4

Problem-Solving Training

BACKGROUND OF THE ELEMENT

Depressed and anxious youth tend to see their problems as unsolvable burdens or threats and are less likely to take action as a result. This avoidance often leads to more problems and heightened negative emotions. In problem-solving training (PST), which is sometimes referred to as social problem-solving therapy, the therapist teaches the youth to take a more positive and systematic approach to problems by generating a variety of potentially effective solutions, selecting and implementing the best one, and evaluating the outcome (Spiegler, 2016). By teaching broadly applicable coping skills, PST can enhance the maintenance of treatment effects and generalization of skills learned during the intervention (D'Zurilla & Goldfried, 1971; Spiegler, 2016). In this chapter, coverage of the history, theory, and evidence base for PST is followed by practical guidelines for its use in interventions for youth with internalizing disorders, such as depression and anxiety. Designed to be a useful resource for clinicians, the chapter includes step-by-step implementation suggestions, important developmental and diversity considerations, and a case example of a 16-year-old Caucasian male treated for depression.

Brief History

PST emerged when cognitive concepts and strategies were incorporated into behavior therapy during the early 1970s (D'Zurilla & Nezu,

2010). D'Zurilla and Goldfried (1971) were the first to introduce PST as an intervention technique with a set of formal procedures. In a widely cited article, these authors proposed that PST be included among the existing behavior modification techniques. While hard to imagine in today's context, this was somewhat of a bold proposition, given that PST targeted primarily cognitive—and thus largely covert—processes.

D'Zurilla and Goldfried (1971) defined problem solving as a conscious effort to generate a variety of potentially effective response alternatives and increase the likelihood that the most effective response would be selected from among them. Bridging research and theory from a variety of literatures, including experimental psychology, education, and industry, the two researchers distilled the problem-solving process into five—now widely known—stages: (1) general orientation (e.g., attitudes toward the problem), (2) problem definition and formulation, (3) generation of alternatives, (4) decision making, and (5) verification. In their intervention model, they proposed that the therapist use well-established behavior modification procedures, including verbal instruction, modeling, and reinforcement, to teach the client the skills most relevant to each stage. Upon meeting acceptable performance thresholds, the client was to progress from stage to stage and eventually assume more autonomy in the problem-solving process, with the therapist adopting more of a consultant role. Despite their proposed stage theory framework, D'Zurilla and Goldfried (1971) acknowledged that real-life problem solving need not be sequential and that some movement back and forth between stages would be expected.

Directly targeting the cognitive process offered a number of advantages for behavior modification efforts. First, it provided a new way to view effective responding in problem situations. According to the prevailing social learning theories, effective responding could be attributed to trial-and-error learning, instruction, or the observation of others. Adding another option, D'Zurilla and Goldfried (1971) suggested that the person might instead "figure out" what to do through effective problem solving, essentially by mentally combining previously learned behaviors to form a novel response pattern, considering its consequences, and making value judgments about those consequences. A distinction was made between this mental problem-solving process and the actual implementation of a selected response. Specifically, an individual might be able to solve a problem cognitively but yet not be able to carry out the solution because of a skills deficit, anxiety, or lack of motivation (D'Zurilla & Goldfried, 1971). Second, the problem-solving approach held much promise for improving the maintenance

and generalization of interventions. Unlike most of the existing behavior modification techniques (e.g., relaxation training) that targeted discrete responses in specific situations, the goal of PST was not to help clients solve particular problems but rather to teach them how to solve problems more generally. Once acquired, this new "learning set" could be independently applied to a wide variety of problem situations and thereby enhance maintenance and generalization. Indeed, D'Zurilla and Goldfried (1971) saw problem solving as having the potential to train a client to function "as his own therapist" (p. 111).

Spivack and Shure were also highly influential in the development of problem-solving interventions. In a very productive research program that ran parallel to, yet surprisingly independent of, D'Zurilla and Goldfried's efforts, Spivack and Shure drew connections between problem-solving skills and behavioral adjustment in young children and evaluated a related training program (e.g., Shure, Spivack, & Gordon, 1972; Shure, Spivack, & Jaeger, 1971; Spivack, Platt, & Shure, 1976). In a study with Head Start preschoolers, Shure et al. (1971) found that, irrespective of verbal productivity and intellectual functioning, children rated as less well adjusted (e.g., higher emotionality, aggression) by their teachers generated fewer possible solutions and a narrower range of solutions to hypothetical problems than their more well adjusted peers. Subsequently, Shure et al. (1972) demonstrated the effectiveness of a comprehensive PST intervention targeting preschoolers. Improvements on the problem-solving measures were not accompanied by changes in teacher-rated behavior in this study, but Shure and Spivack (1980) later provided support for a mediational role of problem-solving skills.

This early work in problem solving has inspired a tremendous amount of intervention research. Whether delivered as a sole intervention or as part of a packaged treatment, PST has been applied to a wide range of clinical disorders, including depression, schizophrenia, anxiety, and substance abuse, as well as health problems, including cancer and obesity (see D'Zurilla & Nezu, 2007, for a review). For youth with internalizing disorders in particular, PST ranked in the top 10 most frequently used practice elements in a recent quantitative review of evidence-based treatments for children and adolescents with anxiety and depression (Chorpita & Daleiden, 2009).

Theory Base

Understanding how to apply PST with youth experiencing internalizing distress starts with a grounding in its fundamental assumptions.

PST arose as part of a movement rejecting the medical model of psychopathology. From a social learning perspective, abnormal behavior was not a symptom of underlying disease but rather a learned response that was ineffective and led to negative consequences (D'Zurilla & Goldfried, 1971). An inability to cope with problem situations was viewed as a necessary and sufficient condition for an emotional or behavioral disorder. Thus, from this perspective, the best way to "treat" the disorder was to teach problem-solving skills, with the goal of facilitating more effective responding. By helping individuals develop broadly applicable coping skills, PST can also be helpful in preventing disorders and/or relapse (Spiegler, 2016).

Nezu (1987) applied these social learning concepts in his problem-solving formulation of depression. In this formulation, he posited that depression is activated by the interaction of stressful events, problems, and problem-solving deficits. Ineffective responding in problem situations results in negative consequences that serve to make the existing problem worse and increase the probability of future problems. By decreasing reinforcement and motivation for future problem-solving attempts, ineffective responding also increases vulnerability for a depressive episode. For example, already feeling overwhelmed, an adolescent is worried about an upcoming exam and also having to work afternoons for her part-time job. Faced with this problem, she decides to skip work and is fired as a result, which leaves her with a new set of problems, including the distress of being fired, conflict with her parents, and a lack of spending money. Her mood worsens, problems increase, and her ability to solve them is further diminished in the process. An important aspect of this formulation is the reciprocal nature of events, problems, and problem solving. Problem-solving ability moderates the nature and number of problems arising from negative life events, and, in turn, ineffective problem solving can lead to negative life events and future problems.

In Nezu's (1987) formulation, ineffective responding arises from deficiencies in any or all of D'Zurilla and Goldfried's (1971) five problem-solving stages (i.e., general orientation, problem definition and formulation, generation of alternatives, decision making, and verification). Critical to the *general orientation* stage is the adoption of a positive problem-solving attitude or response set. To the contrary, negative thinking characterizes depression, and affected youth may be more likely to see problems as unique to them, magnify their extent, engage in self-blame, and feel unable to respond (Nezu, 1987). The *problem definition and formulation* stage emphasizes the importance of taking a systematic, orderly, and comprehensive approach to problems (D'Zurilla

& Goldfried, 1971; D'Zurilla & Nezu, 2010). Negative thinking patterns may make it more difficult for depressed youth to be objective and specific when addressing their problems (Nezu, 1987). For example, an adolescent who tends to blame him- or herself for everything will be less able to accurately define a problem, identify its true source, and generate possible solutions.

The *generation of alternatives* stage involves coming up with possible solutions to a particular problem in a way that maximizes the likelihood that the most effective response is included among them (D'Zurilla & Goldfried, 1971). Depression is associated with the generation of a restricted range of response alternatives that results in ineffective responding (Nezu, 1987). The goal of the *decision-making* stage is to select the most effective response alternative. Effective responses alter the situation, maximizing positive consequences while minimizing negative ones. Depression hampers decision making. Cognitive biases, such as selectively attending to the negative, can lead to the inaccurate assessment of response alternatives and their potential consequences (Nezu, 1987). Of course, having fewer quality response options to choose from makes ineffective responding more likely for depressed youth regardless of their decision-making abilities.

The final stage of problem solving occurs after the chosen response alternative has been enacted. *Verification*, later referred to as *solution implementation and verification* (D'Zurilla & Nezu, 1982), involves an assessment of the actual outcome and whether any self-correction is needed (D'Zurilla & Goldfried, 1971). The key question is whether the actual consequences of a solution match those anticipated during the decision-making stage (Nezu, 1987). For youth experiencing depression, biased thinking may preclude objectivity in assessing outcomes. They may focus on the negative, set very high expectations for themselves, and be more swayed by the short-term, rather than long-term, consequences of their actions (Nezu, 1987; Rehm, 1977).

Overall, despite ample evidence relating depression and more general problem-solving deficits in child and adolescent samples (e.g., Mullins, Siegel, & Hodges, 1985; Sacco & Graves, 1984), there is surprisingly little empirical support for the particular stage-related deficits proposed by Nezu (1987) other than that found for orientation variables in studies of adolescents. Positive problem orientation has been found to moderate the relation between negative life stress and depression, and, conversely, negative problem orientation and impulsive and avoidant response styles predict depression (e.g., Frye & Goodman, 2000; Reinecke, DuBois, & Schultz, 2001). Beyond that, there is some evidence

linking depressive symptoms and the generation of fewer solutions (Frye & Goodman, 2000; Levendosky, Okun, & Parker, 1995). Though the types of deficits proposed by Nezu (1987) may well exist, researchers have tended not to assess them, instead relying on self-reports of more global attitudes and abilities.

Research examining problem solving and anxiety is much less advanced, but the Nezu (1987) formulation seems readily adaptable. Studies with adults have documented links between anxiety and less effective problem solving (e.g., Dugas, Letarte, Rheaume, Freeston, & Ladouceur, 1995) and evidence of a moderating role for problem-solving ability in the relationship between negative life stress and anxiety (Nezu, 1986). Anxious youth present with a range of cognitive biases that would appear to adversely impact their problem-solving ability. For example, Chorpita, Albano, and Barlow (1996) found that anxious children had a distinct tendency to interpret ambiguous situations as threatening, endorse more avoidant plans in response, and assign higher probability to the occurrence of threatening events. Problem situations are inherently ambiguous, and perceiving them as threats may impede the ability to objectively define them, discourage the generation of solutions, and prevent decision making and implementation (Dugas et al., 1995).

Evidence Base

Most evidence supporting the efficacy of PST for youth is indirect, deriving from studies evaluating multimodal treatments that include it as one component (see Table 4.1 for a summary of PST applications in evidence-based treatment manuals for internalizing disorders in youth). More specifically, in efforts to identify evidence-based treatments, PST is a component of those labeled as "well established" for depression (David-Ferdon & Kaslow, 2008), "probably efficacious" for bipolar disorder (Fristad & McPherson, 2014), and "probably efficacious" for anxiety disorders (Freeman et al., 2014; Silverman, Pina, et al., 2008).

In the closest approximation of a stand-alone evaluation, Stark and his colleagues compared behavioral problem-solving therapy (BPS), self-control therapy (SC), and waitlist conditions in a sample of 29 children (mean age = 11.17 years) scoring in the moderately to severely depressed range on a self-report measure of depression (Stark et al., 1987). The initial four sessions of both active 12-session group treatments were quite similar (e.g., rationale, self-monitoring, group

TABLE 4.1 The Problem-Solving Training Element in Representative EBT Manuals

Coping Cat (Kendall & Hedtke, 2006)	• Problem solving is explicitly mentioned and integrated throughout this treatment, with a specific session dedicated to developing problem-solving skills. The therapist is also encouraged to model problem solving in anxiety-provoking situations of increasing intensity.
C.A.T. Project (Kendall, Choudhury, Hudson, & Webb, 2002)	• As with *Coping Cat*, problem solving is integrated throughout the treatment and is also the focus of a particular session about coping and problem solving. The therapist is encouraged to help adolescents acquire skills for problem solving in anxiety-provoking situations.
Family-Based Treatment for Young Children with OCD (Freeman & Garcia, 2009)	• Problem solving is explicitly incorporated into parental scaffolding for teaching ERP in one section of the treatment. • The parents also problem-solve potential barriers to homework completion (child and parent assignments) with the therapist.
CBT of Childhood OCD: It's Only a False Alarm (Piacentini, Langley, & Roblek, 2007)	• Although problem solving is not a specific skill taught in this treatment, the parents and/or the therapists are encouraged to help the youth use it in several places throughout this treatment (e.g., in problem solving obstacles to homework compliance or engaging in exposure exercises).
CBT for Social Phobia: Stand Up, Speak Out (Albano & DiBartolo, 2007)	• Problem solving is explicitly mentioned in a section on "problem solving and skills training," a series of three sessions, one of which is dedicated jointly to social problem solving and cognitive restructuring (the other two sessions focusing on social skills training and assertiveness training).
When Children Refuse School: A CBT Approach (Kearney & Albano, 2007): Chapters 4 and 5 on internalizing symptoms	• Though covered in detail as part of parent–child negotiation and contracting in a chapter devoted to reward-based school refusal (Chapter 7), there is no clear teaching of problem-solving skills in the two chapters on internalizing symptoms.
Treating Trauma and Traumatic Grief in Children and Adolescents (Cohen, Mannarino, & Deblinger, 2006)	• Problem solving is explicitly mentioned, with one section devoted to enhancing problem solving and social skills, including related worksheets for youth to complete. • Problem solving is also referenced at other points in the treatment through the use of an acronym (i.e., CRAFTS) for the types of problems addressed in treatment (Cognitive, Relationship, Affective, Family, Traumatic behavior, Somatic).
Adolescent Coping with Depression (Clarke, Lewinsohn, & Hops, 1990)	• Problem solving is an explicit focus of this treatment, with an entire section devoted to learning negotiation and problem solving.

TABLE 4.1. (*continued*)

Interpersonal Psychotherapy for Depressed Adolescents, 2nd edition (Mufson, Pollack Dorta, Moreau, & Weissman, 2011)	• Teaching problem solving is an explicit component of this treatment, with the therapist assisting the client in each of the formal steps involved in problem solving.
Treating Depressed Children: Therapist Manual for "Taking Action" (Stark & Kendall, 1996)	• Problem solving is explicitly discussed in this treatment, with a specific section dedicated to it. The therapist is also encouraged to model the use of problem solving to overcome impediments the client encounters.
Treating Depressed Youth: Therapist Manual for "Action" (Stark et al., 2007)	• Problem solving is an explicit component of this treatment, with a section focused on this skill and the steps one takes to learn it, as well as a separate appendix describing the steps.
Psychotherapy for Children with Bipolar and Depressive Disorders (Fristad, Arnold, & Leffler, 2011)	• Problem solving is explicitly discussed and integrated throughout this treatment, including several related activities and handouts. • Additionally, there are separate problem-solving skills chapters intended to address parents' and children's problem-solving deficits.

Note. Some book titles are shortened to conserve space. See the References at the back of the book for full titles.

problem solving to increase frequency of pleasurable activities). The remaining sessions in the BPS condition were devoted to teaching problem-solving skills and developing strategies for increasing the occurrence of pleasant activities. In the SC condition, the remaining sessions targeted self-monitoring of pleasant activities and positive self-statements, setting more realistic performance standards, adaptive attributions, and self-consequating. Both of the active treatments were effective relative to the waitlist condition, producing statistically and clinically significant improvements in depression. The BPS condition fared a bit better than the SC condition on the parent ratings, with mothers reporting significant improvements in internalizing behavior at posttreatment and in social withdrawal, depression, and internalizing behavior at an 8-week follow-up.

Multimodal treatments that include PST as a component are effective in treating child and adolescent depression (e.g., Clarke et al., 1999; Kahn, Kehle, Jenson, & Clark, 1990; Lewinsohn et al., 1990; Mufson et al., 2004; Mufson, Weissman, Moreau, & Garfinkel, 1999). Most of these are cognitive-behavioral treatments that also include psychoeducation, cognitive restructuring, pleasant events scheduling, and skills training (e.g., coping, emotion regulation, and social skills). For

example, in a study with 59 depressed adolescents (mean age = 16.23 years), Lewinsohn and colleagues compared adolescent-only and adolescent and parent versions of their CWD-A (Lewinsohn et al., 1990). The CWD-A consisted of 14 group skills training sessions targeting teaching of relaxation skills, increasing pleasant events, controlling negative thoughts, and improving social skills, as well as a conflict resolution component addressing communication and problem solving with parents. In the PST component, adolescents were taught to concisely define problems, brainstorm alternative solutions, decide on one or more mutually satisfactory solutions, and specify the details for implementing the agreed-upon solution. In the adolescent-and-parent version, seven parent sessions overviewing what was taught to the teens were added to promote acceptance and support for the intervention. Both versions resulted in significant reductions in depression that were maintained at a 2-year follow-up assessment, whereas adolescents in the waitlist control condition showed very little improvement. No significant differences between the two versions of the CWD-A course were found.

PST is also included in the only "first line" psychosocial treatment for pediatric bipolar disorders (Fristad & McPherson, 2014). Family psychoeducation plus skill building interventions provide families with information on the symptoms, course, and treatment of bipolar disorders while also teaching coping skills helpful in symptom management (e.g., Fristad, Verducci, K. Walters, & Young, 2009). Fristad et al. (2009) conducted a randomized controlled trial (RCT) with youth (N = 165; ages 8–12 years) meeting the criteria for depression or bipolar disorder that compared multifamily psychoeducational psychotherapy plus treatment as usual (MF-PEP + TAU) and waitlist control plus treatment as usual (WLC + TAU) conditions. MF-PEP was evaluated as an adjunctive intervention, and all youth were allowed to continue with TAU, including medication. The MF-PEP condition consisted of eight 90-minute sessions with concurrent parent and child groups. After two sessions devoted to psychoeducation, the remaining six sessions targeted a variety of coping skills, including emotion regulation, problem solving, and nonverbal and verbal communication. In the problem-solving skills sessions, children and parents were taught five basic steps: "Stop" (Take a moment to calm down), "Think" (Define the problem and brainstorm strategies), "Plan" (Decide which strategy to use), "Do" (Carry out the strategy), and "Check" (Evaluate the outcome; Fristad, Arnold, & Leffler, 2011). The MF-PEP + TAU condition resulted in a significantly greater decrease in mood symptom severity

at the 1-year follow-up that was maintained at an 18-month follow-up. The WLC + TAU condition showed similar improvements after receiving the MF-PEP intervention.

Multimodal interventions including problem-solving training are also effective in treating youth with anxiety disorders (e.g., Barrett, Dadds, & Rapee, 1996; Barrett, Healy-Farrell, & March, 2004; Beidel, Turner, & Morris, 2000; Freeman, Sapyta, et al., 2014; Kendall, 1994; Kendall et al., 1997, 2008; Walkup et al., 2008). These are all variants of CBT that also include some combination of psychoeducation, cognitive restructuring, exposure, relaxation, and contingency management. With three RCTs demonstrating its effectiveness, Coping Cat has garnered much empirical support as a packaged treatment (Kendall, 1994; Kendall et al., 1997, 2008). In Coping Cat, problem solving is taught as a strategy used to generate specific action plans (i.e., FEAR plans) for coping with anxiety-provoking situations (e.g., take deep breaths, think positive, do something distracting).

The C.A.T. Project is an adaptation of Coping Cat for adolescents (Kendall et al., 2002). It is quite similar to Coping Cat, but there are a number of adjustments to better accommodate the developmental needs of older youth (e.g., more sophisticated psychoeducational information, age-appropriate pictures and examples, less emphasis on affect recognition, point system rather than stickers, encouragement of independence). As in Coping Cat, problem solving is used as a strategy for generating alternative plans for coping with anxiety. Both versions of this treatment were tested in the Child/Adolescent Anxiety Multimodal Study (CAMS), a large federally funded multisite randomized placebo-controlled trial (Walkup et al., 2008). Youth (N = 488, ages 7–17 years) diagnosed with an anxiety disorder were randomly assigned to one of four conditions: CBT (Coping Cat for children or the C.A.T. Project for adolescents), sertraline (an antidepressant medication), combined (CBT + sertraline), and placebo pill. All three active treatments outperformed the placebo on clinician ratings of improvement and, although the combination proved superior to both of the individual treatments, CBT was equally as effective as sertraline but with fewer physical side effects. Though there were no direct comparisons between the TWO Coping Cat versions, the fact that age did not moderate treatment response (Compton et al., 2014) does lend some support for the efficacy of the C.A.T. Project.

In an RCT evaluating an Australian adaptation of Coping Cat (Coping Koala), Barrett et al. (1996) tested a family-based supplement that included parent instruction in problem-solving skills. Youth

(N = 79; ages 7–14 years) diagnosed with an anxiety disorder were assigned to one of three conditions: CBT (Coping Koala); CBT+FAM (i.e., CBT plus parent–child sessions targeting parent instruction in contingency management and anxiety management, communication, and problem-solving skills), or WL (waitlist). Each of two active treatment conditions consisted of 12 sessions with matched therapist-contact time. The problem-solving component of the CBT+FAM condition included skills training for parents and encouragement for the family to schedule weekly discussions aimed at addressing child and family problems. Both active conditions were superior to the waitlist condition at posttreatment, but the CBT+FAM outperformed CBT on diagnostic recovery rates, and this difference was maintained at a 1-year follow-up. It is worth noting, however, that the two treatments were found to be equally effective at a 6-year follow-up assessment (Barrett, Duffy, Dadds, & Rapee, 2001), and more recent studies have yielded mixed support for family-based treatments (e.g., Kendall et al., 2008).

THE ELEMENT IN PRACTICE

The focus of this chapter now shifts to the practical implementation of problem-solving training with anxious and depressed youth. The key PST steps are outlined in the task analysis in Box 4.1, and added detail(s), examples, and issues to think about along the way are described in this section along with suggested developmental adaptations and diversity considerations. An illustrative case example involving a 16-year-old Caucasian male treated for depression is also provided in Box 4.2 at the end of the chapter.

"Core of the Core" Element

Before implementing PST, the therapist should consider several factors that can impact its effectiveness (Box 4.1, Step 1). First is whether the youth has the minimal language and cognitive abilities to participate. Can he or she identify and talk about problems? Think of alternative solutions? Understand cause and effect? These are not "yes or no" questions. PST has been used with very young children, and there are many ways to help support learning for youth who may be having difficulty in one or more of these areas (see the next section of this chapter). Second, problem solving offers no quick fixes, instead requiring commitment and a willingness to delay gratification long enough to

BOX 4.1. Task Analysis of Problem-Solving Training

1. Consider the characteristics of the youth that may impact his or her problem-solving abilities, such as developmental, motivational, and family factors, as well as skills deficits affecting the solution's implementation.

2. Provide a rationale for problem solving.
   a. Introduce it as a coping skill.
   b. Distinguish between adaptive and maladaptive styles, using the provided example.
   c. Emphasize the importance of a positive problem-solving orientation.

3. Define the problem.
   a. Problems are typically either an obstacle to a goal or the presence of competing goals or demands.
   b. Generate a list of current problems, and select one to define.
   c. Help the youth define the problem clearly and objectively.

4. Set a goal.
   a. Determine what the youth would like to have happen.
   b. Goals should be realistic, attainable, and defined using observable outcomes.

5. Generate alternative solutions.
   a. Use the "brainstorming" method to help the youth come up with as many solutions to the problem as possible.

6. Select the best solution.
   a. Help the youth engage in systematic decision making (e.g., discard unrealistic solutions, identify potential consequences, weigh pros and cons).

7. Implement the solution.
   a. Consider whether the youth has the skills needed for implementation.
   b. Help the youth make a plan for implementation.
   c. Identify and discuss any potential pitfalls.
   d. Have the youth implement the plan in the natural environment.

8. Evaluate the effectiveness of the solution.
   a. Help the youth determine whether the goal was achieved.
   b. If so, praise and reward him or her (or have the youth self-reward).
   c. If not, either modify the existing plan or return to Step 6 and select a new solution or consider moving back to an even earlier step if needed (e.g., generate more solutions to choose from or a new problem definition or goal).

9. Help the youth recognize the benefits of problem solving, and apply these to additional problems, encouraging increasing levels of autonomy for the youth in the process.

go through all the steps. Third, through early identification, remedial efforts can target any major skills deficits (e.g., social skills deficits) that might impede solution implementation later on in the process. Lastly, the family plays a crucial role in PST with youth. Parents should be willing to give up some control and allow the youth to make choices (Manassis, 2012).

Taking time to provide a rationale for PST helps with motivation and sets a foundation for the importance of adopting a positive problem orientation (Step 2). Problem solving is introduced as a set of coping skills that will help the youth address difficulties and reduce stress. Recognizing problems and taking action is emphasized. As a starting point, the therapist can ask the youth to describe his or her typical approach to solving problems. Using the youth's response, the therapist can contrast adaptive and maladaptive styles. Depressed and anxious youth are more likely to endorse maladaptive styles marked by avoidance and see their problems as unsolvable, threatening, and overwhelming (Chorpita et al., 1996; Nezu, 1987). The therapist counters negative thinking and reinforces the importance of adopting an adaptive approach to problems. For example, in the Taking ACTION Program (Stark & Kendall, 1996), youth are told, "Life is full of bumps in the road and you can either look at them as bumps or nothing more than problems to be solved, or you can look at them as insurmountable mountains. We are going to work on looking at them as problems to be solved" (p. 20). If the cognitive distortions are severe enough to impede progress, the therapist may need to target them with additional cognitive restructuring before continuing with PST (see Chapter 3). The therapist then provides a very brief overview of the major problem-solving steps.

Defining the problem is the third step. The youth must first learn to recognize problems, which might be quite a challenge for those with histories of avoidance. The therapist should help normalize having problems for the youth and offer a basic problem definition, such as being blocked from achieving a goal or having competing goals, and some examples (e.g., cannot find something, conflict with a peer). For youth with internalizing difficulties, experiencing negative feelings may actually *be* the problem. Anger, sadness, or fear can also serve as cues that a problem exists. Now better able to recognize problems, the youth is ready to make a list of current problems and choose one to define. It is best to select an easier problem to start. Problems should be defined as clearly and objectively as possible. The youth is instructed to ask questions and gather information (e.g., What is the problem?

Where does it occur? When does it occur? Who is affected?). Using this information, the therapist helps the youth put the problem into words, rephrasing and reframing as needed.

With a clearly stated problem in place, the therapist then helps the youth set a goal for problem solving in Step 4. Goals should focus on changing the situation and alleviating the problem. They should be realistic, attainable, and concretely defined in observable outcomes. If the problem situation is one that cannot be changed, the youth can instead focus on his or her reaction to the situation. As part of the ACTION intervention (Stark et al., 2007), youth are taught four things to consider when answering the question "What is my goal?": "Ask yourself what you want to have happen. Ask yourself what is the best thing that could happen. Avoid negative thinking. Open yourself to the positive and try to focus on the desired outcome" (p. 39).

Next comes the generation of alternative solutions (Step 5). Solutions are things the youth can do to change, or better cope with, the problem situation. Using the "brainstorming" method, the youth is asked to come up with as many different solutions as possible. Creativity is encouraged, and evaluation is discouraged. In the CWD-A course (Clarke et al., 1990), the following rules are discussed with the group: "List as many solutions as you can. Don't be critical, all ideas are allowed. Be creative. Begin by offering to change one of your own behaviors" (p. 246). Negative thinking can make this step particularly difficult for youth with internalizing problems. If the youth has trouble coming up with ideas or perseverates on reasons why ideas would fail rather than succeed, the therapist can use prompts or suggest alternatives for the youth.

In Step 6, the youth then decides on a best solution. In reaching this decision, the therapist helps the youth engage in a systematic process that involves carefully considering the potential consequences of each generated solution. First, it is helpful to remove any solutions that clearly do not make sense or that are not feasible. The youth is asked to think about the possible short- and long-term consequences of each remaining solution. Using a poster board or form that lists each solution and provides a space for comments (both pro and con) along with a rating can help structure the process for the youth. Pessimism can derail the decision-making process for depressed youth, and the therapist can help by pointing to the positive features of solutions and the limitations or self-defeating consequences of others (Stark et al., 2006). Reminders that even small changes can make a big difference are also helpful. The therapist can address rumination or avoidance by

encouraging the youth to write down only the most important advantages or disadvantages, setting a time limit, or reframing the process as a learning opportunity with no wrong choices (Manassis, 2012).

It is now time to implement the chosen solution (Step 7). Before developing an action plan, the therapist should consider whether the youth has the requisite skills (e.g., social, academic). For example, a lack of conversation skills might get in the way of a youth's decision to try to make new friends. In such cases, more thorough assessment and targeted skills training (e.g., see Chapter 8) may be needed before proceeding with PST. The therapist then helps the youth develop a step-by-step plan for carrying out the solution. The plan should be detailed, breaking things down into small achievable steps, and should include a time and place for enactment as well as specifics about needed input or assistance from others. Role playing with the therapist is an excellent way for the youth to practice the plan in a safe environment and also to provide added opportunities for instruction, corrective feedback, and assessment. Asking the youth to anticipate potential pitfalls in the plan and come up with a contingency plan is also helpful.

The therapist assists the youth in evaluating the outcome in Step 8. The goal is to find out whether the plan has been carried out and whether it is having the desired impact. Reviewing the goal set in Step 4 can provide a context for the youth's self-evaluation. If the goal has been met, the therapist offers praise and perhaps other rewards (e.g., stickers, free time) to the youth (see Chapter 9). Teaching the youth to self-evaluate and self-reward is important for promoting the maintenance and generalization of the problem-solving skills. In Coping Cat (Kendall & Hedtke, 2006), children are taught that a reward is something that is given when "you're pleased with the work that was done" (p. 41), and a self-rating is a way to decide whether the child is satisfied with his or her own work. The therapist points out that success leads to rewards, but also that succeeding all of the time is not possible and should not result in punishment. Children are reminded, "All that is asked is that one tries his best" (p. 42). This is an important point. Even if the problem is not solved, the therapist can help the youth look for any signs—even small ones—of improvement in the situation and offer praise for effort and perseverance (Manassis, 2012). Biased thinking is likely to affect the self-evaluations of depressed and anxious youth. As in previous steps, cognitive restructuring techniques, such as normalizing and reframing (see Chapter 3), can be used to counter them. Deciding what to do when an implementation attempt fails is not easy. One option is to modify the existing plan and try again. Another is to

return to Step 6 to select a different solution. Sometimes it may be necessary to return to an even earlier step. For example, more solutions to choose from or a new problem definition or goal may be needed. Once the goal has been met, the therapist has the youth apply the problem-solving steps to new problems (Step 9). The benefits of problem solving are emphasized, and the youth is encouraged to assume more autonomy in the process.

There are a variety of ways to teach the problem-solving skills. These include established behavior therapy procedures, such as verbal instruction, modeling, and reinforcement (see Chapters 5 and 9). Prominent among these is *cognitive modeling*, in which the therapist walks through the steps of solving a problem while verbalizing thoughts along the way (Spiegler, 2016). A coping model—one that allows for making mistakes or struggling at times—is suggested. Acronyms can help youth remember the problem-solving steps. In the ACTION program (Stark et al., 2007), girls are instructed to remember the "five *P*'s" (i.e., Problem, Purpose, Plans, Predict and pick, and Pat yourself on the back). Another useful instructional approach is to first have the youth apply the steps in hypothetical situations before moving ahead with actual problems. Role plays allow for practice, modeling, and additional instruction. Because maintenance and generalization are so challenging and relatively few sessions are devoted to PST in the manualized treatments, homework assignments are very important.

Another way to boost maintenance and generalization of PST is to include parents in the intervention. Parents can encourage the use of the trained skills outside of sessions with prompts, provide active instruction, and serve as models. In the C.A.T. Project (Kendall et al., 2002), for example, there are two "meet the parents" sessions. Among the suggestions for parent involvement are fostering independence and confidence, not permitting avoidance, and modeling problem solving in difficult situations. Other programs have more structured and intensive parent components. The PEP (psychoeducational psychotherapy) intervention (Fristad et al., 2011) includes one parent and one child session devoted to PST. The parents learn the steps before the children. They also learn "dos" (e.g., approach child at calm time, empathize with child, ask for child suggestions before offering your own) and "don'ts" (e.g., assign blame, insist on coming up with a solution at an emotional time, choose a parent solution before hearing the child's suggestions) and are given a take-home assignment to identify a problem in the family related to the child's symptoms and use the steps to solve it.

There is a slight difference between treatments for anxiety and

depression in the focus of PST. In the anxiety treatments, PST is used to help youth manage their anxiety. In Coping Cat (Kendall & Hedtke, 2006), for example, children learn to develop plans (i.e., FEAR [Feeling frightened, Expecting bad things to happen, Attitudes and actions that can help, Results and rewards] plans) for handling anxiety-provoking situations. In these plans, physical sensations and negative thoughts serve as cues to employ coping strategies, such as positive self-talk and problem solving, to help reduce anxiety and facilitate exposure to feared situations (see Chapter 2). In depression treatments, PST is used to help youth develop plans for changing situations that lead to negative emotions (Stark, Sander, et al., 2006). If the situation cannot be changed, youth are taught to use coping skills designed to enhance mood, such as distraction, talking to someone, or doing something relaxing. Family conflicts are a common problem source for depressed youth, and PST often targets their interactions with parents (e.g., Clarke et al., 1990; Fristad et al., 2011).

Developmental Adaptations

Problem solving is a fairly complex cognitive process involving the retrieval and processing of information, perspective taking, anticipation of consequences, and planning, among other things. Three core cognitive abilities underlie this process: working memory (i.e., the ability to hold information in mind while solving a problem), selective attention (i.e., the ability to filter out distractions and focus on the most relevant information), and inhibition (i.e., the ability to delay responding; Ropovik, 2014). These abilities fall under the umbrella of executive functioning, which is seated in the frontal lobe and is the last part of the brain to fully mature (Zelazo & Müller, 2002). Paralleling its physical maturation, executive functioning develops gradually throughout childhood and into early adulthood. It does not, however, progress in a stage-like fashion. Rather, the associated abilities exist at some level even in young children but continue to mature at different rates throughout adolescence. For example, the ability to inhibit responding makes its biggest leap in the preschool years and continues to improve between ages 5 and 8 before leveling off to some degree, whereas working memory continues to improve in a linear way between the ages of 4 and 14 (Best & Miller, 2010).

This uneven pattern of development makes it difficult to determine a definitive age at which a child can benefit from PST. The formative work of Spivack and Shure shows that children as young as 4

years old can learn the skills (e.g., Shure et al., 1972) and suggests that the skills are capable of mediating behavioral adjustment (Shure & Spivack, 1980). Two cautionary notes are worth considering. One is that a number of other researchers have failed to replicate the mediating effects reported by Shure and Spivack (1980) with preschool samples (e.g., Winer, Hilpert, Gesten, Cowen, & Schubin, 1982). Another is that the Spivack and Shure intervention was much more intensive than PST as delivered in typical therapy settings. In the Shure et al. (1972) pilot investigation, the preschoolers had 50 training sessions devoted to PST that included instruction in a number of foundational skills, such as listening, logic, emotional awareness, and gathering information. Though pinpointing a certain "age of readiness" for PST may not be possible, it is safe to assume that it is more effective with older youth. Consistent with brain maturation and developmental research, Durlak and colleagues found an effect size for older youth (ages 11 years and more) that was almost two times larger than that for younger youth in a meta-analytic investigation of cognitive-behavioral interventions such as PST (Durlak, Fuhrman, & Lampman, 1991).

Especially when working with younger youth or those needing some extra help in learning the problem-solving skills, therapists are encouraged to take a *scaffolding* approach. According to Wood and colleagues, who first used the term, scaffolding is a teaching process in which a child is provided with some assistance in order to reach a learning goal that would normally be out of reach (Wood, Bruner, & Ross, 1976). It is an interactive process in which adult involvement is gradually reduced to the point where it is no longer needed. For example, the therapist might begin with cognitive modeling, talking through each step on the way to solving a hypothetical problem. The child then takes a turn but runs into some difficulty remembering the steps. The therapist uses verbal prompting to help get the child through the steps, gradually fading the prompts as the child demonstrates the ability to move through the steps more independently.

Other useful scaffolding aids include added instruction in basic skills, simplifying the task, and using cues, pictures, games, make-believe, and self-talk. In their seminal work with preschoolers, Shure et al. (1972) taught children basic skills building up to problem solving. For example, children learned about "if–then" thinking in sentence completion exercises (e.g., "If Susan is running, then she is not walking. If Sammy is crying, then he is not _____"). Simplifying tasks by breaking them down into smaller doable steps and remembering to adjust language to the child's level are also helpful. The use of cues,

such as acronyms and posters, can be useful supports, especially as the therapist begins to fade prompts. Games and make-believe activities are good scaffolding options because they increase child attention and engagement (Wood et al., 1976). In the ACTION program (Stark et al., 2007), for example, a game is used to illustrate how problem solving can address unpleasant situations. Girls put beads into their shoes and are asked to walk around while eating a piece of candy. They are then asked to take ACTION by using the problem-solving steps (prominently displayed on a poster) to make the situation better. Finally, the use of self-talk is an excellent way to get children to internalize cues. For instance, Shure et al. (1972) emphasized the use of three self-stated questions to help guide children through the problem-solving process (i.e., "What can I do?"; "What might happen if I do that?"; "What else can I do?").

At the other end of the developmental spectrum, adolescents present with their own set of challenges for the therapist. Again, it is hard to judge by age alone, but youth in their teenage years should be increasingly capable of engaging in the type of abstract thinking required in problem solving. Along with their increasing abilities, adolescents may desire more autonomy and control in working through their problems. The therapist must adjust, balancing competing needs for increased independence and structure (Manassis, 2012; Mufson, Dorta, Moreau, & Weissman, 2011). Even with their cognitive advances, adolescents may have a limited perspective on the future and underestimate the longer-term consequences of their current actions, thus requiring that the therapist help point these out to them (Mufson, Dorta, Moreau, & Weissman, 2004). The types of problems experienced by teens will also be different. For example, IPT (Mufson et al., 2011) focuses on major problem areas typically faced by depressed adolescents: grief (loss of a person or relationship), interpersonal role disputes (nonreciprocal expectations about a relationship), interpersonal transitions (developmental life changes, such as puberty), and interpersonal deficits (lack of needed social and communication skills). Parent–adolescent conflict is another common problem area (Clarke et al., 1990). It is important for the therapist to resist getting drawn into these conflicts or attempting to intervene on the teen's behalf (Manassis, 2012).

Diversity Considerations

There is no direct evidence that PST used alone is effective for ethnically diverse youth with internalizing disorders. One reason is that PST

has so rarely been evaluated as a stand-alone treatment. The Stark et al. (1987) study is the closest approximation to an evaluation of pure PST with depressed youth, but the authors did not report on the ethnic composition of their sample. Even indirect evidence is hard to come by because reporting of treatment outcomes by youth ethnicity is the exception rather than the rule (Huey & Polo, 2008). Thus, although there are a number of evidence-based multicomponent treatments for internalizing disorders that include PST, it is often not possible to determine whether they are effective for different ethnic groups. Indeed, in a recent meta-analysis, Huey and Polo (2008) identified only four anxiety and depression outcome studies that met their combined effectiveness and ethnicity inclusion standards (i.e., 75% of sample ethnic minorities or analyses either supporting effectiveness with a subset of ethnic minorities or showing a lack of ethnicity moderation).

Two of the studies identified by Huey and Polo (2008) were evaluations of culturally sensitive adaptations of CBT and IPT interventions for Puerto Rican adolescents (Rosselló & Bernal, 1999; Rosselló, Bernal, & Rivera-Medina, 2008). In adapting the interventions, Rosselló and colleagues used examples based on their experiences with Puerto Rican teens, modified session content to better comport with Puerto Rican culture, and increased the focus on parental involvement. In the Rosselló et al. (2008) study, the parents attended sessions at pre-, mid-, and posttreatment so that the therapist could discuss their teen's progress in therapy, answer questions, and offer recommendations about particular issues. Therapists could also schedule up to two additional sessions with the parents (with or without the adolescent) when more input was needed. Work with the parents was guided by the important cultural values of *familismo* (i.e., strong identification and attachment to the family) and *respeto* (i.e., respect for authority figures). No details regarding adaptations to the PST components, in particular, were provided. Regarding effectiveness, both treatments were similarly effective in reducing depressive symptoms in the initial investigation (Rosselló & Bernal, 1999). Although both treatments proved effective in the later study, CBT was superior (Rosselló et al., 2008). Clinical significance analyses indicated that 62% of the participants in the CBT group and 57% of the participants in the IPT group were no longer in the clinical range at posttreatment.

Cormier, Nurius, and Osborn (2013) offer some general recommendations for implementing PST with diverse clients. Emphasizing that diverse groups will not respond to PST in the same way, they suggest that therapists be sensitive to gender, race, and ethnicity and argue

that the traditional problem-solving model is inherently Eurocentric and androcentric. That is, the traditional model is individualistic and may be preferred by Caucasian and male clients, whereas collectivistic approaches emphasizing collaboration may be preferred by clients of color and females (Cormier et al., 2013). For example, inherent in the familism of the Puerto Rican culture is the valuing of family interests over the interests of the individual (Rosselló & Bernal, 1999). Families are at the center and play a predominant role in meeting psychological needs and identity formation. As such, therapists adapting PST for Puerto Rican youth should make efforts to include parents in the process and allow for more dependence on them in the generation of solutions and alternatives (Rosselló & Bernal, 1999). These types of adaptations are consistent with the suggestion of Cormier and colleagues (2013) that PST is more effective when delivered in a culturally sensitive way. Of course, diversity is more than race and ethnicity, and the therapist should consider culture in its broadest sense to include such factors as sexual identity, religion, and socioeconomic status. Religious beliefs, for example, can put restrictions on the range of choices and autonomy granted to youth (Manassis, 2012). The challenge for the therapist is to find a way to teach the problem-solving skills without making the youth feel pressured to assimilate to the norms of the mainstream culture (Cormier et al., 2013).

CONCLUSIONS

Since its introduction as one of the first formal CBT techniques, PST has been applied to a wide range of clinical disorders and health problems (D'Zurilla & Nezu, 2007) and is one of the most frequently used practice elements in EBTs for youth with internalizing disorders (Chorpita & Daleiden, 2009). In treatments for depression and anxiety, PST is used to teach youth to use problems as cues for action focused on changing the situation or better coping with the resulting negative emotions. By targeting coping skills that can be applied to newly emerging problems, PST offers advantages for maintenance and generalization. The cognitive abilities underlying problem solving develop unevenly, and a scaffolding approach to teaching the skills is suggested. Sensitivity to culture and adapting PST for diverse youth are also important.

BOX 4.2. Illustrative Case Example

Troy was a 16-year-old Caucasian male presenting with depressive symptoms that had worsened in recent months. After the divorce of his parents about a year earlier, Troy's grades began to decline to the point that he failed two courses. He also withdrew from extracurricular activities, deciding not to rejoin the soccer team despite the fact that he had lettered as a freshman. Troy lived with his father and two younger brothers. His mother lived out of state, but the two remained close by talking on the phone and sharing a 1-month visit at her home during the summer. His father described Troy as "going through a major shift in the wrong direction" over the past several months. Troy had become irritable and sometimes lashed out verbally at his siblings with no obvious provocation. Though they used to get along well, Troy rarely engaged in conversation with his father, resorting instead to nods and simple "yes and no's." Contacted by phone, Troy's mother described him as "just going through the motions" and agreed that he had become very irritable in recent months.

Following a thorough assessment that included a structured interview, Troy was diagnosed with major depressive disorder. His therapist suggested PST in combination with pleasant events scheduling. The goal was to help Troy learn how to better cope with his negative emotions and motivate him to begin engaging in activities that he used to find enjoyable. Troy was clearly able to engage in PST, but he did not appear to be very motivated to participate in the program. His father was very receptive to the proposed treatment plan and demonstrated concern about Troy's recent decline and struggles with anger. Though he was generally open to allowing Troy a role in family decision making, he tended to get more dictatorial at times of stress.

In discussing the rationale for PST with the therapist, Troy acknowledged that it could be helpful "for someone else." He said he "just had too many problems" and that every time he tried to "fix them they just get worse." The therapist contrasted Troy's avoidant style with a more adaptive approach to problems. She told him that it sounded like his problems just seemed so overwhelming that he stopped trying to solve them and that when we stop trying it often causes more problems. Instead, she emphasized how stepping up to take some action could make things better and that the "practice" would make him get better at solving future problems. After some discussion, Troy agreed to give it a try, and the therapist noted that learning any new skill requires effort and persistence, much like what he had shown in refining his soccer skills. To end the initial session, the therapist overviewed the major problem-solving steps and "talked through" each step in solving a hypothetical problem.

Over the next few sessions, Troy was able to identify a few problems to work on and developed an implementation plan to try to solve one of them. The therapist taught Troy to interpret his negative feelings as a cue that a problem existed and some action was needed. As a homework assignment, Troy was asked to make a list of 10 problems he faced during the week. After reviewing the list, the therapist suggested that they start with a problem that was fairly straightforward and not too

(*continued*)

BOX 4.2 (*continued*)

emotionally charged. Troy selected a problem that involved calling his mother. Taking time to think it over and gather some information, he observed that he usually thought of calling his mother right after school when he still had energy and "things to talk about." The problem was that his mother was at work during that time and would often return his messages later in the evening when he was too tired to talk. During the brainstorming step, Troy quickly discounted each alternative he came up with. The therapist reminded him that evaluation was not allowed at this point and encouraged him to "just let ideas flow." Eventually, Troy chose to talk with his mother about scheduling their phone calls for early in the evening. As part of his plan, he would record things he wanted to tell her in the notes section of his cell phone. After a couple of practice runs using role play, Troy called his mother, and the two agreed to the plan.

Experiencing some success motivated Troy to apply his new skills to other problems. After Troy noted that he now really enjoyed talking with his mother on the phone, the therapist encouraged him to use the skills to plan more pleasant activities. Troy also devised plans for better coping with his anger and irritability. For example, he established a "cool-off zone" in his room that allowed him space and time to get control of his feelings. As his confidence grew, he assumed more independence in the problem-solving process. He seemed to enjoy reciting the steps for the therapist at the beginning of each session and even attached a copy of the brainstorming rules to the refrigerator at home. Troy's father helped by prompting him to use the skills at home and being more mindful of ways that he might unwittingly support Troy's avoidance. Over time, Troy's family began using the skills to address common problems at home.

Over the course of the 12 sessions, Troy made demonstrable progress. His mood improved, and he reported feeling more confident in his ability to manage his anger and irritability. His father noted that Troy seemed less stressed in general, was talking more at home, and had begun playing in pick-up soccer games with his friends. The two were getting along better but "still had their moments." To address this, the therapist added two joint sessions in which Troy and his father learned some communication and negotiation skills and practiced collaborative problem solving, targeting relationship issues.

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