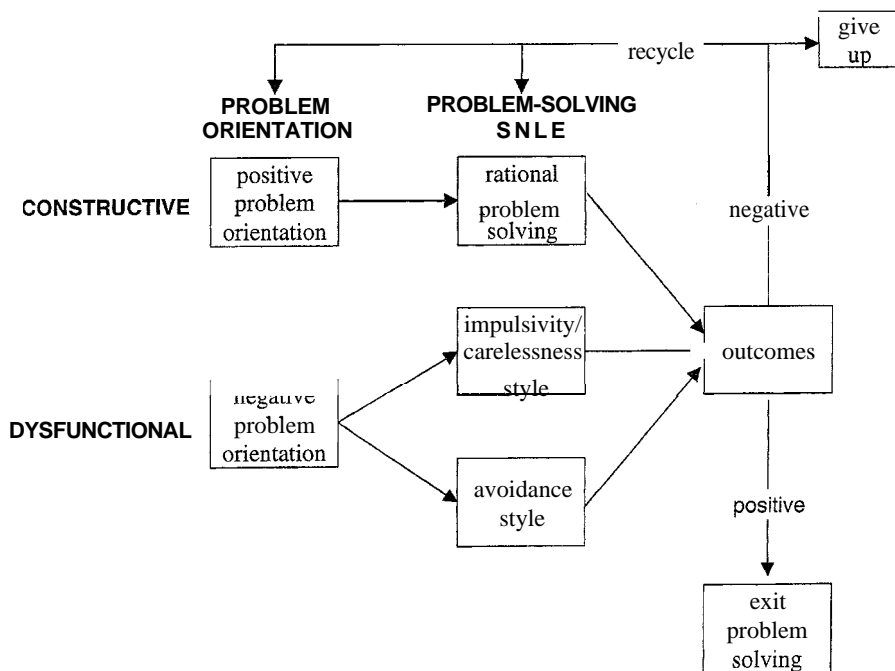


Figure 1.1. Schematic representation of the social problem-solving process based on the five-dimensional model of D'Zurilla et al. (2002).

tive problem-solving skills), which in turn is likely to produce positive outcomes. Dysfunctional or ineffective problem solving is shown as a process in which negative problem orientation contributes to impulsivity–carelessness style or avoidance style, which are both likely to produce negative outcomes. Hence, our model predicts that the most favorable problem-solving outcomes are likely to be produced by individuals who score relatively high on measures of positive problem orientation and rational problem solving while scoring relatively low on measures of negative problem orientation, impulsivity–carelessness style, and avoidance style. Moreover, when initial outcomes are negative or unsatisfactory, these “good” problem solvers are more likely to persist and recycle, or return to the problem-solving process, to find a better solution or to redefine the problem with more realistic goals. For example, after finding that a certain medical problem is incurable, the person may change the problem-solving goal to one that focuses on minimizing pain and discomfort and maximizing quality of life. In contrast, poor problem solvers, who have high scores on the dysfunctional dimensions and low scores on the construction dimensions, might be more likely to give up when initial outcomes are negative and either do nothing or try desperately to get someone else to help them solve the problem.



Empirical evidence that supports different aspects of this hypothesized social problem-solving process is reviewed in D’Zurilla et al. (2002).

## ASSESSMENT OF SOCIAL PROBLEM SOLVING

In research on social problem solving, as well as research and clinical practice in problem-solving therapy, it is important to assess not only the person’s general level of social problem-solving ability but also his or her strengths and weaknesses across the different components of problem-solving ability (e.g., positive problem orientation, negative problem orientation, rational problem solving, etc.). Hence, it is useful to distinguish between two general types of social problem-solving measures: (a) process measures and (b) outcome measures (D’Zurilla & Maydeu-Olivares, 1995).

*Process measures* directly assess the general cognitive and behavioral activities (e.g., attitudes, skills) that facilitate or inhibit the discovery of effective or adaptive solutions for everyday problems, whereas *outcome measures* assess the quality of specific solutions to specific problems. Hence, process measures are used to assess specific strengths and deficits in social problem-solving ability, and outcome measures are used to evaluate problem-solving performance or the ability of a person to apply his or her skills effectively to specific problems. An outcome measure can be viewed as a global indicator of social problem-solving ability but, unlike a process measure, it does not provide any information about the specific components of social problem-solving ability.

Problem-solving process measures include self-report inventories as well as performance tests. The self-report inventory provides a broad survey of a person’s problem-solving attitudes, strategies, and techniques, both positive (facilitative) and negative (inhibitive). Some inventories also estimate the extent to which the person actually uses the problem-solving skills that he or she possesses, as well as the manner in which these techniques are typically applied (e.g., efficiently, systematically, impulsively, carelessly, etc.). The performance test format presents the person with a specific problem-solving task that requires him or her to apply a specific skill or set of skills (e.g., problem recognition, problem definition, generation of solutions, decision making). The individual’s task performance is then judged or evaluated and this measure is viewed as an indicator of his or her level of ability in that particular skill area (see D’Zurilla & Nezu, 1980; Nezu & D’Zurilla, 1979, 1981a, 1981b; Spivack, Platt, & Shure, 1976).

All problem-solving outcome measures are performance tests. However, instead of testing one particular component skill or ability, these measures assess overall problem-solving performance, or general social problem-solving ability, by presenting the person with a specific problem and asking

him or her to solve it, after which the solution is judged or rated on some quantitative or qualitative dimension. An example of a quantitative score is the number of relevant means, or discrete steps, that enable the problem solver to move closer to a goal (Platt & Spivack, 1975; Spivack, Shure, & Platt, 1985). Examples of qualitative scoring are ratings or judgments of “effectiveness,” “appropriateness,” “active vs. passive coping,” and “approach vs. avoidance” (Fischler & Kendall, 1988; Freedman, Rosenthal, Donahoe, Schlundt, & McFall, 1978; Getter & Nowinski, 1981; Linehan, Camper, Chiles, Strosahl, & Shearin, 1987; Marx, Williams, & Claridge, 1992). Although most outcome tests have used hypothetical test problems, some studies have assessed participants’ solutions for their current, real-life problems (e.g., Marx et al., 1992; Schotte & Clum, 1987). Compared to an interview or questionnaire format, *problem-solving self-monitoring* (e.g., D’Zurilla & Nezu, 1999) is a particularly useful and efficient assessment method for this purpose.

Rather than assessing solutions only, some outcome measures have been designed to assess one or more process variables as well, thus providing more information about the person’s problem-solving ability (Donahoe et al., 1990; Getter & Nowinski, 1981; Goddard & McFall, 1992; Nezu, Nezu, & Area, 1991; Sayers & Bellack, 1995; Schotte & Clum, 1987). One example of this approach is the Problem-Solving Task developed by Nezu et al. (1991) to measure the process and outcome of interpersonal problem solving in adults with mental retardation. Using an interview format, research participants are presented with interpersonal problematic situations that include a stated goal (e.g., to make a new friend). They are then asked a series of questions that attempt to assess different process variables (e.g., the ability to generate alternative solutions, the ability to anticipate consequences) in addition to outcome (i.e., ratings of solution quality). Interrater agreement has been found to be high ( $r = .83$ ) and estimates of test–retest reliability indicate that responses are relatively stable over time ( $r = .79$ ). In addition, the Problem-Solving Task has been found to be sensitive to the effects of problem-solving training.

Although many different process and outcome measures have been used in social problem-solving research and training, the most popular instruments have been (a) the Social Problem-Solving Inventory—Revised (SPSI–R; D’Zurilla et al., 2002), (b) the Problem-Solving Inventory (PSI; Heppner & Petersen, 1982), and (c) the Means–Ends Problem-Solving Procedure (MEPS; Platt & Spivack, 1975; Spivack et al., 1985).

### **Social Problem-Solving Inventory—Revised**

The Social Problem-Solving Inventory—Revised (SPSI–R; D’Zurilla et al., 2002) is a 52-item, Likert-type inventory consisting of five major

scales that measure the five different dimensions in the D’Zurilla et al. social problem-solving model. These scales are the Positive Problem Orientation (PPO) scale (5 items), the Negative Problem Orientation (NPO) scale (10 items), the Rational Problem Solving (RPS) scale (20 items), the Impulsivity/Carelessness Style (ICS) scale (10 items), and the Avoidance Style (AS) scale (7 items). Using this instrument, “good” social problem-solving ability is indicated by high scores on PPO and RPS and low scores on NPO, ICS, and AS, whereas “poor” social problem-solving ability is indicated by low scores on PPO and RPS and high scores on NPO, ICS, and AS. In addition to the five major scales, the RPS scale is broken down into four subscales (each with five items) that measure the four major problem-solving skills in the D’Zurilla et al. social problem-solving model: (a) the Problem Definition and Formulation (PDF) subscale, (b) the Generation of Alternative Solutions (GAS) subscale, (c) the Decision Making (DM) subscale, and (d) the Solution Implementation and Verification (SIVS) subscale. A 25-item short form of the SPSI–R is also available that measures the five major problem-solving dimensions but does not provide subscales that measure the four specific skills within the rational problem-solving construct. Empirical evidence supporting the reliability and validity of the SPSI–R and its short form can be found in D’Zurilla et al. (2002).

### Problem-Solving Inventory

The Problem-Solving Inventory (PSI; Heppner & Petersen, 1982) is a 35-item Likert-type inventory that is described by the authors as a measure of “problem-solving appraisal,” or an individual’s perceptions of his or her problem-solving behavior and attitudes (Heppner, 1988). The PSI is derived from an initial pool of 50 items that are based on D’Zurilla and Goldfried’s (1971) original social problem-solving model, which consists of a general orientation component (later renamed “problem orientation”) and four specific problem-solving skills (problem definition and formulation, generation of alternatives, decision making, and verification). Contrary to expectations, a principal components factor analysis identified a three-factor structure rather than a five-factor structure, corresponding to the five components in the D’Zurilla and Goldfried model. The three factors and the scales that were designed to measure them were named Problem-Solving Confidence (PSC; 11 items), Personal Control (PC; 5 items), and Approach–Avoidance Style (AAS; 16 items). Unfortunately, none of these constructs is based on any particular theory of social problem solving. The most popular measure has been the total PSI score, which is used as an index of overall problem-solving ability. Empirical findings supporting the reliability and validity of the PSI are reported in Heppner and Petersen (1982) and Heppner (1988).

In an attempt to relate empirical findings using the PSI to social problem-solving theory, two different groups of investigators (Elliott, Sherwin, Harkins, & Marmarosh, 1995; Nezu & Perri, 1989) reinterpreted the three factors measured by this instrument, using the social problem-solving model described by D’Zurilla and associates (D’Zurilla & Goldfried, 1971; D’Zurilla & Nezu, 1990). These investigators have independently concluded that the PSC and PC scales are measuring problem orientation variables, whereas the AAS scale can be viewed as a measure of problem-solving skills.

Using the same social problem-solving model, Maydeu-Olivares and D’Zurilla (1997) recently conducted a content analysis of the PSI and concluded that two meaningful theoretical constructs can be extracted from this item pool. One construct is *problem-solving self-efficacy* (i.e., the belief that one is capable of solving problems effectively), which is an important subcomponent of positive problem orientation; the second construct is problem-solving skills. Selecting the items that most closely approximated these two constructs, Maydeu-Olivares and D’Zurilla (1997) constructed a 7-item Problem-Solving Self-Efficacy (PSSE) scale and a 9-item Problem-Solving Skills (PSS) scale. A confirmatory factor analysis supported a two-factor structure corresponding to these two scales. The PSSE and PSS scales were found to have good reliability and high correlations with the original PSC and AAS scales ( $r_s = -.93$  and  $-.92$ , respectively; higher scores on the PSI scales indicate lower problem-solving ability). The advantages of the new scales are that they have fewer items without sacrificing reliability and they are more clearly linked to existing social problem-solving theory. Additional empirical data on the PSSE and PSS scales can be found in Maydeu-Olivares and D’Zurilla (1997).

### **The Means–Ends Problem-Solving Procedure**

The Means–Ends Problem-Solving Procedure (MEPS; Platt & Spivack, 1975; Spivack et al., 1985) is described by its authors as a measure of *means–ends* thinking, which has three major components: (a) the ability to conceptualize the sequential steps or “means” that are necessary to satisfy a need or achieve a particular goal, (b) the ability to anticipate obstacles to goal attainment, and (c) the ability to appreciate that successful problem solving takes time or that appropriate timing is important for successful solution implementation. Research participants are presented with a series of 10 hypothetical interpersonal problems consisting of incomplete stories that have only a beginning and an ending. In the beginning, the need or goal of the protagonist is stated and at the end, the protagonist successfully satisfies the need or achieves the goal. The instructions present the

instrument as a test of imagination. Participants are asked to make up the middle part of the story that connects the beginning with the ending. The MEPS uses a quantitative scoring system that computes separate frequency scores for relevant means, obstacles, and time. The number of relevant means has been the most common MEPS score used in research. Because means-ends thinking represents a problem solution rather than the process that leads to a solution, the MEPS is viewed as an outcome measure rather than a process measure. Data on the reliability and validity of the MEPS can be found in Butler and Meichenbaum (1981); D'Zurilla and Maydeu-Olivares (1995), Marx et al. (1992), Platt and Spivack (1975), Schotte and Clum (1982, 1987), and Spivack, et al. (1976).

In a study focusing on hospitalized psychiatric patients, Schotte and Clum (1987) developed a modified MEPS that measures two process variables in addition to outcome: (a) the ability to generate alternative solutions and (b) the ability to anticipate solution consequences. Instead of the usual MEPS problems, the participants were asked to list and respond to real problems from their personal lives that contributed to their hospitalization. The results of the study demonstrated that suicidal patients generated significantly fewer alternative solutions and reported a greater number of potential negative consequences than nonsuicidal patients.

## OTHER SOCIAL PROBLEM-SOLVING MEASURES

A number of other process and outcome measures have been used in studies on social problem solving. Unfortunately, many of these measures have been presented with little or no information about test construction or their psychometric properties. Some of the better process measures include the Social Problem-Solving Inventory for Adolescents (SPSI-A; Frauenknecht & Black, 1995, 2003), the Problem-Focused Style of Coping (PF-SOC; Heppner, Cook, Wright, & Johnson, 1995), and the Perceived Modes of Processing Inventory-Rational Processing (RP) scale (Burns & D'Zurilla, 1999).

Other outcome measures that have been used in social problem-solving research (including some that also measure process variables) include the Interpersonal Problem-Solving Assessment Technique (IPSAT; Getter & Nowinski, 1981), the Adolescent Problems Inventory (API; Freedman et al., 1978), the Social Problem Solving Assessment Battery (SPSAB; Sayers & Bellack, 1995), the Assessment of Interpersonal Problem-Solving Skills (AIPSS; Donahoe et al., 1990), the Inventory of Decisions, Evaluations, and Actions (IDEA; Goddard & McFall, 1992), the Everyday Problem Solving Inventory (EPSI; Cornelius & Caspi, 1987), the Practical Problems

(PP) test (Denney & Pearce, 1989), and the Everyday Problems Test (EPT; Willis & Marsiske, 1993).

Unfortunately, a major difficulty with most current problem-solving outcome tests is the lack of empirical support for their construct validity. For example, Marsiske and Willis (1995) conducted a confirmatory factor analysis on three of these outcome tests (the EPSI, EPT, and a modified version of the PP test) and found little consistency across the three tests. Specifically, the results showed that the tests were virtually unrelated to each other, typically sharing less than 5% of their variance. The conclusion was that these three tests are measuring quite different coping constructs.

These findings are not surprising considering the fact that none of these tests is based on any particular theory or model of social problem solving. At the very least, the construction and selection of test items (real or hypothetical problems) must be based on clear and specific definitions of the terms problem, problem solving, and solution. For example, in the social problem-solving model presented, a problem is defined as a life situation in which there is a discrepancy between demands and the availability of an effective coping response. Defined in this way, a test problem is likely to set the occasion for problem solving, which is the process by which a person attempts to find an effective solution. Because the participant's test response is the product of this process, it can be viewed as a valid indicator of problem-solving ability. On the other hand, if this definition is not used to construct or select test items, then one cannot assume that the test is measuring problem-solving ability. Instead, some or all test responses could simply be products of "automatic processing," or the direct, single-step retrieval of previously learned coping responses from memory (see Burns & D'Zurilla, 1999; Logan, 1988). Although the test may be viewed as a measure of coping, its validity as a measure of problem-solving ability could be seriously questioned. For a discussion of test construction guidelines that may help to maximize the construct validity of social problem-solving measures, the reader is referred to D'Zurilla and Maydeu-Olivares (1995).

Because problems in living are idiosyncratic (a problem for one person may not be a problem for another person), the most valid problem-solving performance measure may be a problem-solving self-monitoring (PSSM) method in which individuals are given definitions of the terms problem, problem solving, and solution, and then are asked to identify real problems as they occur in everyday living, attempt to solve them, and record their solutions (D'Zurilla & Nezu, 1999). After a period of time, the person's solutions are rated for "effectiveness" and the mean of these ratings is used as a global index of that individual's social problem-solving ability. If desired, this PSSM method can also be used to assess specific process variables, such as problem definition, the ability to generate alternative solutions, and decision making.

## CONCLUSION

In this chapter, we describe a social problem-solving model that is based on an integration of theory and empirical data. This model consists of five partially independent dimensions of social problem-solving ability: (a) positive problem orientation, (b) negative problem orientation, (c) rational problem solving (i.e., effective problem-solving skills), (d) impulsivity–carelessness style, and (e) avoidance style. These five dimensions are measured by the Social Problem-Solving Inventory—Revised (SPRI–R; D’Zurilla et al., 2002). Good problem-solving ability is reflected by higher scores on positive problem orientation and rational problem solving and lower scores on negative problem orientation, impulsivity–carelessness style, and avoidance style. Two general types of social problem-solving measures are *process* measures and *outcome* measures. Process measures assess strengths and weaknesses in the cognitive–behavioral activities that constitute the problem-solving process (i.e., the process of finding a solution to a problem), whereas outcome measures assess the quality of specific solutions to specific problems. The SPSI–R is an example of a process measure. Outcome measures are useful for assessing problem-solving performance, or the ability of a person to apply his or her problem-solving skills to specific problems. Unfortunately, at this time there are no theory-based problem-solving performance measures that have adequate data supporting their construct validity. The best method of measuring problem-solving performance may be problem-solving self-monitoring (D’Zurilla & Nezu, 1999).

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