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The Effects of a Narrative-Based Social Problem-Solving Intervention with High-Risk Adolescent Males

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THE EFFECTS OF A NARRATIVE-BASED SOCIAL PROBLEM-SOLVING INTERVENTION WITH HIGH-RISK ADOLESCENT MALES

By

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DISSERTATION

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Dedication

For my son, Eric. May you always find joy in learning.

Acknowledgements

This work reflects a very personal journey, but not an individual one. As I look back on this experience, I feel immeasurable gratitude for those who supported me and believed in and contributed to my work.

I recognize my committee as an amazing group of professionals who have shaped my perspective, thinking, and learning. Dr. Loretta Serna, my advisor and committee chair, has been a steady source of guidance and instruction. She has supported and coached me through my courses, research, and teaching. Dr. Ginger Blalock, as a mentor and role model, encouraged my growth as an interventionist, collaborator, and consultant in schools with educators, students, parents, and families. Dr. Carol Westby generously shared her time and knowledge. She often challenged me through rich discussions and inquiry, through which much of my understanding and construction of knowledge was shaped. Dr. John Oetzel offered clarity and direction through the maze of data analysis and interpretation. I am most grateful for the contributions of each of you.

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Without my family and their love, this would not have been a possibility. My grandmother taught me faith. My mother taught me the importance of giving and service. My father taught me the values of commitment, hard work, effort, and persistence. My son has been and continues to be a reminder of what is most valuable. He inspires me to be my best.

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ABSTRACT

Adolescents with emotional disturbance and those incarcerated present high risks for poor outcomes in high school, and as adults (e.g., Walker, Ramsey, & Gresham, 2004). Poor social competence is often a characteristic of this group of students (e.g., Kauffman, 2005; Maag, 2006). Historically, schools have responded to the social needs of this group of students through opportunities to participate in social problem-solving interventions (e.g., Cook, et al., 2008). Results of the research investigating these interventions, though, have shown moderate gains in student's social problem-solving skills, yet limited to no effect on behavior in authentic social contexts (e.g., Maag, 2006; Quinn, Kavale, Mathur, Rutherford, & Forness, 1999; Smith & Travis, 2001). One explanation for the limited success of interventions may be the frameworks used to guide understanding of social problem solving and intervention practices. Social problem-solving frameworks may be conceptualizing the components and processes in too simplistic of terms. Other factors that influence behavior in social interactions were not represented in these instructional frameworks and as a result have not been attended to in intervention frameworks and curricula. To address this gap

between research and practice, three studies were conducted to (1) establish the social validity of the cognitive and behavioral components of the proposed social problem-solving intervention model, (2) examine the characteristics of high-risk adolescents and the ways high-risk adolescents include social reflection, social problem-solving and social decision making in their narratives, (3) investigate the efficacy and effectiveness of an individual, narrative-based, cognitive-behavioral, social problem-solving intervention. The model was established as socially valid by both adolescent and adult respondents. Student personal oral narratives were analyzed and found to reflect limited narrative structure and limited inclusion of social problem-solving skill components. A single-subject, multiple-baseline across participants design was used to assess the efficacy of the intervention. Results of this study showed significant positive effects for inclusion of social problem-solving steps, inclusion of story grammar elements, and landscape of consciousness words in personal narratives following intervention. Students reported being satisfied with the program and skills learned. The replication of these findings, in other settings and with other interventionists, is recommended for future studies.

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Chapter 1

Introduction

Background of the Problem

Parents, teachers, and community members do not need research to prove to them that many American youth are in trouble. They need only to watch the evening news, read the daily paper or listen to the stories of their children and neighbors. Most would agree that many of the youth in America are failing, and many more are at risk. When the term "at risk" is used educationally, it generally refers to young people "who do not master the basic academic, vocational, social and behavioral skills required to function successfully in school, the workplace, and in the community" (Meisel, Henderson, Cohen & Leone, 2000, p. 59) and as a result are at risk for future negative outcomes unless intervention is given that alters the trajectory. Public concern for youth at risk and for those who are failing is strong and growing, as evidence of the cost to families, communities, and society mounts.

However clear our personal perceptions of the issues, research and statistics further clarify the problems plaguing our youth and placing them at risk for failure as adolescents and adults. Data from the Twenty-Ninth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (OSEP, 2007) show 7.7% of the 6,109,569 students, ages 6 through 21, receiving special education and related services in the United States, are eligible for these services as students with an emotional disturbance (ED). This number represents less than one percent of the population, ages 6 through 21. Some believe this to be an under- representation of the children and youth in the United States with emotional and behavioral disorders (EBD). Prevalence estimates of mental health disorders

in children and youth published in the Report of the Surgeon General's Conference on Children's Mental Health ranged from 16 to 22% (U.S. Public Health Service, 2000).

Gresham (in Walker, Schwarz, Nippold, Irvin, & Noell, 1994) reported that young people with disabilities are especially at risk for failure, as they characteristically do not have adequate social skills to support them in establishing and maintaining relationships with others and negotiating through a variety of social situations. Adjudicated youth represent a group of young people arguably at the highest risk for poor outcomes. Approximately 134,000 students in the United States are incarcerated (Quinn, Rutherford, Leone, Osher, & Poirier, 2005). Data on the numbers of incarcerated youth with disabilities vary, but general agreement exists that youth with disabilities are disproportionately represented in the juvenile justice system (Meisel, et al., 2000). Estimates of youth with disabilities in the juvenile justice system range from a conservative 32% (Quinn, Rutherford, Jr., & Leone, 2001) to suggestions that 90% "meet diagnostic criteria for one or more mental health disorders" (Stemhjem, NCSET, 2005). In the Twenty-ninth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (OSEP, 2007) it was reported that 20,152 school-age students with disabilities were served in correctional facilities under the Individuals with Disabilities Education Improvement Act of 2004 (IDEA, 2004).

Children and youth with EBD are "disabled by behaviors that are discordant with their social-interpersonal environments" (Kauffman, 2000). Antisocial behaviors can fall anywhere on a continuum from internalizing behaviors (e.g., depression and anxiety disorders) to externalizing disorders (e.g., attention-deficit hyperactivity disorder, conduct disorders and aggression; Coleman & Weber, 2002). Young people with EBD may struggle

to establish and maintain appropriate social relationships and may show inappropriate behaviors such as social withdrawal, impulsivity, noncompliance and aggression (e.g., Cook, et al., 2008; Walker, Ramsey, & Gresham, 2004). Engagement in risky behaviors, such as delinquency, early sexual activity, substance abuse, self-destructive activity and gang activity is common for at-risk adolescents (Coleman & Weber, 2002; Kauffman, 2005; Walker et al., 2004). Such behaviors create barriers to success. Antisocial youth are considered high-risk for not only poor academic outcomes, but also for poor social and health outcomes including depression, low self esteem, rejection by peers and teachers, vocational problems, and higher than typical hospitalization rates and mortality rates (Walker et al., 2004; Walker in Kamps & Tankersley, 1996). Young people with ED, when compared with their nondisabled peers, were arrested more often, less successful academically and were more likely to drop out and not graduate when compared to other students (U.S. Department of Education, 1994). According to data from 2005 (OSEP, 2007), only 40.1% of students, identified and receiving special education services as students with ED (ages 14 and older), graduated from high school. This same group of students had a drop out rate of 48.2% (OSEP, 2007). In fact, when compared with other students with disabilities, their data demonstrated the worst outcomes for any eligibility category in the Individuals with Disabilities Education Improvement Act 2004 (National Center for Special Education Research, 2005).

Young people with an ED have been found to often have significant difficulties in basic skills and strategies required for activities of daily living including communication, literacy, self-regulation, anger management, decision making and moral reasoning (Gemignani, 1994; Gibbs, Potter, & Goldstein, 1995; Meisel et al., 2000). Poor social competence though may arguably be the hallmark characteristic of at-risk children and youth

(e.g., Kauffman, 2005; Maag, 2006; Mather, et al., 1998). Poor social competence has not only been correlated with young people at risk for ED, but also with young people with disabilities and those who are delinquent. Given the attention paid to the importance of the social competence in the literature, it seems necessary to discuss how social competence is defined.

Social competence has been defined as an assessment of the appropriateness of one's social behavior in given social settings (McFall in Walker et al., 1994; Smith & Travis, 2001). An individual's social competence may be evaluated against impressions of others, against specific criteria, and/or against a normative sample (Gresham in Cook et al., 2008). A socially competent person is one who behaves or acts in a way that supports accomplishment of personal goals in a social context (Foster & Ritchey, 1979; Serna, 2000).

Underlying one's social competence are a variety of skills that mediate an individual's adjustment. Two of these skills explored widely in the literature are social skills and social problem-solving skills. Social skills and social problem-solving strategies, as underpinnings of social competence, support individuals to accomplish three critical social tasks: establish and maintain relationships with others, respond positively to a variety of social situations, and effectively communicate their own wants and needs (Walker et al., 1994).

The Problem

Many adolescents, with and without disabilities, are not learning or not using skills correlated with social competence and ultimately are meeting with failure in social contexts. Much concern has risen among those who care about and advocate for adolescents with EBD, specifically those who exhibit antisocial behaviors, that, given their difficult behaviors,

they may have limited opportunities to positively participate in, contribute to, and experience success with their families, in their schools and in their communities. Complicating this further is the realization that time to intervene and to teach skills and strategies to adolescents is limited before they leave school systems and transition to postsecondary education, work, and adult living. To improve the behavior and future outcomes of at-risk youth, many recognize the critical need for effective interventions, and promote opportunities for learning and curricula for teaching prosocial skills (e.g., Cook, et al., 2008; Mathur, Kavale, Quinn, Forness, & Rutherford, 1998).

Social problem-solving interventions have been presented in the literature as promising approaches to decrease antisocial behavior for over forty years (e.g., Cook, et al., 2008; D'Zurilla & Goldfried, 1971; Kazdin, 1987; Kazdin & Weisz, 1998). Despite the energy given to social problem-solving research and the enthusiasm for social problem-solving interventions in education and clinical practice, findings from current investigations of the efficacy and effectiveness of social problem-solving interventions (e.g., Maag, 2006; Quinn, et al., 1999; Smith & Travis, 2001) are overall consistent with findings published thirty-years ago (e.g., Kazdin & Weisz, 1998; Pellegrini & Urbain, 1985; Urbain & Kendall, 1980). Research continues to reflect minimal to moderate gains in acquisition of target skills related to social competency, yet limited to no gains in generalization of these skills to behavior in everyday contexts. More recent research though has highlighted some interesting findings. Gresham, Cook, Crews, and Kern (2004) and Cook et al. (2008) reported intervention with students with EBD was successful with about two-thirds of students. Reviews and analysis of previous studies show a little stronger evidence to support efficacy of social competency interventions, yet evidence for effectiveness of such practices is still

limited. Schneider and Byrne (in Cook et al., 2008) found evidence to support better outcomes for adolescents than other age groups, noting that interventions with a behavior component resulted in better outcomes for younger adolescents and interventions with social learning strategies resulted in better outcomes for older adolescents.

Given the critical academic, social, and vocational needs of at-risk youth, as well as the potential negative impact of their behaviors on their schools, families and communities, and their own future outcomes, a clear need emerges to further develop and research social problem-solving interventions for at-risk adolescents.

The Purpose

The purpose of this research is threefold: (1) to investigate the social validity of the behavioral and cognitive components of a social problem-solving intervention model to determine the most essential steps when an adolescent is engaging in social problem solving; (2) to examine the narrative and social problem-solving skills of at-risk adolescents, and the complex relationship between narrative and social problem-solving skills in at-risk adolescents; and (3) to investigate the efficacy and effectiveness of a narrative-based, social problem-solving intervention with at-risk adolescents.

Research Questions

The following questions were investigated across the three studies.

Social Validity of the Intervention Model; Study One

To what extent do parents, adolescents and professionals think the cognitive and behavioral components of the proposed social problem-solving intervention model are necessary for successful social problem solving?

Social Problem-Solving and Narrative Abilities of High-Risk Youth; Study Two

(1) What are the characteristics of the narratives produced by: (a) adolescents in a juvenile correctional facility identified as general education students, (b) adolescents in a juvenile correctional facility receiving special education and related services as students with ED, and (c) adolescents in a juvenile correctional facility receiving special education and related services as students with specific learning disability (SLD)?

(2) In what ways do adolescents include social reflection, social problem solving, and social decision making in their narratives?

(3) Are there differences between these groups of students in their narrative, social problem solving and social reflection abilities?

Social Problem-Solving Intervention Efficacy and Effectiveness; Study Three

Seven questions were asked to investigate the efficacy and effectiveness of an individual, narrative-based, cognitive-behavioral social problem-solving intervention:

(1) What is the change in student use of social problem-solving steps in a spontaneous personal narrative after treatment?

(2) What is the change in student story grammar in a spontaneous personal narrative after treatment?

(3) What is the change in student expressive language skills as measured by mean length of T-units after treatment?

(4) What is the change in the occurrences of connective words and words reflecting landscape of consciousness in narratives after treatment?

(5) Does instruction in the BEST PLANS Social Problem-Solving Strategy instructional curriculum reduce problem behaviors?

(6) What is the observed change in staff and student ratings of social problem-solving competence following treatment?

(7) What are students' perceptions regarding the intervention experience (i.e., consumer satisfaction)?

Significance of the Study

The prevalence of EBD and the significance of the related behavior problems with this population provide strong rationale for further research in this area (Feindler, Marriott, & Iwata, 1984). A large portion of the challenges faced by educators involves responding to antisocial behavior and creating learning environments in which problem behaviors are less likely to occur. Young people who engage in antisocial behaviors are frequently on a slippery slope toward poor lifestyle results. Teachers, parents and other professionals are searching for interventions that can be used to teach students strategies that will support them in reducing problem behaviors. Students with EBD need and deserve proven interventions that will teach them skills so they are better able and more likely to engage in positive behaviors and make prosocial choices that will lessen the complications of their disabilities.

Additionally, scant data are available describing the language and social problem-solving abilities of adolescents in general and high-risk adolescents specifically. Through this research additional data will be gathered to further our understanding of the oral narrative, oral language and social problem-solving abilities of high-risk adolescents.

Operational Definitions of Terms

The following definitions are offered to clarify terms used in this study:

Adolescent: An individual developing from child to adult, generally between the ages of 12 and 18 years.

At-risk: A group of activities, events, or conditions in a child or adolescent's life that are presumed predictive of current or future negative outcomes unless intervention is given (McWhirter, McWhirter, McWhirter, & McWhirter, 2004).

Emotional and Behavioral Disorders (EBD): Describes children and youth with social, emotional, behavioral, and/or social problems. These children and youth may or may not be eligible for special education and related services under IDEA (2004; Cook, et al., 2008; Kauffman, 2005)

Emotional Disturbance (ED): One disability category in IDEA (2004). It is defined in federal legislation and regulations:

> Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects educational performance: (a) an inability to learn which cannot be explained by intellectual, sensory, or other health factors, (b) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, (c) inappropriate types of behavior or feelings under normal circumstances, (d) a general pervasive mood of unhappiness or depression, (e) a tendency to develop physical symptoms or fears associated with personal or school problems. Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c) (4) (i) of this section. (34 CFR Sec. 300.8 (c) (4))

High-risk: A child or adolescent who evidences characteristics of aggressive behavior and "conduct problems, impulsivity, anxiety, affective problems such as depression and bipolar disorder, and hopelessness, as well as deficits in social skills and coping behaviors" (McWhirter, et. al, 2004).

Landscape of action: The actual events and actions that occur in a story (Bruner, 1986).

Landscape of consciousness: An individual's perception of the events and actions that occur in their life and "what those involved in the action know, think or feel, or do not know, think or feel" (Bruner, 1986) about those events.

Scaffolding: An instructional strategy in which a teacher provides a learner with individualized support to facilitate the student's learning and success with learning tasks the student otherwise could not complete (Graves, Graves, & Braaten, 1996).

Social competence: One's judgment regarding how effective an individual's social skills are within social contexts. (Gresham, 2002; McFall in Walker et al., 2004).

Social problem solving: An individual's engagement of cognitive and behavior steps, when met with a problematic situation, to understand social information, generate and weigh alternatives, and select and implement the most appropriate response.

Social skills: The actions and strategies individuals use daily to mediate their social environment (e.g., following directions, asking for clarification, taking turns) (McFall in Walker et al., 1994).

Terminal units (T-units): A T-Unit is an independent clause and all of its dependent clauses (Hunt, 1965; Loban, 1976).

Organization of the Chapters

Chapter two presents a review of the literature. Research investigating social problem-solving interventions for children and youth, theoretical frameworks of social problem solving, and related literature are explored. Specific attention is given to research and literature focused on high-risk adolescents. The relationships between language and social behavior, and narrative language and social problem solving is highlighted. Chapters three, four and five detail three studies: Study One: Establishing the Social Validity of a

Social Problem-Solving Model for High-Risk Adolescents, Study Two: Narrative Development and Social Problem-Solving Skills in High-Risk Adolescents, and Study Three: The Effects of a Narrative-Based Social Problem-Solving Intervention with High-Risk Adolescent Males. For each study the purpose, method, and results are described. At the end of each of these chapters, there is a discussion of the research, findings, and limitations. Chapter six, the conclusion, summarizes the research and results and offers suggestions and possibilities for practice and future research. Tables, figures, appendices and references follow.

Chapter 2

Review of the Literature and Related Research

This review focuses on the research examining social problem-solving interventions for children and youth and the theoretical frameworks and related literature that have shaped our understanding of social problem solving process and guided our development of interventions. An emphasis is placed on literature and research related to adolescents considered high-risk secondary to a diagnosis of an emotional or behavioral disorder or a history of delinquent behavior. The review is organized into three major sections. The first section specifically examines the effectiveness of social problem-solving interventions with at- and high-risk adolescents. The second section reviews the theoretical frameworks used to understand and investigate the social problem solving process and components of the process. These frameworks are examined in a historical context from the 1960s with the development of cognitive-behavioral theory to present. The development of intervention practices as they relate to the evolution of social problem-solving frameworks is described within this section. The third section explores one specific factor connected to the social problem-solving process, language. The relationship between language and social behavior in general, and more specifically the relationship between language and social problem solving are explored. One area of language, narrative language, is further considered for its unique connection to the social problem solving process and possibly intervention practices. Research examining the narrative development and narrative abilities of high-risk adolescents is reviewed to further our understanding of this relationship. A summary of reviewed literature and research is presented at the end of the chapter.

Cognitive-Behavioral Interventions Addressing Social Problem-Solving

Historically, the fields of special education and psychology have addressed the social skill and social problem-solving skill deficits of at-risk children and youth by developing and implementing cognitive-behavioral intervention programs (e.g., Bash & Camp, 1985; Camp & Bash, 1981; Serna, Nielsen, & Forness, 2007; Shure, 1992a; Shure 1992b). Although many cognitive-behavioral intervention programs are targeted at improving the social skills and social problem-solving skills of at-risk adolescents (e.g., Gibbs et al., 1995; Goldstein, 1999), very few have been rigorously assessed to determine the impact of such intervention on the behavior of youth in authentic social settings.

Effectiveness of Early Social Problem-Solving Interventions with Children and Youth with Emotional and Behavioral Disorders

Research investigating cognitive-behavior approaches teaching interpersonal problem-solving skills to children and youth has shown mixed results on the short- and long-term efficacy and effectiveness of the interventions (Ager & Cole in Walker, Colvin & Ramsey, 1995; Hollinger in Walker, Colvin, & Ramsey, 1995; Smith & Travis, 2001). Urbain and Kendall (1980) reviewed 42 studies training children and youth in interpersonal problem solving, family problem solving, verbally mediated self-control applied to social behavior, and social perspective taking. They observed that, while the interventions reviewed were varied, the instructional methods were similar, generally including one or a combination of the following: "(a) direct verbal instruction to the child, (b) modeling, (c) environmental reinforcement [material rewards, social praise, response cost], (d) role play and behavioral rehearsal, (e) self-instructional training, (f) self-reinforcement, and (g) feedback and group discussion." They also observed some overlap in skills taught; they noted multiple programs

taught perspective taking, generating alternative solutions, and identifying feelings and emotions. The authors concluded that empirical evidence is encouraging in the area of training children and youth in social-cognitive skills. Yet, they also noted concerns around the limited use of clinical samples, selection of control groups, and limited measures of observable behavioral change.

Pellegrini and Urbain (1985) completed a review of 19 studies investigating the effectiveness of interpersonal cognitive problem-solving training on peer relations. They concluded that, even when taking into account methodological flaws in the research, there appeared to be positive benefit to children participating in many varied training programs for interpersonal cognitive problem solving. Further, initial findings indicated that such changes had been observed in various groups including preschoolers with behavior problems, those with emotional or behavioral disturbances in treatment facilities, and juvenile delinquents. Yet, they qualified their interpretations, "In sum, the utility of ICPS (Interpersonal Cognitive Problem Solving) training has not yet been firmly established, despite the energy and enthusiasm directed towards research of this kind in recent years" (Pellegrini & Urbain, p. 36).

While some problem-solving skills training programs have been shown overall to be effective in teaching a new skill set to children and youth, these programs have not been proven empirically to be effective in reducing antisocial behavior. Behavioral changes in students who have participated in these interventions, when reported, have been relatively small clinically. Many of the studies in this area have not assessed the results of training on behavioral change (e.g., Kazdin, 1987).

Effectiveness of Current Social Problem-Solving Interventions with Children and Youth with Emotional and Behavioral Disorders

Purpose of This Literature Review. A review of the literature examining social problem-solving interventions was conducted to answer the following three questions (as adapted from McDougall, 1998):

1. To what extent have researchers investigated the use of social problem-solving interventions for adolescents with emotional or behavioral disorders since 1983?
2. How have these interventions been used (e.g., specific procedures used, participants and outcome variables targeted)?
3. How effective have the problem-solving interventions been in improving academic and social outcomes for students with emotional or behavioral disorders?

Method. Specific criteria were identified for selection of studies. Of the articles reviewed, only those were selected that met the following criteria:

1. Participants were children and youth 11-18 years old with identified emotional or behavioral disorders, delinquent behavior, or clinically significant behavior. Studies of children with learning disabilities, mental retardation, and severe developmental delays were not included. Studies that included participants 11-18 as a subset of a larger group of participants including children younger than 11 were not included.
2. Dependent variables included at least one quantitative measure.
3. Independent variables included participation in a treatment program that included a cognitive-behavioral social problem-solving intervention component.

4. Setting of treatment was not considered. Given the lack of research in this area, research reviewed was included whether the treatment occurred in a school setting or not.
5. Published after 1983.

The search process for the following literature review was conducted using the criteria outlined above. First, a search of the electronic databases Find Articles and First Search was conducted initially using the key word *problem solving*. Additional key terms included *adolescent, data based, intervention, emotional or behavioral disordered, conflict resolution, anger management, peer mediation* and *social*. Following computer database searches, reference lists of articles from the first search were reviewed as were reference lists from textbooks. In addition, a hand search of two journals in the area of EBD was completed. Seven articles met the selection criteria outlined above.

Frameworks for reporting descriptive variables and outcome measures. McDougall's (1988) framework of descriptive categories, which he adapted from Webber, Scheuermann, McCall, and Coleman (as cited in McDougal, 1988) was used to report data. Table 1 shows studies by author and date, participants by number, age, gender and characteristics of behavior, setting(s), dependent variables, measurement(s), independent variables and research design. Table 2 shows intervention efficacy, maintenance, generalization and social validity for each study.

Results for descriptive variables. Data from the studies examining the efficacy of a cognitive-behavioral social problem-solving intervention with adolescents are reported and analyzed below.

Participants. A total of 171 students participated in the 7 reviewed studies. The number of participants in each study ranged from 8 to 41, with a mean of 24.4 and a mode of 21. Out of the 171 participants, 53% (90) were male, 26% (45) were female, and 21% (36) were not identified.

The age of the participants in five of the studies (Dangel, Deschner, & Rasp, 1989; Feindler, Ecton, Kingsley, & Dubey, 1986; Robinson, Smith, & Miller, 2002; Serna, Schumaker, Schumaker, & Sheldon, 1991; Serna, Schumaker, Hazel, & Sheldon, 1986) ranged from 11 to 18. Two of the studies (Feindler et al., 1984; Hayward, Varady, Alvano, Thienemann, Henderson, & Schatzberg, 2000) identified mean age of participants, 13.8 and 15.8, respectively**.** Of the 171 participants, 67% (115) were identified as children or youth with emotional or behavioral disorders, or clinically documented behaviors such as social phobia. The other 33% (56) of the participants were identified as having documented behavior problems in the areas of delinquency and aggression.

Two of the studies (Feindler et al., 1986; Robinson et al., 2002) included demographic information regarding race/ethnicity. Two of the studies (Feindler et al., 1984; Serna et al., 1991) included information regarding participants' parents such as socioeconomic status and marital status**.**

Settings. Data for the studies were collected in a variety of settings. Two studies (Dangel et al., 1989; Feindler et al, 1986) occurred in treatment facilities. Two studies (Feindler et al., 1984; Robinson et al., 2002) used public school settings, including both special education and general education classrooms. Two studies (Serna et al., 1986; Serna et al., 1991) occurred in public offices and meeting rooms in university and county juvenile justice

buildings. Two of the above studies (Serna et al., 1986; Serna et al., 1991) also collected data in the homes of the participants. One study (Hayward et al., 2000) did not identify the setting.

Dependent variables. Five of the studies (Dangel et al., 1989; Feindler et al, 1986; Robinson et al., 2002; Serna et al., 1986; Serna et al., 1991) used frequency and/or pattern of behavior (e.g., prosocial behavior, disruptive or aggressive behavior, interaction with parents or peers, anger control, external responses to anger) as a dependent variable. One of the studies (Feindler et al., 1984) measured social problem solving skills. Two of the studies (Serna et al., 1986; Serna et al., 1991) examined parent, professional and/or child perceptions of child behavior. Six of the studies (Feindler et al., 1984; Feindler et al., 1986; Hayward et al., 2000; Robinson et al., 2002; Serna et al., 1986; Serna et al., 1991) examined specific issues such as anxiety, interpersonal communication problems, locus of control, means-ends problem-solving skills, self-esteem, social phobia, reflection/impulsivity and/or self-control. One study (Robinson et al., 2002) examined recall of information and terminology taught in the curriculum. One study (Feindler et al., 1984) examined the number of suspensions or fines issued for inappropriate behavior.

Measurement of dependent variables. Three of the studies (Dangel et al., 1989; Serna et al., 1986; Serna et al., 1991) employed observation as a tool for measuring behavior of the participants. These studies used independent observers during simulated situations such as play or role-plays, as well as during more authentic and natural interactions in clinical and nonclinical settings, and/or parents and teachers as observers and raters of behavior. All of the researchers used standardized measures from questionnaires, rating scales and checklists. Two studies (Feindler et al., 1984; Feindler et al., 1986) used standardized tests. One study (Robinson et al., 2002) used a recall test and one (Hayward et al., 2000) used interviews.

Independent variables. All studies reviewed implemented a cognitive-behavioral method in a group setting. Two studies also included a parent-training component (Serna et al., 1986; Serna et al., 1991). The following components were included in some of the studies: group problem solving, anger control/management, social skills, and/or self-monitoring/management/control/instruction.

Research designs. Four of the studies (Feindler et al., 1984; Feindler et al., 1986; Hayward et al., 2000; Robinson et al., 2002) used a pretest-posttest design with control groups. Two studies (Serna et al., 1986; Serna et al., 1991) used a pretest-posttest design with control groups along with a multiple baseline design. One study (Dangel et al., 1989) used a multiple baseline design alone.

Results for outcome measures. Results are discussed below first for adolescent studies and then for family studies.

Adolescent studies. Five of the studies researched the efficacy of using a cognitive-behavioral group intervention to improve the behavior of adolescents. Three of these studies specifically examined the benefits for adolescents with emotional or behavioral disorders. The largest of these studies was conducted by Robinson et al. (2002). Robinson et al. randomly assigned 41 male middle school students to either a control or treatment group. Students in the treatment group participated in ten 50-minute sessions over a period of five weeks. During this time, the Anger Control Curriculum was taught. Then the students participated in another five 50-minute sessions over another five week period. During this time, sessions were designed to provide further practice of the skills learned during the first ten sessions. Instruction was offered in anger management, communication and problem solving. Modeling of strategies and practice were elements of the sessions. The program also included the use of hassle logs,

introducing self-monitoring and self-assessment strategies. Comparison of results from pre- and post-tests suggested that students in the treatment group perceived their feelings of anger differently, responded with decreased feelings of anger, and expressed their anger less inappropriately than those students who did not receive treatment. Maintenance of the effects of treatment were assessed at the 4-week follow up and indicated that, while some of the effect was maintained, it was diminished.

Robinson et al. (2002) noted several possible limitations of the research. Randomization of students was influenced by school structure and student classroom placement. In addition, self-report measures may have not been as strong as observation measures.

Feindler et al. (1986) also examined the effects of a cognitive-behavioral intervention with youth with emotional or behavioral disturbances. Their participants were 21 males in a psychiatric treatment facility. The participants were assigned to a treatment group or waiting list control group. Those in the treatment group participated in an 8-week training program, comprised of 12 sessions following the "Art of Self-Control" (Feindler & Ecton, in Feindler et al., 1986). The curriculum taught skills in relaxation, self-monitoring, self-assessment, self-instruction, anger management, assertion, and problem solving. Teaching techniques included videotaped role-plays, discussion, modeling, role-play, and rehearsal. Pre- and posttest results indicated increased reflective behavior on formal tasks, as well as increased self-control, as observed by facility staff. Performance in simulated role-plays presenting conflict situations reflected increased appropriate verbal responses. Daily logs on students showed a decrease in the frequency and pattern of aggressive behavior for participants in the treatment group. Results of both 2 month and 3 year follow up showed clear evidence of sustained effects.

Although Feindler et al. (1986) viewed the results as "encouraging," they recognized limitations to the study. First, they suggested that future studies carefully match control groups. Second, the authors acknowledged that direct observation of behavior was preferred over reports of others. Third, no measurements of behavior were obtained in natural settings. Last, follow up comparisons were difficult, as the waiting list control group had also received treatment at these times.

Dangel et al. (1989) also assessed the effects of a cognitive-behavioral intervention group program for adolescents in a treatment facility. Eighteen adolescents, 5 females and 13 males, with emotional or behavioral disorders were divided into groups by age. The treatment was comprised of 6 1-hour group training sessions targeting understanding of anger and aggression, feelings, use of coping strategies, verbal self-instruction, and problem solving strategies. Discussion, modeling, and rehearsal were used as instructional methods. A multiple-baseline across subjects design was employed. Data were collected daily by both students and house- parents, charting the frequency of times they lost control of their anger and acted with verbal or physical aggression and of the times they felt angry yet did not respond with aggression. Pre- and post-test measures were completed by students and houseparents to rate effectiveness of the training. In addition, questionnaires were completed by other staff members, teachers and counselors prior to and following intervention to assess generalization to other settings. Of the 10 students who completed the study, 9 showed improved behavior, yet erratic patterns. All of the students showed a continued reduced incidence of verbally aggressive behaviors on post treatment measures (4 to 14 days of observational data).

Dangel et al. (1989) suggested that some of the students expressed unhappiness with being singled out for the program, some denied anger problems, and some shared that their

expressions of anger were purposeful and not a result of self-control problems. These perceptions may have influenced performance. The authors suggested that in the future assertiveness training might support self-control training efforts. In addition, they offered that coaches in settings outside of the group might have resulted in improved benefits. While Dangel et al. (1989) operationalized anger as verbal and physical aggression involving another, they recommended that this should also include aggression against property.

One of the adolescent studies evaluated the success of a cognitive-behavioral intervention approach with delinquent adolescents in a special program in a public junior high school. Feindler et al. (1984) assigned 36 students to 1 of 3 treatment groups or to the no contact control group. Students in the treatment groups participated in 10 biweekly 50-minute group sessions during a 7-week period. During sessions, students were taught about anger, self-monitoring strategies, relaxation strategies, assertive communication skills, self-control skills and problem-solving skills. Discussion, modeling, rehearsal, role-play, homework, and use of a behavior log were used as instructional methods. Overall, results implied only modest support for the program. Data collected daily on disruptive behavior, pretreatment, post treatment, and at follow up reflected some change. Results of pre- and post-measures showed significant changes in problem solving ability and self-control for students in the treatment group.

Feindler et al. (1984) noted limitations with their research. This program was run with students who were also participating in a token-economy program for behavior in their school. This factor cannot be accounted for in the current study. The limitations of assessment methods were also discussed.

One study evaluated the results of cognitive-behavioral group therapy for adolescent females with social phobia. Hayward et al. (2000) randomly assigned 35 females to treatment or no treatment groups. The participants completed 16 weekly, 1.5 hour sessions. During sessions, the group members learned about social phobia, social skills, social problem-solving skills, assertiveness, and cognitive restructuring. They practiced skills in simulated situations. Homework was an additional component of the treatment program. Results of pre- and post-test data indicated a statistically significant reduction in participants who met the DSM-IV criteria for social phobia when compared to the control group. Yet, these differences were not maintained at the 1-year follow up.

Hayward et al. (2000) discussed several limitations with this study. First, the sample size was small and only female, having an impact on the ability to generalize the results. Second, the protocol followed in treatment was new and in a developmental stage at the time of this study. Last, the subjects were not blind to their treatment status, and this may have influenced outcome.

Family studies. Two of the studies assessed the effectiveness/efficacy of a cognitive-behavioral group intervention combined with a family/parent training component. Serna et al. (1986) divided seven youth and their parents into an experimental group and a control group. The youth in the experimental group were taught seven social skills to mastery weekly during 2-hour sessions. Parents in both groups were taught social skills to complement those taught to the youth. Following this training, youth and their parents met to learn how to use their new skills in problem situations at home to mastery. Performance was evaluated using a multiple baseline design. Immediately following training, results indicated that teaching social skills to parents and their adolescents was effective in changing behavior and interactions. Results

indicated that these changes only occurred for both parent and youth with training. At the 10-month follow up, those youth whose parents had received training showed more maintenance of skills than those youth whose parents did not participate in the training.

Serna et al. (1986) noted two limitations to this research. The sample size was small and therefore it was difficult to generalize from the results. Also, data on generalization of skills in this study were obtained through self-report on questionnaires. This provided only limited information regarding generalization.

Serna et al. (1991) assessed the impact of social skill instruction following a three-phase intervention program with three families. In phase one, seven social skills were taught to the youth, and eight parent social skills were taught to the parents in eight weekly, 2-hour sessions. Following each weekly skill training session for the youth and their parents, each parent and youth team met with the teacher to practice the skills together until mastery was met. In phase two, skills were reviewed and practiced in the family homes. In phase three, the families were taught and practiced applying a strategy, the family conference, to implement when attempting to resolve family conflicts. Effects of the program were measured using a multiple baseline design. Analysis showed replication of results obtained by Serna et al. (1986), that instruction in social skills "resulted in substantially increased use of skills by adolescents and their parents in the teaching setting" (Serna et al., 1991, p. 745). The results of this study indicated that this instruction was linked to "some generalization in the use of the skills to the home during directed interactions between the adolescents and their parents, but there was little generalization of the skills to the home during nondirected parent-adolescent interactions" (Serna et al., 1991, p. 745). In addition, the researchers found that, while regular

review and practice of skills in the home environment did not influence parent and adolescent interactions, the use of the family conference did impact generalization.

Serna et al. (1991) wrote about three limitations they noted with the study. Sample size was small, limiting generalization of results. Only a single baseline data point was obtained in the generalization setting. The information gathered at the follow up was not sufficient to determine if skills had been maintained.

Discussion and recommendations. Seven studies examining the efficacy/effectiveness of cognitive-behavioral interventions written to teach children and youth with emotional or behavioral disorders or clinically significant behavior problems interpersonal social problem-solving skills were reviewed. All of the studies showed some improvement in skills or behavior immediately following treatment. In addition, all of the studies reviewed showed some level of maintenance of skills at follow-ups measured at two-weeks to one-year periods after intervention. Results of generalization measures of skills across time and/or settings were reported for three of the seven studies. Results ranged from limited to positive. Similar to the results of previous literature reviews (Pellegrini & Urbain, 1985; Urbain & Kendall, 1980) examining the effectiveness of teaching problem solving strategies to children and youth, results of this review were encouraging, yet did not reflect strong, clear empirical evidence for their use. Further, it is necessary to view these results in the context of the methodological limitations noted by the authors. In fact, all researchers noted significant methodological difficulties.

Researchers noted concerns methodologically with control groups and assessment. Researchers suggested that control groups be randomly selected and matched. Many studies noted a small sample size; larger studies would support component analysis. Only three of the

seven studies above employed assessment of actual participant behavior. Several researchers recommended that in future studies assessments include multiple measures, including evaluating behaviors with direct observations, along with perceptions of behavior by others on checklists, questionnaires and reports, and more formal assessment of cognitive skills on tests. Four of the studies assessed social validity. Serna et al. (1991) highlighted the importance of social validity. Future research must be mindful of the social acceptability, importance and effectiveness of the skills and strategies that are taught and assessed, as well as the outcomes for children and youth as a result of such intervention.

Future research needs to examine further what curriculum components, treatment techniques, or combination work the best to increase prosocial behavior and decrease problem behaviors in children evidencing behavior problems as well as reduce or prevent further behavior problems in children and youth evidencing at-risk profiles. It is suggested that given the number and complexity of factors operating with this population, interventions with at-risk youth should be ecological in nature and include social, behavioral, and academic programs (Kamps & Tankersley, 1996) and partner with families, schools and social agencies to support the needs of these students (Walker, Colvin & Ramsey, 1995). Additional concern needs to be given to the possibility of matching different treatment approaches with different types of behavior problems and different types of families (Abikoff, 1991; Webster-Stratton & Hammond, 1997); intervention methods found useful with adults may not be appropriate or may require modification for use with children and youth (Stark, Reynolds, & Kaslow, 1987).

Second, the critical need for additional research specifically looking at maintenance and generalization of skills across time and settings is evident. Some evidence indicates that new social problem-solving skills, learned through instruction in a clinical setting, may

generalize to behavior in more naturalistic settings. Research suggesting that pairing parent training with child or youth training may be more effective than child or youth training alone needs to be explored further (Serna et al., 1986; Serna et al., 1991; Webster-Stratton et al., 1997). Whalen, Henker, and Henshaw (in Robinson et al., 2002) noted factors associated with the effectiveness of cognitive-behavioral interventions. They included "specificity or generality of behavioral domains included, degree of involvement of parent, teachers, and peers, (and) quality of purposeful training for maintenance and generalization" (p. 268) in the list of variables that should be addressed when designing intervention programs. It is clear that, if maintenance and generalization are to occur, this must be thoughtfully designed.

While multiple reviews of the research of the efficacy and effectiveness of social skill and cognitive-behavioral interventions for children and youth with EBD (e.g., Gresham, et al., 2004; Gresham, 2005; Maag, 2005; Mayer, Lochman, & Acker, 2005), research on the efficacy and effectiveness of social problem-solving intervention for younger children (e.g., Smith, Lochman, & Daunic, 2005), and rich discussions of social problem-solving theory and practices are in the current literature (e.g., Crick & Dodge, 1994; Gresham, 2005; Taylor, Eddy & Biglan, 1999), little new research has been completed specifically addressing the effectiveness of social problem-solving interventions with adolescents with EBD since the 1980s (see literature review above). Research has not been significantly advanced to include the recommendations of researchers outlined above (e.g., Smith & Travis, 2001). So despite the fact that social problem-solving intervention with adolescents has only limited evidence for efficacy, it is frequently recommended and implemented with high-risk adolescents and included in many commercial intervention programs designed for at- and high-risk adolescents (e.g., Connor-Smith, Polo, Doss, & Weisz, 2004; Elias & Tobias in Bear, 1998;

Goldstein, 1999; Stark, Simpson, Schnoebelen, Hargrave, Glenn, & Molnar, 2006). One must question, if not investigate, in what theoretical frameworks are professionals basing their practices? A review of theoretical frameworks influencing social problem-solving intervention is an appropriate place to begin addressing this question.

Theoretical Frameworks Influencing Social Problem-Solving Intervention

An examination of the frameworks used to understand social problem solving and to develop interventions follows. Social problem-solving frameworks may best be explored within a historical context from the emergence of cognitive-behavioral theory in the 1960s and 1970s through the later resulting work of researchers to further explore, delineate and refine the process and components of social problem solving.

Cognitive-Behavioral Theory and Behavior Intervention

Cognitive-behavioral theory emerged as a blending of research from the behavioral and cognitive fields. It is based on the works of Bandura, Mahoney, and Meichenbaum. Cognitive-behavioral theory reflects a conceptualization that it is not enough when attempting to modify behavior to engineer the consequences or help the student gain better understanding of their problems. Cognitive-behavioral theory emphasizes the reciprocal relationship between a person's cognitive, emotional and behavioral abilities. A person's behavior is seen as being mediated by how that individual perceives, thinks and feels in response to given situations, and also how a person thinks and feels about one's behavior. Consequently, intervention approaches based on a cognitive-behavioral framework were soon reported in the literature.

Three factors are attributed to the shift from behavioral to cognitive-behavioral interventions for children and youth: (1) cognitive psychology developments in modeling, self-instruction, and social problem solving interventions; (2) developments in self-control

interventions including cognitive components; and (3) the development of cognitive therapies (Craighead, 1982). These approaches emphasized structured and concrete methods to build skills and develop strategies for regulating behavior and solving problems. Self-correctional training, cognitive modeling, self-monitoring, self-reinforcement, and cognitive and interpersonal problem solving are examples of these cognitive-behavioral approaches (Abikoff, 1991). Interpersonal or social problem solving represents one area of well researched cognitive-behavioral theory and intervention.

Social Problem-Solving Theory and Behavior Intervention

Interpersonal or social problem-solving theory is grounded in the belief that individuals are presented daily with problem situations that they attempt to solve through the use of cognitive skills. In early cognitive-behavioral theory work, frameworks treated social problem solving as a set of discrete skills. This is evidenced by the Interpersonal Cognitive Problem Solving (ICPS) skills of Spivack, Platt, and Shure (1976). This social problem-solving framework represents one of the first to be used with children (Craighead, 1982). Interestingly though, it does not represent a model or process for social problem solving as much as a set of five cognitive abilities that discriminate children and youth with typical behavior from those displaying antisocial behavior. These five abilities are believed to influence one's social competence: (1) an awareness of interpersonal problems, (2) an ability to generate alternative solutions to interpersonal problems, (3) a capacity for means-ends thinking as seen in an ability to plan out a response to a given problem to reach one's goal in the situation, (4) a capacity for consequential thinking, and (5) an awareness that part of how we feel and act in response to interpersonal problems is related to our knowledge of how others feel and act, as well as an awareness of interpersonal continuity or that current situations are linked to

previous events, and past events influence our understanding of current events (Spivack, Platt, & Shure,1976).

Interventions grounded in the ICPS framework involve teaching of these cognitive steps and are based on the assumption that, if cognitive skills improve, so will behavior. This is a cornerstone of cognitive-behavioral therapy. Much of the intervention and practice studied using this framework has occurred in clinical contexts using hypothetical situations, though clients were encouraged to offer personal problems for practice. Teaching techniques within this framework have included discussion, modeling, and self-talk. Skills addressed have included distinguishing facts from opinions, gathering additional information about a problem, taking time to think through a problem, understanding the perspective of others, stating one's own perspective, recognizing and communicating feelings, enhancing memory skills, in addition to defining a problem, generating alternative responses, considering possible consequences of these responses and evaluating them, and choosing a response.

D'Zurilla and Goldfried (1971) offered a more complex framework to understand social problem solving. Not only did they consider the discrete cognitive steps one engages in when confronted with social problems, they also attended to the notion of social problem solving being a coordinated mental process within a social context. They identified the following steps: "(a) general orientation or 'set,' (b) problem definition and formulation, (c) generation of alternatives, (d) decision making, and (e) verification." Although their framework on the surface appears to be linear, the authors note that the steps generally "overlap and interact with each other" (p. 112). D'Zurilla and Goldfried (1971) delineated "problem solving" from "emitting a response." Problem solving is viewed in this framework as the process in which one identifies a response to a given problem. The behavioral act of

actually engaging in the selected response is viewed as separate but related to the cognitive process of problem solving. The authors explain that even though an individual may engage in the cognitive steps and solve a problem mentally, he may not demonstrate or enact the response. This is consistent with the work of Spivack et al. (1976). Even though the roles of feelings, cognition, motivation and reflection are addressed in the literature, they are not addressed explicitly and are discussed within a very behavioral framework.

In a description of treatment practices aligned with their framework, D'Zurilla and Goldfried (1971) shared instruction techniques aligned with their framework steps designed to teach cognitive tasks as steps in a "response chain" through modeling, imitation and reinforcement. Cognitive steps are solidly grounded in a behavioral framework. As noted above, the behavioral enactment of the chosen solution is not addressed specifically in the model or in the discussion of intervention. Individuals are encouraged to act on their decisions, yet more emphasis is placed on teaching a person to evaluate or "verify" the outcome of their action than on the implementing the selected action. Some attention is given to the role of affect and emotion in this treatment process; it is suggested that an individual's emotions should be used as "cues" to focus attention on the social problem.

Although D'Zurilla and Goldfried (1971) raised the discussion around the complexity of social problem solving, they did not have data to support their framework. In the forty years following D'Zurilla and Goldfield's (1971) article, much more has been learned about what is involved in the social problem-solving process. Evidence of the integration of this new knowledge is reflected in the evolution of social problem-solving frameworks (e.g., Crick & Dodge, 1994; Dodge, 1986).

Dodge (1986) presented a model, "A Social Information-Processing Model of Children's Social Adjustment," in which he described the cognitive steps a child practices when met with social cues: (1) encoding process, (2) representation process, (3) response search process, (4) response decision process, and (5) enactment process. Cognitive components in this model are those that had been shown to be predictive of social adjustment in children. Dodge also noted the influence of a child's "biologically determined capabilities," "data base" of social knowledge and the "social cues" in the process. This model reflects, as did D'Zurilla and Goldfried's (1971), the cognitive component that occurs prior to the behavioral enactment of a selected social response. Dodge's inclusion of the enactment process as a step can be confusing as it represents cognitive components that occur prior to the behavioral response, rather than an actual behavioral social response.

Dodge's earlier model was later modified becoming "A Reformulated Social Information-Processing Model of Children's Social Adjustment" (Crick & Dodge, 1994). The overall cognitive steps in this model are similar to those outlined in the previous model. Yet, the newer model includes a new step, "Clarification of Goals." It is suggested that, following one's interpretation of a social situation, a child determines a goal prior to retrieving or generating possible responses.

In addition to the new step, there are four significant differences between this model and previous models. The first difference is how the flow of processing social information, is understood and represented. Social problem solving, or social information processing is conceptualized less rigidly in this model than in previous models. Although the linearity of one's mental steps is acknowledged, the simultaneous and parallel nature of cognitive processing that one engages in during social problem solving is also recognized. In this model,

the relationship between social information processing and social adjustment is represented and understood as a reciprocal one; one's social knowledge, an individual's mental constructs of past social experiences stored in long term memory, is related to behavior through its influence on all cognitive processing tasks.

The second difference concerns assumptions about the speed of processing. Crick and Dodge (1994) hypothesized that much of the social information processing children engage in is automatic, not as controlled and reflective as once assumed. Reflected in the reformulated model is support for the hypothesis that children engage in "preemptive processing" or "processing 'without thinking'" in social situations that are "highly" emotional or negatively charged. In such instances, children may not follow typical patterns of information processing and may instead engage in processing that is "rapid, automatic, irrational, and probably classically conditioned" (p. 79).

Third, the role of development in social information processing is addressed more fully in the discussion of the revised model, despite the fact that it is not represented in the visual model. Crick and Dodge (1994) suggested that developmental changes in children's "acquisition of cognitive skills" and "capacity and speed of processing" must be considered in social information frameworks. They hypothesized that both positive quantitative and qualitative changes occur with age in children's social knowledge and that growth in social knowledge changes may be attributed in part to increased social opportunities and increased mediations of social experiences by adults. Attention and organization, two other cognitive skills related to social information processing, are believed to be influenced positively by development as well. Capacity and speed of social information processing are also hypothesized to be impacted by development suggesting that both increase with age.

Yet all development does not result in positive growth. Crick and Dodge (1994) offered that with age children may also develop a rigidity in the ways they attend to, think about and respond to social situations. For some young people these patterns, though efficient, may not be socially appropriate. In addition, these patterns of information processing may be resistant to change.

Fourth, the role of emotion is viewed as critical at every step of this model. Again, it is interesting that, while Crick and Dodge (1994) presented much discussion and illustration of the influence of affect on social information processing, this relationship is not explicitly illustrated in their revised visual model. Consistent with D'Zurilla and Goldfried (1971), Crick and Dodge (1994) noted that emotion may be a cue to focus and attend. Crick and Dodge (1994), though, extended the effect of emotions on the cognitive processes involved in social problem solving and hypothesize that one's emotions also play a critical role in how a given situation is interpreted, in motivation to develop and achieve goals, in determining possible responses and in selecting a response.

At a surface level there is significant overlap between the Crick and Dodge's (1994) model and D'Zurilla and Goldfried's (1971) model. It is only when one digs deeper beyond the global cognitive steps that significant differences are seen. These differences represent significant advancements in the understanding of the abilities that are related to and are involved in the social problem-solving process. Yet, this evolved perspective has not translated into evolved intervention approaches (e.g., Smith & Travis, 2001). The models guiding our understanding and research of the process have had little impact on social problem-solving interventions with children and youth. The global cognitive steps of this model continue to frequently be taught separate from authentic contexts, separate from the actual social behavior

that is assumed to be a result of intervention, and separate from attention to the underpinnings in the process (e.g., attention, social knowledge, emotions). Social problem-solving frameworks have not only contributed to our conceptual understanding of the social problem solving process and influenced our intervention practices, these frameworks have also shaped research exploring how children and youth with typical social behavior differ from children and youth with inappropriate social behavior.

Social Problem Solving Abilities of Typical and At-Risk Children and Youth

Within cognitive-behavioral theory it is assumed that the more skilled individuals are with the cognitive activities and process involved in social problem solving, the more appropriate their behavior will be when responding to social challenges, and that the less skilled children are at these cognitive activities and process, the more inappropriate their behavior will be when facing social problems. Considerable research has been completed to study the cognitive skills and processes of children and youth when they think about and react to social problems, and to examine how children and youth with behavior problems differ from their typical peers relative to the skills and processes identified in social problem-solving frameworks (e.g., Denham & Almeida, 1987; Neel, Jenkins, & Meadows, 1990; Spivack, Platt, & Shure, 1976). This extensive body of research has been guided by our understanding of social problem outlined in theoretical constructs. This work, in addition, has built the foundation of our understanding about the problem solving abilities of typical and at-risk children and youth. Relevant research therefore will be presented within the social information-processing framework of Crick and Dodge (1994) (adapted from Smith, Lochman, & Daunic, 2005).

First, in social situations a person encodes situational cues. Aggressive children were found less likely to attend to social cues (Dodge & Newman, 1981). Next, a person mentally represents and interprets these cues including the identification of feelings. Aggressive children were found more likely than nonaggressive children to interpret ambiguous social situations as threatening and to respond in more aggressive ways than their nonaggressive peers (Dodge, 1980).

Then a person clarifies his goal. At-risk children were found to concentrate more on their goals than the steps required to reach their goals (Spivack et al, 1976). Conduct disordered children were also found to be less able to predict barriers that might interfere with reaching specific social ends than their typical peers (Joffe, Dobson, Fine, Marriage, & Haley, 1990). This step is followed by one mentally searching for or generating responses to the situation. At-risk children have shown deficits in the number and variety of alternative possible solutions they were able to generate in response to hypothetical social problems (Spivack, et al., 1976; Richard & Dodge, 1982). Children who were able to generate more solutions to given social problems were found to be more likely to successfully resolve social problems (Spivack et al., 1976). In another study, typical and at-risk children generated initial solutions to social dilemmas that were judged "effective," and both groups were shown to select effective responses to given social problems. Yet at-risk children did not generate additional effective solutions to the given problems as their typical peers did (Richard & Dodge, 1982).

In the next step of this process a person evaluates the possible solutions and selects or decides on a response. Stronger means-end thinking and the ability to predict possible consequences of social responses have distinguished behaviorally adjusted children from their

at-risk peers (Spivack et al., 1976). Aggressive boys have been found to differ from their nonaggressive peers in their response time to social challenges. Nonaggressive boys overall took more time before responding than did their aggressive peers. When the aggressive boys responded impulsively, they typically responded in an aggressive manner (Dodge & Newman, 1981).

Inconsistencies between Social Problem-Solving Frameworks, Research and Intervention Practices

Review of the literature suggests inconsistencies between social problem solving research, frameworks and intervention practices. One factor limiting the success of interventions might be the frameworks used to guide our understanding of social problem solving and our intervention practices with young people demonstrating challenges with this skill (e.g., Smith & Travis, 2001). The components of and processes involved in social problem solving may have been conceptualized in too simplistic of terms. Much of the intervention research has taught social problem solving only in terms of a discrete set of cognitive and/or behavioral skill steps that young people at-risk struggle with when compared with their regularly achieving peers (e.g., Hazel, Schumaker, Sherman, & Sheldon-Wildgen, 1981; Shure & Spivack, 1979, 1980).

For example, most current social problem-solving intervention research and curricula continue to structure intervention around a set of ordered skill steps. In *The PREPARE Curriculum* (Goldstein, 1999) social problem solving is taught through the steps of: (1) stop and think, (2) problem identification, (3) gather information/own perspective, (4) gather information/others' perspective, (5) alternatives, and (6) evaluating consequences and outcomes. In a discussion of cognitive behavioral interventions teaching students strategies to

help them "make wise behavioral choices," Robinson (2007; p. 9) noted the following problem-solving steps: (1) define the problem, (2) generate possible solutions, (3) evaluate possible solutions, (4) implement a solution, and (5) evaluate outcome. In the program *Social Decision Making/Problem Solving* (SDM/PS) social problem solving is taught through the steps of FIG TESPN (Bear, 1998; Elias, 2004a): "(1) Feelings are my cue to problem solve; (2) I have a problem; (3) Goals guide my actions; (4) Think of many possible things to do; (5) Envision the outcomes of each solution; (6) Select your best solution, based on your goal; (7) Plan, practice, anticipate pitfalls, and pursue your best solution; and (8) Next time, what will you do-the same thing or something different?" (Elias, 2004a, p.115). In the ADAPT program, students are taught a social problem-solving strategy through the STEPS problem-solving steps of: "(1) Say what the problem is; (2) Think of solutions; (3) Examine solutions; (4) Pick one (5) See if it worked" (Stark, Herren, & Fisher, 2009; p. 268). There is evidence above of attention to emotional regulation (e.g., "stop and think"), and perspective taking ("gather information regarding your perspective and others"). Beyond that, these steps are almost identical to the steps originally developed by D'Zurilla and Goldfried (1971) forty years ago. Consideration of the other factors (e.g., cognitive, behavioral, social, emotional, and linguistic) that influence behavior in social interactions were not represented in these instructional frameworks and have not been consistently attended to in social problem-solving constructs and intervention frameworks.

Social problem solving is a complex, multifaceted, dynamic process that involves the rapid weaving of individual, developmental, cognitive, behavioral, social, emotional and linguistic skills within a social context. In the past decade, emerging research has shown multiple factors including development, cognitive skills and strategies, behavioral skills and

strategies, physiological arousal, social cognition, social experience, social skills, emotional skills, linguistic skills (inter and intra personal language), and executive functioning skills (e.g., planning, organization, working memory, metacognition, inhibition, self-regulation, flexibility and persistence) influence an individual's performance in social situations. A young person's success with interpersonal problems seems dependent, in part, on many skills and strategies including their ability to:

a. be motivated to engage in and stay with the process;

b. maintain appropriate physiological arousal and emotional regulation;

c. accurately interpret the social situation;

d. accurately understand the verbal and nonverbal language and behavior of others;

e. accurately identify the problem;

f. accurately understand both the feelings and motivations of others and one's own feelings and motivations;

g. set appropriate short and long term goals;

h. generate appropriate solutions and anticipate possible consequences;

i. anticipate, plan for and respond to possible barriers;

j. choose, plan, articulate and monitor a response;

k. accurately understand others' response to their own social response; and

l. evaluate the success of their choice and if appropriate, try another solution or modify the previous solution.

Several gaps between research and intervention frameworks are significant and deserve additional discussion and attention. First, social problem-solving constructs and intervention frameworks do not consistently attend to a young person's physiological arousal and

emotional regulation. Second, current models, while acknowledging theoretically that problem solving occurs within a social context, do not consistently teach young people to notice, interpret and respond to the social context. Third, the role of emotion, though discussed in theoretical frameworks, is generally represented in intervention models as one step of stating your own feeling and identifying the feeling of others, if at all. Fourth, in some models (e.g., Crick & Dodge, 1994; Hazel et al., 1981) there seems to be an assumption that if young people have the skills to make choices they have decision-making abilities. Decision making is more complex than choice-making and may require explicit instruction. Fifth, a person's ability to plan, implement, monitor, and evaluate their behavioral enactment of selected responses is assumed and not addressed in current models. Some young people may not have the skills needed to perform their selected solution and to meet their goals in a prosocial manner. The teaching of prosocial skills necessary to execute a desired response may be a critical component of problem solving intervention. Sixth, the influence of motivation on learning and behavior cannot be underestimated. Last, one of the most significant factors generally missing in current frameworks and interventions is consideration of one's language abilities.

Language and Social Behavior

Researchers have long explored the relationship between language and behavior in children and youth, and this critical relationship is well documented in the literature (e.g., Benner, Nelson, & Epstein 2002; Bruner, 1990; Elias, 2004b; Gallagher, 1999). It is through language that individuals encode and bring meaning to, store and use social information. The cognitive processes that mediate our behavior are largely verbal (Bandura, 1969). As children develop their behavior is initially under the verbal mediation of others and then later regulated by their own overt language, and then even later under the control of their own inner language

(e.g., Luria, 1961; Meichenbaum, 1977; Vygotsky, 1962). There is an assumption in cognitive-behavioral theory "that inner speech mediates behavior, and by using language to alter cognition, behavior can change" (Mayer, Lochman, & Acker, 2005, p. 197).

Significant overlap in populations of children and youth with EBD and those with language problems has been documented (Benner et al., 2002; Cantwell & Baker, 1991; Gallagher, 1999). Fifty-seven percent of children with identified language deficits also had identified EBD. Seventy-one percent of children identified with EBD were also identified with language deficits (Benner et al., 2002; Gallagher, 1999). Language in general has been studied in relation to emotion and self-regulation (Brinton & Fujiki, 2004; Fujiki, Brinton, & Clarke, 2002; Fujiki, Spackman, Brinton, & Hall, 2004; Westby, 2004). Language is recognized as playing a critical role in the emotional development and regulation (Oppenheim, Nir, Warren, & Emde, 1997). Westby (2004) describes the developmental relationship between language and self-regulation:

> For typically developing children in healthy environments where literacy is prominent, cognition, language, metacognition, and self-regulation develop together. In contrast, children with disabilities, children who are exposed to reduced types of language experiences because of poverty, and children from traumatic environments may frequently experience delays and disorders in development of metacognition and self-regulation (Diaz, 1991; Perry, 1997). Such children are likely to have smaller vocabularies (Hart & Risely, 1995) and to use language less frequently to direct their behavior, and to predict, reason, and talk about what others might be thinking and feeling (Tough, 1977; p. 405).

Fujiki and his colleagues (2004) suggest that language impairments "cannot be understood independent of emotional and social behavior" (p. 645). Although the relationship between language and social and emotional behavior does not appear to fully account for the social difficulties of young people with language impairments, language certainly seem to be a factor influencing social performance.

Language and Social Problem Solving

Appropriate social behavior is dependent in part on intrapersonal and interpersonal language abilities. Dodge suggested that social competence could be described by three components, one's abilities to understand his social environment and social cues, to choose appropriate social responses, and to perform his selected response in a prosocial manner (as cited in Smith & Travis, 2001). Consistent with other social behaviors, language mediates the social problem-solving process. Intrapersonal language skills are necessary for self-talk to mediate the cognitive steps in the social problem-solving process. It is through "intralanguage" or self-talk that individuals plan, regulate, monitor and evaluate their own thinking, emotions, behavior, physiological state, and their own language. Through language individuals interpret or bring meaning to the social context and code this information, as well as the emotions, behaviors, and the language of others (e.g., Walker et al., 1994). It is also through verbal and nonverbal language, or one's interlanguage, that individuals interact with others and enact their selected responses (e.g., Camp, 1977).

Narratives and Social Problem Solving

One specific area of language, narrative language, may provide a more comprehensive framework in which to understand, assess, and teach the components and process of social problem solving and address the intrapersonal and interpersonal language abilities needed in

social problem solving. Narrative language skills involve one's ability to understand and create stories. At a surface level, narrative represents a problem solving strategy; there are structural similarities in the steps of social problem solving and components of narrative-story structure (Elias, 2004b). Narrative structure offers a framework for how we tell the stories of our lives, including how we understand, respond to, and reflect on our personal experiences. In narrative, a character has an emotional response to an initiating event, which typically represents a problem for a character. A character must identify the problem and goal. The character has to decide on a response to meet his goal, the best way to achieve that goal taking into account one's own feelings, motivation, and those of the others involved. In making these decisions, the character should also reflect on the impact of his decisions on himself and others. The character then develops a plan to resolve the problem, implements the plan, and evaluates the effectiveness of his action in resolving the given problem. Narrative language, like social problem solving, occurs within a social context.

Narrative Skills of At- and High-Risk Youth

To further the understanding of the relationship between narrative and social problem-solving abilities, a review of the narrative skills of at- and high-risk youth was completed. Considerable research has documented development of narrative skills in the preschool and elementary years (e.g., Fey, Catts, Proctor-Williams, Tomblin, & Zhang, 2004; Liles, 1993; Roth & Speckman, 1986). Little research was available describing the oral narrative abilities of adolescents in general. Searches by this author revealed no studies investigating the oral narrative abilities of adolescents with language or learning disabilities. Another glaring gap in the literature is that of research investigating the oral narrative abilities of adolescents with EBD.

Purpose of this literature review. This literature review was conducted to answer a single question (adapted from McDougall, 1998):

1. To what extent have researchers investigated the narrative skills of at-risk adolescents and those with EBD?

Method. Specific criteria were identified for selection of studies. Of the articles reviewed, only those were selected that met the following criteria:

1. Participants included youth 11-18 with identified clinically significant emotional or behavioral disorders or delinquent behaviors.
2. Dependent variables included at least one quantitative measure.

The search process for the following literature review was conducted using the criteria outlined above. First**,** a search of the electronic databases FindArticles and First Search was conducted initially using the key words *adolescent* and *narrative.* Additional key terms included *delinquent, at-risk, and emotional and behavioral disorders.* Following computer database searches, reference lists of articles from the first search were reviewed as were reference lists from related textbooks. Two articles met the selection criteria outlined above.

Frameworks for reporting descriptive variables and outcome measures. McDougall's (1988) framework of descriptive categories, which he adapted from Webber et al. (in McDougall, 1988) was modified and used to report data. Table 3 shows studies by author(s) and date, participants by number, age, gender and characteristics of behavior, setting(s), dependent variables, measurement(s), and research design for each study.

Results for descriptive variables. Data from the studies examining the narrative abilities of at- and high-risk adolescents are reported and analyzed below.

Participants. A total of 45 students participated in the 2 reviewed studies (Humber & Snow, 2001; Snow & Powell, 2005). The age of the participants ranged from 13 to 21. All of the participants were adolescent offenders participating in a community-based, court ordered Juvenile Justice program. Ethnicity of participants was not identified in either study. Neither of the studies included information regarding participants' parents such as socioeconomic status, parent age, parent education, living arrangements, or marital status.

Settings. Settings were not identified for either study.

Dependent variables. Each of the studies used oral language competence and narrative discourse ability as dependent variables.

Measurement of dependent variables. Both of the studies employed formal assessments and language sampling as tools to measure dependent variables.

Research designs. Each of the studies used a simple between group comparison design.

Results. Results from both studies indicated significant between group differences on all language skills assessed. In addition, large effect sizes were noted, highlighting the degree of difference between the adolescents who were offenders and those who were not. Humber and Snow (2001) noted that the young offenders demonstrated difficulty with understanding language and also with generating and expressing well-organized and coherent stories**.** On test items, the young offenders more often showed limited flexibility with their language and interpreted given figurative language concretely. As a result this group demonstrated difficulties with understanding commonly used language. The authors hypothesized about the possible relationships between language abilities, literacy skills and delinquency, as there is some evidence of relationship with each other.

Humber and Snow (2001) reported that **t**he narratives of the young offenders were characterized by a reduced number of story grammar elements and inclusion of critical information to support both a well-developed narrative and also listener understanding. Snow and Powell (2005) obtained results on the narrative tasks that showed overall significant differences between the two groups when both the quality and the structure of the narratives was considered, yet when just considering the structure (i.e., the number of syllables generated and the number of story grammar elements) of the narratives produced, the performance between the groups was not significantly different. The qualitative differences included difficulty sharing the character's plan, consequences of one's actions, and expressing the solution to the story's conflict. In fact, the young people in the offender's group often just offered a sequence of descriptions, rather than development of a plot.

The authors noted methodological concerns with both studies. Humber and Snow (2001) had a small sample size. They also offered caution that when interpreting the results, it is important to remember that not all of the young people in the offender group demonstrated depressed language skills when compared to the non offender group. Further, the authors acknowledged that young offenders often present with a variety of complex issues and that this is difficult to control for, though future research should consider this. Both studies' groups were not randomized, were from convenient samples, and were comprised of all male participants. Snow and Powell (2005) like Humber and Snow (2001) discussed the possible impact of comorbid factors, specifically substance use, and the difficulty controlling for this.

Discussion and recommendations. Two studies investigating the narrative skills of adolescent juvenile offenders were reviewed. Results overall showed significant differences between the comparison groups and the offender groups**.** Data provided further evidence to

strengthen the theory that oral language difficulties are a factor in delinquency. In addition, the data further our understanding of the oral language deficits, specifically in the area of oral narrative discourse skills characteristic of juvenile delinquents. Humber and Snow (2001) linked language performance to social competence, and then extended this when they reported, "These findings further suggest that attempt to ameliorate social skill deficits in this population will be of limited success unless the language foundations of social competence (e.g., understanding non-literal meanings; appreciating shades of meaning) are adequately addressed." It is though necessary to interpret these results in the context of the methodological limitations noted by the authors.

Summary of Related Research Review

A review of the literature and research examining the efficacy and effectiveness of cognitive-behavioral interventions teaching social problem-solving skills to adolescents with EBD was presented. Available literature indicated these interventions have been effective in improving isolated cognitive skills; these changes however have been modest, and the interventions have not been shown effective in reducing antisocial behaviors (e.g., Kazdin, 1987; Kazdin & Weisz, 1998; Pellegrini & Urbain, 1985; Quinn, et al., 1999; Smith & Travis, 2001; Urbain & Kendall, 1980). Equally concerning is that these same interventions have demonstrated limited to no effectiveness with generalization and maintenance of acquired skills when assessed (Pellegrini & Urbain, 1985; Urbain & Kendall, 1980). In addition, much of the research assessing the efficacy and effectiveness of social problem-solving interventions for young people with EBD has been conducted with younger children (e.g., Pellegrini & Urbain, 1985; Urbain & Kendall, 1980). In the past thirty years, discussions in the literature reviewing outcomes related to social problem-solving intervention were sadly consistent with

these early ones (e.g., Gresham, 2005; Taylor, Eddy, & Biglan, 1999), although more current reviews and analyses of this research have provided some new insights.

To better understand the constructs that have influenced our understanding of social problem-solving and intervention practices, social problem-solving frameworks were reviewed in a historical context. These frameworks also serve as a structure to review the literature describing social problem-solving deficits of at-risk and high-risk students. A significant gap between research and practice was noted. While the research reflects increased understanding of the components involved in social information processing and social-problem solving, and the social problem-solving process, intervention frameworks and approaches remain relatively unchanged.

The influence of language, broadly on social behavior, and more specifically on the social problem-solving process, was discussed. One area of language, narrative language, was explored for its relationship to the social problem-solving process and social problem-solving intervention. Narrative abilities of at-risk and high-risk adolescents were reviewed to further understand this relationship.

Several themes resonated through each of the above literature reviews. First, there seems to be preliminary evidence of a positive relationship between language abilities, particularly narrative language, social problem-solving skills and at- and high-risk youth. For example, it is interesting to note that the elements of story grammar most neglected by the youth in the above studies are similar to steps in social problem-solving models, and in a strategy with which many at-risk youth struggle. Second, it is impossible to ignore the critical needs for effective intervention demonstrated by these young people who are very much at

risk for failure academically, socially and as adults. Last, limited empirical knowledge has been reported in these areas.

Chapter 3

Study One: Establishing the Social Validity of a Social Problem-Solving Model for High-Risk Adolescents

The purpose of study one was to investigate the social validity of the behavioral and cognitive components of a social problem-solving intervention model to determine the most essential steps when an adolescent is engaging in social problem solving.

Method

Participants. Twelve professionals working in the field of education, five parents of high-achieving adolescents, and five high-achieving youth acted as respondents in this social validation study. The group of professionals in the field of education included four university professors in the field of emotional or behavioral disorders, two special education teachers, two occupational therapists, two speech-language pathologists and two psychologists.

Assessment tool. A social validity questionnaire, constructed by the primary investigator, was implemented (see Appendix A). The first section of the questionnaire consisted of 10 items assessing whether the overt steps identified in the problem-solving model and the covert thought strategies identified within the model are necessary to the execution of successful problem solving. These items were examined on a 7-point Likert scale representing a continuum from strongly disagree (1) to strongly agree (7). The second section of the questionnaire consisted of one open-ended question, asking respondents to share what they viewed as the most critical component of an effective cognitive-behavioral intervention program for teaching social problem-solving skills to adolescents, and one area for “comments.”

Procedure. Data were collected from a written questionnaire. The questionnaire was mailed to and completed by the each member of the focus group. The individuals invited to complete the questionnaire were given written instructions in an accompanying cover letter. Participants were asked to complete the attached questionnaire and return it in a preaddressed, stamped envelope that was enclosed in the packet. There was a 100% return rate. Student packets also included approved consent and assent forms.

Research Design. As the research is nonexperimental, the collected data were compiled and described using descriptive statistics, providing a complete understanding of the participants and the variables.

Results

All components of the social problem-solving intervention model examined for social validity were established as such. First on Likert-type items, overall means were calculated for each survey item, for youth responses, adult responses, and total responses. Overall means on Likert-type items provided a general indication of agreement or disagreement for each survey item. Means ranging form 4.0 to 4.9 were considered "adequate," below 4.0 as "invalid," and 5.0 and higher as "valid."

Figure 1 shows a summary of the means of youth responses on Likert-like items. Mean scores ranged from 4.8 to 6.0. Individual student responses ranged from 3 or "somewhat disagree" to 7 or "strongly agree;" with an overall mean of 5.36. The youth judged two of the items, (6) taking the perspective of another, and (9) evaluating the success of their choice as "adequate." Mean findings indicated that youth responses validated all of the other items. There were no items the youth judged "invalid."

Figure 2 shows a summary of the mean scores for each survey item based on adult, professional and parent responses. The mean for adult responses was 6.42. Mean responses to survey items by adults indicated all items were judged as "valid." Individual responses ranged from 3 or "somewhat disagree" to 7 or "strongly agree." Figure 3 shows a summary of the means of all participant responses for each survey item. When considered in aggregate form, again, all components met the criteria for "valid."

Second, a summary of data from the final open-ended question asking what each respondent considered the most critical component of an effective cognitive-behavioral intervention program for teaching social problem-solving skills to adolescents was completed. Their responses reflected one of five components: (1) understanding the situation, (2) identifying the problem, (3) understanding consequences, (4) possessing good decision-making skills, and (5) being motivated. Over half of the comments were related to the importance of explicit teaching and structured practice of social problem-solving and decision-making skills. Statements from adult participants included, "Interpretation of the social situation-facial expressions, body language, tone of voice and how these work together to create the meaning;" "I believe role-playing situations after generating possible solutions is important. Having that role-play activity reflect the consequences of their actions is also a critical element;" "To provide skill instruction on how to take the most appropriate action to yield the most desired consequences;" and "All of the above- but a student's ability to engage in good decision making when choosing a solution to the problem is of great importance."

Youth responses to the open-ended question about the most critical component of an effective cognitive-behavioral intervention program for teaching social problem-solving skills to adolescents fell within three categories: (1) considering the consequences, (2)

thinking of possible solutions, and (3) understanding the situation. One young person wrote, "They need to be taught to stop and think ahead to the ramifications of their actions before doing the action." Another wrote, "I think you have to understand where the person is coming from and treat them with respect and be a friend toward them."

Discussion

The purpose of study one was to establish the social validity of components of a social problem-solving model for high-risk adolescents that are most essential when an adolescent is engaging in social problem solving. Analysis of results suggested that all components of the model examined were judged valid.

One component not recognized in the current model, but noted by adult respondents, was motivation. One respondent reported, "The student must truly want to change his/her behavior." Another stated, "There must be a real-world 'pay-off' for participating in the program (e.g., he/she may make friends for the first time or he/she wants to stay in school rather than be expelled for poor behavior)." This factor deserves further attention, especially with high-risk adolescents. Motivation influences a young person's commitment, engagement, participation, and success in the learning process (e.g., Borkowski & Burke in Hallahan, Lloyd, Kauffman, Weiss, & Martinez, 2005).

The limitations of this study are recognized. First, there was a limited number of individuals in the focus group. It is hoped though that the sample had adequate representation of professionals, parents and students to be able to begin to explore the social validity of the proposed intervention model from a variety of perspectives. Given the small sample size of the focus group, these data are recognized as unique. Therefore, the results need to be considered only preliminary in nature.

The information gathered in this study further clarifies our understanding of the social problem-solving process, specifically the behavioral components involved and the cognitive strategies that are needed in each step in the process. This provides more information to support the development of prescriptive intervention technologies, specifically cognitive-behavioral strategies that are needed to address skill deficits in these areas.

Chapter 4

Study Two: Narrative Development and Social Problem-Solving Skills in High-Risk Adolescents

The purpose of study two was two-fold. First, the narrative skills of adolescents were examined. Second, the complex relationship between narrative and social problem-solving skills in typically achieving and high-risk adolescents was investigated.

Method

Participants. The participants were 15 adolescent males, age 16;0 to 18;11 years. Language dominance, proficiency and ethnicity were reported for each participant. Participants were randomly selected (every 11th student) from general and special education population sheets of students attending a state supported school in a juvenile correctional facility- five of whom were classified as general education students, five of whom were identified by their Eligibility Determination Team (EDT) as students eligible for special education and related services as students with an ED, and five of whom were identified by their Eligibility Determination Team as students eligible for special education and related services as student with a SLD and who were also receiving related services from a speech-language pathologist.

Recruitment. Potential participants were recruited through letters. Students were recruited from those attending high schools within two state juvenile correctional facilities located in the Southwestern section of the United States, where the primary investigator was employed. Consent and assent for participation in the study was obtained from parents/guardians and students, as appropriate.

Procedure

Narrative probe. Each participant was presented with three scenarios representing given social dilemmas and then prompted to generate a spontaneous personal oral narrative, telling the story of what happened, what he was thinking and how he solved the given problem, in response to each prompt. Prompts were presented in a format following the attached protocol, "Narrative Probe Protocol: Study Two" (Appendix B).

Data were collected by the primary investigator, a certified and licensed Speech-Language Pathologist and doctoral student. The primary investigator met with students individually in quiet locations on the campuses of the state juvenile correctional facilities.

Transcription and coding. Student narrative samples were digitally recorded. Narratives were transcribed by a local transcription agency. Each of the transcribed samples was independently reviewed for accuracy by the primary investigator. Transcriptions of narratives were scored using rubrics to complete an analysis of each student's story grammar level (e.g., inclusion of elements of story grammar; Fey, et al., 2004) and inclusion of social problem-solving strategy steps (Hazel, et al., 1981). Narratives were then segmented into terminal units (T-units; Hunt, 1965; Loban, 1976). Segmented narrative samples were then entered into the Computerized Language Analysis program (CLAN; MacWhinney, 2000) and analyzed for Mean Length of T-Units (MLTU; Hedberg & Westby, 1993; Stein & Glenn, 1979). Elements of landscape of consciousness were then coded in the samples and a frequency measure was calculated.

Coding agreement. Each of the narratives was coded and scored by two of the investigators for T-units, story grammar level (Fey, et al., 2004), elements of landscape of

consciousness and social problem-solving skills (Hazel, et al., 1981). Disagreements in scoring were resolved through discussion of the coders.

T-units. Narrative transcripts were analyzed for syntactic complexity of expressive language by analyzing length of T-units. The T-unit was the unit of segmentation. A T-Unit is an independent clause and all of its dependent clauses (Hunt, 1965; Loban, 1976). A mean length of the T-unit (MLTU) was calculated using the Computerized Language Analysis (CLAN; MacWhinney, 2000).

Story grammar. Narrative transcripts were rated for inclusion of elements of story grammar: setting, characters, ending, and plot, using a rubric developed by Fey, et al. (2004; Appendix C). Inclusion of setting, character and ending elements were quantified on a 0 to 3 scale. Inclusion of plot elements was quantified on a 0 to 6 scale. A percentage reflecting the level of use of narrative components was calculated by dividing the total score earned by the total number of possible points on the rating scale and then multiplying by 100.

Landscape of consciousness. Transcripts of narratives were also analyzed for reflection of landscape of consciousness. The assessment of landscapes of consciousness in narratives is grounded in the work of Brunner (1986). It refers to one's ability when sharing a narrative to move beyond simply sharing actions and to sharing the thoughts, intentions and feelings behind the actions of the character. Westby and Clauser (1999) elaborated on the above definition noting, "… most narratives unfold simultaneously on two levels, the landscape of action, which represents the events within story time, and the landscape of consciousness or of human perception of those events (what those involved in the action know, think or feel, or do not know, think or feel; p. 268)."

Landscape of consciousness can be measured by counting words that reflect emotion and metacognition (Westby & Clauser, 2005). Metacognitive (e.g., want, could, just, felt, thought), including emotion words (e.g., happy, jealous), and connective words (e.g., but, if, because, then) were coded in student narrative transcripts in CLAN (MacWhinney, 2000) using a coding system specific to this study (Appendix D). A frequency measure of landscape of consciousness words was then calculated by CLAN and this was used as a measure of landscape of consciousness.

Social problem solving. Students' inclusion of social problem-solving strategy steps in personal narratives was judged using a rubric based on the problem-solving steps outlined in the ASSET program (Hazel, et al., 1981; Appendix E). This framework of strategy steps was selected as it was recognized as having both construct and content validity. A rating scale was designed to quantify the component skills in the model. Each component skill or strategy was quantified on a 2, 1, 0 scale, with 2 indicating that the student's words reflected that skill step was executed correctly, 1 indicating that the skill step was approximated but not exhibited as stated by the student's words, and 0 indicating that the skill step was not reflected or reflected inappropriately by the student's words. A percentage reflecting the accuracy of each student's overall performance on each skill was calculated by dividing the total number of points earned by total number of possible points on the rating scale and then multiplying by 100.

Data Analysis

The collected data were analyzed initially through descriptive statistics to provide a thorough understanding of the participants and the variables. Means and standard deviations for scores were calculated. For all measures (elements of story grammar, elements of

landscape of consciousness, and social problem solving skills) a repeated measures analysis of variance was conducted.

Research Design

The study used a repeated measures individual design.

Results

A repeated measures MANCOVA assessed differences in four dependent variables: (1) the MLTU, (2) elements of story grammar, (3) elements of landscape of consciousness, and (4) inclusion of social problem solving strategy steps, for participants classified as (1) general education students, (2) students eligible for special education and related services as students with an ED, and (3) students eligible for special education and related services as students with a SLD and who were also receiving related services from a speech-language pathologist.

The multivariate interaction effects of group by MLTU, group by landscapes of consciousness, and group by problem solving skills were not significant, Wilk's lamba = .820, $F(4, 18) = .470$, $p = .135$; Wilk's lamba = .504, $F(4, 18) = 1.84$, $p = .448$; and Wilk's lamba = .606, $F(4, 18) = 1.28$, $p = .319$, respectively. The multivariate interaction effects of time by MLTU, group by landscapes of consciousness, and group by problem solving skills were not significant, Wilk's lamba = .817, $F(2, 9) = .1.09$, $p = .1.75$; Wilk's lamba = .691, $F(2, 9) = 2.012$, $p = .311$, and Wilk's lamba = .738, $F(2, 9) = 1.596$, $p = .254$ respectively. In short, results indicated that the three groups of at-risk youth did not differ significantly from each other on the measured dependent variables and their responses were consistent over time. Yet, given the small sample size, this outcome was not surprising.

Descriptive statistics better represent the data. Tables 4 - 7 display the means and standard deviations for MLTU, elements of story grammar, elements of landscape of consciousness, and inclusion social problem solving strategy steps in student's personal narratives by service delivery group (general education, ED, LD), respectively.

Discussion

The purpose of the present study was to first examine the characteristics of narrative produced by at-risk adolescents, and second, investigate the relationship between narrative skills and the use of social problem solving skills between typically achieving and at-risk adolescents. Results indicated that students in all groups of delinquent, at-risk adolescents showed limited use of elements of story grammar, social problem solving, and landscapes of consciousness, and decreased MLTU for age in their narratives. The narratives of high-risk students had minimal internal response and plans to deal with responses. Fifty-one percent of the narratives did not have a plot. Four percent of the students included no actions in their stories, 9% included actions that were not sequenced, and 38% of included sequenced actions. Forty-nine percent of the narratives included a plot, yet the plots were either very simple (40%) or simple (9%). If one does not generate a plot in a narrative, there is no plan to resolve the given problem. As a result, in many of the stories, no plan was expressed. In fact, in many narratives students did not offer solutions to identified problems, rather their stories reflected an action sequence or they reported others' response to their identified problems. Initial findings regarding the narrative skills of high-risk youth are consistent with and extend those of previous studies (Humber & Snow, 2001; Snow & Powell, 2005). The young people in this study, similar to those in previous studies showed poor narrative abilities. While previous studies examined narratives produced by community-based delinquent youth in

response to a visual stimulus, narratives in this study were spontaneously-generated, personal narratives of incarcerated youth.

The high-risk adolescents' narratives reflected limited use of covert and overt social problem-solving skill steps. Most had little difficulty identifying the problem, yet few discussed possible and appropriate solutions or weighed positive and negative consequences. As a result few decided on a desirable solution and formulated steps to execute this choice. Many students shared stories of illegal activities or recounted inappropriate responses to given social problems. These findings are consistent with the literature that suggests many delinquent youth are limited in their self-determination skills, including social problem-solving skills and decision-making abilities.

High-risk adolescents expressed themselves overall in poorly organized sentences and their T-units were significantly below expected when compared to others their age. The work of Hunt (1965) and Loban (1976) identified means of T-units for students' grade. For students in the ninth through twelfth grade, a T-unit of 10.05 to 13.27 would be expected. Students in this sample demonstrated a mean of 8.21 (SD=.54) significantly lower than those reported by Hunt and Loban.

Student narratives had minimal use of landscape of consciousness. The student's primary use of landscapes of consciousness involved qualifying adverbs (e.g., just, usually, really, only, probably). Few to no formal data are in the literature measuring this in high-risk adolescents; these preliminary data offer the beginning of a conversation around the covert thoughts, feelings, planning and evaluating that these students are using when telling personal narratives and reflecting on their own experiences.

The correlation between inclusion of social problem-solving steps and elements of narrative grammar, though significant, was not as strong as anticipated. Upon further analysis, it was discovered that the students received credit for simply having a solution on the narrative score sheet and no judgment was made to the legality or ethical nature of their solutions. Yet, students only received credit on the social problem-solving score sheet for plausible and socially appropriate, ethical solutions and actions. As noted above, many students told of illegal or unethical solutions and did not earn credit on the narrative score sheet. This discrepancy in scoring accounted for some of the difference and was not anticipated. This will require additional reflection and planning prior to further narrative analysis. Yet, outcomes were most likely influenced the greatest by the small sample size; the sample size of this study was not large enough to determine if a significant relationship existed between narrative abilities and social problem-solving abilities.

The study has several limitations. Most notably, as noted above, the sample size was small. In addition, the participants were from a convenient sample. Given this, it is necessary to use caution when generalizing to the larger population. Though preliminary, the results indicate that further investigation of the relationship between social problem solving and narrative complexity is warranted. There is clear evidence in the literature that youth considered at- and high-risk often have communication deficits that have the potential to significantly influence their learning, social-emotional development, and behavior**.**

In addition, this study provided an initial and valuable glimpse at the personal stories and problem-solving abilities of high-risk adolescent males. It is not known what these students could have produced with different constraints on narrative task such as those provided in narrative retell situations. When comparing student stories though with just the

data available on personal narratives (Peterson & McCabe, 1983) and social problem solving, the abilities of these students were significantly deficient.

Chapter 5

Study Three: The Effects of a Narrative-Based Social Problem-Solving Intervention with High-Risk Adolescent Males

Given the positive relationship between language, emotional regulation, self-regulation and behavior (Benner et al., 2002; Fujiki et al., 2004; Gallagher, 1999; Oppenheim et al., 1997; Westby, 2004) and the structural similarities in narrative structure and elements of social problem solving and decision making there is reason to believe that supporting narrative development and teaching social problem-solving skills within the context of a narrative-based model to youth with language and/or emotional behavioral disorders will support increased social problem-solving skills and ultimately increase prosocial behavior and social competence.

The purpose of study three was to examine the efficacy of an individual, narrative-based, cognitive-behavioral social problem-solving intervention on learning social problem-solving strategy steps, improving narrative skills and reducing problem behaviors.

Method

Participants. Participants in this study were three adolescent males (Horner, et al., 2005). All participants met the following criteria: age 17.0 to 19.11 years (not older than 18.11 at the beginning of participation in the study), average intelligence, English dominance, and receiving special education and related services as students with an ED based on federal guidelines (IDEA 2004). Language dominance, proficiency and ethnicity were reported for each participant. Participants' individual demographic characteristics are presented in Table 8. The participants were selected from students attending a state supported school in a juvenile correctional facility.

Setting. This study was conducted in a state juvenile correctional facility located in the Southwestern section of the United States. All sessions with students and interactions with professionals took place in rooms in the living units on the facility grounds.

Narrative Probes

Personal oral narratives. Spontaneous personal oral narrative language samples were obtained during baseline and post-intervention phases of the study. Prompts for the narrative samples were presented orally. Each prompt described a different scenario representing a given social dilemma and participants were then asked to tell the story of a time they had experienced that social problem (e.g., "Tell me a story about a time someone asked you to do something you knew you weren't supposed to do. Tell me what you were thinking and how you solved the problem"). Three of these prompts are from Study Two, and the others were new prompts. Prompts were presented in a format following the attached protocol, "Narrative Probe Protocol: Study Three" (Appendix F). The primary investigator, a certified and licensed Speech-Language Pathologist and doctoral student, collected the data.

Transcription and coding. Student narrative samples were digitally recorded. Narratives were transcribed by the primary investigator. Transcriptions of narratives were scored using rubrics to complete an analysis of each student's inclusion of social problem-solving strategy steps and story grammar level (e.g., inclusion of elements of story grammar). Narratives were then segmented into terminal units (T-units) cooperatively by the primary investigator and one of two reliability coders (Hunt, 1965; Loban, 1976). Segmented narrative samples were then entered into CLAN (MacWhinney, 2000) and analyzed for MLTU, (Hedberg & Westby, 1993; Stein & Glenn, 1979). Connectives and elements of

landscape of consciousness were then coded in the samples and a frequency measure of target words was calculated (Westby & Clauser, 2005).

Measurement of Behaviors

Measures of five behaviors were completed assessing the students' social problem-solving abilities, story grammar levels, MLTU, connectives and use of words reflecting landscapes of consciousness, and problem behaviors within facility.

Social problem-solving skills. A problem-solving rubric, Reflection on Social Problem-Solving and Decision-Making Rubric (Appendix G), was used to judge the participants' inclusion of social problem-solving steps in personal narratives and the quality of their cognitive and behavioral responses. This rubric was adapted from the one used in Study Two (Hazel et al., 1981). Target cognitive and behavioral strategy steps were quantified within this social problem-solving rubric. Each component step was quantified on a 2, 1, 0 scale, with 2 indicating that the step was executed correctly, 1 indicating that the step was approximated but not exhibited as stated, or that the skill step was implied but not explicitly stated and 0 indicating that the step was not exhibited or implied or was exhibited inappropriately. A percentage reflecting the accuracy of each student's overall performance was calculated by dividing the total number of points earned by the total number of possible points on the rating scale and then multiplying by 100.

Story grammar use. Consistent with Study Two, narrative transcripts were rated for inclusion of elements of story grammar: setting, characters, ending, and plot, using a rubric developed by Swanson, et al. (2005; Appendix C). Inclusion of setting, character and ending elements were quantified on a 0 to 3 scale. Inclusion of plot elements was quantified on a 0 to 6 scale. A total of 15 points were possible. A percentage reflecting the level of use of

narrative skills was calculated by dividing the total score earned by the total number of possible points on the rating scale and then multiplying by 100.

Expressive language syntactic complexity. As in Study Two, narrative transcripts were analyzed for syntactic complexity of expressive language by analyzing length of T-units. A mean length of the T-unit (MLTU) was calculated by CLAN (MacWhinney, 2000).

Landscape of consciousness. Similar to Study Two, transcripts of narratives were also analyzed for reflection of landscape of consciousness. Emotion (e.g., happy, jealous), metacognitive (e.g., want, could, just, felt, thought) and connective words (e.g., but, if, because, then) were coded in student narrative transcripts in CLAN (MacWhinney, 2000) using a coding system specific to this study (Appendix D). A frequency measure was then calculated by CLAN (MacWhinney, 2000) and this was used as a measure of a total of all types of landscape of consciousness words.

Inappropriate behavior. A review of discipline data from the facility records was completed for each participant. A frequency count of Office Discipline Referrals (ODRs) from education and Discipline Reports (DRs) from the facility were collected pre-intervention and post-intervention. ODRs and DRs were calculated as a frequency count for each month.

Self-Report and Consumer Ratings

Self-reports. Students, Youth Care Specialists, and teachers were asked to complete a short questionnaire during the pre- and post-intervention phases of the study. Students were asked to complete the Social Problem-Solving Competence Student Self-Report (Appendix H) by the facility Director of Special Education or Speech-Language Pathologist. The questionnaire was designed to measure the student's perception of their social problem-

solving skills and their effectiveness. Students were asked to rate their responses to six questions on a scale ranging from "strongly disagree" (1) to "strongly agree" (7). There was an optional area for "comments." Written instructions were read to students. Students were given the option of having the questionnaire read to them.

Each student's Youth Care Specialist Case Manager and Teacher Advisor were recruited to complete The Social Problem-Solving Competence Teacher and Youth Care Specialist Report in a cover letter accompanying the questionnaire given to them by the primary investigator. The questionnaires were comprised of five questions asking respondents to rate target students' competence on select components of the social problem-solving process (Appendix I). These items were examined on a 7-point Likert scale representing a continuum from "strongly disagree" (1) to "strongly agree" (7). The questionnaire included one area for "comments." Written instructions were provided on the questionnaire.

Consumer satisfaction survey. Students were asked by the facility Director of Special Education or the Speech-Language Pathologist to complete the Consumer Satisfaction Survey. This is a short five-question survey that students used to rate their perceptions of and satisfaction with the instructor, instructional curriculum, and their progress (Appendix J). These items were examined on a 7-point Likert scale representing a continuum from completely "dissatisfied" (1) to "completely satisfied" (7). The survey included one area for "comments." Written instructions were provided on the survey and read aloud. In addition, students were given the option of having the survey questions read to them.

Reliability

Transcription agreement. Student narratives were transcribed from digital audio recordings by the primary investigator. Twenty percent of the transcribed samples were independently reviewed for accuracy by one of two reliability coders using digital recordings of the personal narratives (Schlosser, 2002). Agreement was calculated using point-by-point reliability; the number of word agreements between the raters was divided by the total number of words and then multiplied by 100. Any discrepancies in transcription were discussed and resolution was reached.

Narrative scoring and coding agreement and reliability. Each of the pre- and post-intervention narratives was coded and scored independently by the primary investigator and one of two reliability coders for story grammar level from a typed transcript. Agreement for story grammar level and landscape of consciousness was measured using point-by-point reliability as described above on 100% of the samples. Agreement between observers was calculated in the following manner: (a) if both raters scored a given behavior the same, this was termed a total agreement; (b) if observers' scores were within one point of each other, this was termed a 50% agreement; (c) if observers' scores varied by more than one point, this was termed nonagreement. Finally, the total number of agreements was then divided by the total number of possible agreements and multiplied by 100 to determine the percentage of interrater agreement. Independent coding of landscapes of consciousness words was reviewed by the primary investigator and observer. Interrater reliability was then calculated using Scott's pi (Scott, 1955).

Social problem-solving scoring agreement and reliability. Participants' inclusion of social problem-solving and decision-making strategy steps and the quality of their

performance on each of these cognitive and behavioral strategy steps were assessed using The Reflection on Social Problem-Solving and Decision-Making Rubric on each of the pre- and post-intervention narrative samples the primary investigator, from a typed transcript. One-hundred-percent of the samples were also scored by one of two reliability coders in addition to the primary investigator. Agreement between observers was calculated in the following manner. If both raters scored a given behavior the same, this was termed a total agreement. If observers' scores were within one point of each other, this was termed a 50% agreement. If the observers' scores varied by more than one point, this was termed nonagreement. The total number of agreements was then be divided by the total number of possible agreements and multiplied by 100 to determine the percentage of interrater agreement. Interrater reliability was calculated using Scott's pi (Scott, 1955).

Design

A multiple baseline design across participants (Baer, Wolf, & Risley, 1968) was employed to examine the effectiveness/efficacy of a social problem-solving curriculum on the social problem-solving skills of the high-risk adolescents. The design consisted of two phases: baseline and post-intervention.

Data Analysis

Participant's performance on baseline and post-intervention probes assessing inclusion of social problem-solving strategy steps, story grammar level, expressive language (MLTU) abilities, frequency count of the number of words indicating landscapes of consciousness, and frequency of behavior in personal narratives was graphed and the results were analyzed through visual inspection to evaluate trend and level changes in student behavior related to intervention (e.g., Baer, Wolf, & Risely, 1968). Mean scores were

calculated for each student for each study phase to further assess changes on the dependent measures.

Procedures

Participant selection. Potential participants for the study were initially identified by the facility Director of Special Education and the Speech-Language Pathologist using established criteria. They reviewed the students currently in program and identified those meeting criteria for the study. The primary investigator made initial contact and facilitated the assent and consent process with students who met criteria to participate in the study and, as appropriate, their parents. During this initial conversation the study was explained, any questions the students and/or parents had were answered and they were asked if they wished to participate.

Pre-intervention phase. During the pre-intervention phase, baseline data was collected from all participants. Students were asked to complete the Social Problem-Solving Competence Student Self-Report. Current discipline data was collected from facility records by the Educational Administrative Assistant. Selected teachers and facility staff were asked to complete the Social Problem-Solving Competence Teacher and Youth Care Specialist Report. Three personal oral narratives were collected following procedures outlined on the Narrative Protocol: Study 3.

Performance on inclusion of social problem-solving strategy steps in narratives, as measured by scores on the Reflection on Social Problem-Solving and Decision-Making Rubric, was graphed for all three students. The three scores obtained for each student constituted the initial baseline. Baselines were reviewed and intervention was implemented first with the student with the most stable baseline, Student One (S1).

Intervention phase. Students were taught the strategies in individual sessions. Sessions were generally an hour in length. The primary investigator was the interventionist. The intervention curriculum, *BEST PLANS Social Problem-Solving Strategy Instructional Curriculum*, written by the primary investigator, was used to guide individual intervention sessions. The curriculum was developed to teach narrative and social problem-solving skills to high-risk adolescents and was based on the framework investigated in study two. The instructional curriculum was divided into four major parts: (1) Part One: Collection of Pre-Intervention Data, (2) Part Two: Storytelling Strategy Instruction, (3) Part Three: Social Problem-Solving Strategy Instruction, and (4) Collection of Post-Intervention Data. Each of these areas was divided into instructional stages aligned with Ellis, Deschler, Lenz, Schumaker and Clark's (1991) instructional model for teaching learning strategies (see Appendix K for an overview of the instructional stages).

The instructional curriculum outlined in detail the purpose, materials needed and specific instructional steps for each stage. In addition, an instructional script was provided, along with "Learning Cards" that highlighted critical information for students, worksheets, sample narratives, sample social dilemmas, and samples of completed graphic organizers. The instructional approach merged cognitive-behavioral strategy instruction and direct instruction methods (e.g., Jolivette et al. in Mathur & Schoenfeld, 2010). Cognitive approaches are evidenced in the curriculum in self-talk practices (e.g., Maag, 2006). Behavioral approaches are evidenced in the curriculum in modeling and reinforcement techniques (e.g., Maag, 2006; Mathur, et al., 1998, Mathur & Schoenfeld, 2010). Direct instruction methods are evidenced in the curriculum in explicit instruction of both the cognitive and behavior steps of the strategies, scaffolding and mediation of instruction,

repeated and specific practice, and frequent review and feedback (Mathur, et al., 1998; Jolivette et al. in Mathur & Schoenfeld, 2010)

In addition, instruction was designed to incorporate the following evidence-based practices for students with EBD and at-risk learners:

- Goal setting and monitoring (i.e., self-management; Ellis et al., 1991; Lewis et al., 2004);
- Focus of intervention on better student outcomes in authentic situations (e.g., Maag, 2006);
- Advance and post organizers (e.g., Ellis et al., 1991; Swanson & Hoskyn, 2001);
- Opportunities for high levels of student engagement, participation, and response (e.g., Lewis et al., 2004; Mathur & Schoenfeld, 2010);
- Purposeful, relevant work that is driven by the student's interests and needs (e.g., Barnes, 1989; Deshler, 2005);
- Ongoing assessment and feedback (e.g., Lewis et al., 2004, Swanson & Hoskyn, 2001);
- Forecast and focus on of generalization (e.g., Ellis et al., 1991; Lewis et al., 2004; Mathur, et al., 1998),
- Activating prior learning and background knowledge and connecting with new learning (e.g., Mathur & Schoenfeld, 2010);
- Visual graphic device (e.g., Lenz & Deschler, 2004);
- Mnemonics (e.g., Mastropieri & Scruggs in Lenz & Deschler, 2004); and
- Instruction to mastery (e.g, Ellis et al., 1991).

As the collection of pre- and post-intervention data were covered in detail in other areas of the methods section, it is not addressed here. Instruction in the SPACE storytelling strategy and the BEST PLANS social problem-solving strategy are discussed in further detail below.

SPACE Storytelling Strategy. Students were initially instructed in the SPACE storytelling strategy through discussion, examples, and modeling. This strategy has three steps: (1) Think about the task; (2) Organize the components of the story using SPACE; and (3) Tell your story. Students were taught to organize the components of stories using the mnemonic SPACE (Hopkins in Hoskins & Noel, 2011): Setting, Problem, Action, Consequence and End/Evaluation. In addition to the mnemonic, a visual graphic device, the SPACE Storytelling Outline, was taught to assist students in learning and organizing the components of stories (see Appendix L). Students were then engaged in verbal rehearsal activities until they were able to demonstrate mastery of knowledge of the strategy steps. They were then provided structured practice in using the strategy to understand and retell stories they have heard, read or viewed. Following demonstration of mastery of that stage, students were then provided structured practice in using the strategy to retell their own stories. After students achieved mastery at this stage, the BEST PLANS social problem solving strategy was introduced.

BEST PLANS Social Problem-Solving Strategy. Following instruction and achievement of mastery in the SPACE storytelling strategy, students were then instructed in the BEST PLANS social problem-solving strategy through discussion, examples, stories, and modeling. This strategy has nine steps: (1) Be aware of the setting; (2) Examine the problem; (3) Set an end goal; (4) Think about what you could do; (5) Predict the possible

consequences; (6) Label your decision; (7) Arrange a plan and take action; (8) Notice the consequences; and (9) Study the end. These steps were taught embedded in a modified SPACE framework. Students were taught the components and process using the mnemonic BEST PLANS and a visual graphic device, the BEST PLANS Social Problem-Solving Strategy SPACE Outline (see Appendix M). Consistent with instruction in the SPACE storytelling strategy, students were then challenged to demonstrate mastery of knowledge of the strategy steps. They were then provided structured practice in using the strategy with everyday social problems. Following demonstration of mastery of that stage, students were then provided structured practice in using the strategy to think about how they have solved recent social challenges. After students achieved mastery at this last stage, post-intervention data was collected.

Post-intervention phase. As noted above, following attainment of mastery on intervention lessons, post-intervention data were collected. One narrative language sample was collected using the Narrative Protocol: Study Three. Students were asked to complete the Social Problem-Solving Competence Student Self-Report. Current formal discipline data were collected from facility records. In addition, students were asked to complete a Consumer Satisfaction Survey. Selected Youth Care Specialists and teachers were asked to complete a Social Problem-Solving Competence Teacher and Youth Care Specialist Report for students participating in the study.

Treatment fidelity. The primary investigator assessed treatment fidelity. A Treatment Integrity Form (Appendix N), outlining essential intervention components to be delivered, was generated to guide assessment of treatment adherence to instructional components in the intervention protocol (Schulte, Easton, & Parker, 2009). Instructional

components for each baseline, intervention, and post-intervention session in the intervention curriculum were represented on this form. Twenty percent of sessions for each student were randomly selected for integrity assessment (Schlosser, 2002). These observations were selected to be representative of all phases of the study: baseline, intervention, and post-intervention. The primary investigator and one of two reliability coders scored selected samples using The Treatment Integrity Form and digital audio recordings of the intervention sessions. A total percentage of intervention components delivered in selected sessions was calculated to determine the accuracy with which the intervention was delivered (Schlosser, 2002) as judged by each rater.

Results

This study was designed to examine the effects of a narrative-based, cognitive-behavioral social problem-solving intervention on the social problem-solving abilities of high-risk adolescent males. Behavioral data were collected during baseline and post-intervention on student's social problem-solving abilities, story grammar level, MLTU, landscape of consciousness, and behavior in the facility. Student and staff self-reports and consumer satisfaction data were invited and collected through questionnaires. Data were then analyzed, both visually and statistically, and the results are presented below. Level, trend, and variability changes within and between study phases were examined through visual analyses of graphed data (Kazdin, 1982; Kennedy, 2005). Mean scores for student performance in each study phase provided further data for analysis of variability.

Three students completed the intervention program to mastery. Data showing baseline and post-intervention performance of social problem strategy step inclusion, story grammar level, MLTU, connectives and elements of total landscapes of consciousness, and elements

of evaluative landscapes of consciousness are presented for S1, S2, and S3 in Figures 4 to 9, respectively and in Tables 9 to 11, respectively.

Three baseline measures were collected for each student assessing their inclusion of social problem-solving strategy steps in personal narratives. Although measures were taken for social problem-solving abilities, story grammar levels, MLTU, landscape of consciousness, behavior in the facility, and self-reports of students' social problem-solving abilities with each baseline or post-intervention measure, the measure for inclusion of social problem-solving strategy steps in personal narratives was graphed and used to establish the baseline, for each of the three students, used to determine which student had the most stable baseline and would participate in the intervention process first. Level or central tendency, trend, and variability of these data for each student were analyzed through visual inspection. Means of initial baseline data measuring social problem-solving abilities were also calculated to illustrate central tendency of initial baseline data. On baseline measures of social problem-solving abilities, student 1 demonstrated a mean of 12.33% (SD=7.51); S2 demonstrated a mean of 30.33% (SD=2.31) and S3 demonstrated a mean of 25.00% (SD=22.11). Data for S3 showed the most variability and a high-negative slope; S1 and S2 reflected a low-negative slope and low variability. S1 was determined to have the most stable baseline. Intervention was then introduced to S1 and continued to mastery.

When S1 achieved mastery to criterion, intervention was concluded and a post-intervention measure of the inclusion of social problem-solving strategy steps in S1's personal narratives was collected and graphed. Concurrently, a baseline measure was obtained from S2 and S3. The 4 data points in the baselines of S2 and S3 were analyzed visually for level, trend and variability. The mean level of S2's data was 30.75% (SD=2.06)

and the mean level of S3's data was 27.75% (SD=18.88). While S2 showed a baseline characterized by relatively flat slope with low variability, S3 showed a medium-magnitude, positive slope with moderate variability. S2 was judged to have the most stable baseline. Intervention was then introduced to S2 and continued to mastery.

Intervention was discontinued when S2 demonstrated mastery. Again a post-intervention measure of the inclusion of social problem-solving strategy steps in his personal narratives was collected and graphed. In addition, as before, a concurrent baseline measure was obtained from S3, and an additional post-intervention measure was obtained from S1. Student 3's baseline reflected a medium-magnitude, negative slope with moderate variability. Intervention was then introduced to S3 and continued to mastery. When S3 met mastery criterion, a post-intervention measure of the inclusion of social problem-solving strategy steps was completed for S2 and S3. A post-intervention measure was not collected from S1; he was released from the facility on parole prior to the final post-intervention measure. This absence of a final probe measure for S1 is marked on Figures 4-9 by an asterisk.

Effects of Intervention on Social Problem-Solving Abilities

All students demonstrated acquisition of social problem solving strategy steps to criterion. Students required a range of 12 to 24 intervention sessions (X=17.66, SD =6.03) to show strategy step mastery. Student 1's performance on baseline measures of social problem solving reflected a mean of 12.33% (SD=7.5). He demonstrated 89.00% accuracy of inclusion of social problem-solving strategy steps following 24 intervention sessions with the *BEST PLANS Social Problem-Solving Strategy Instructional Curriculum.* Student 1's post-intervention mean was 87.5% (SD=2.12). Student 2 met performance criterion showing 82.00% accuracy of inclusion of strategy steps in a personal narrative following 12

intervention sessions. Mean baseline performance for S2 was 30.75% (SD=2.06) and his post-intervention mean was 84.00 (SD=2.83). Student 3 had a post-intervention score of 95.00%. His mean baseline performance was 27.6% (SD=16.35).

The primary outcome measure, inclusion of social problem-solving strategy steps in personal narratives, revealed a large, visually observably improvement from baseline to post-intervention for each of the participants. This was demonstrated by changes in both slope, as evidenced by a high-magnitude, positive trend, and changes in level and mean from baseline to post-intervention phases for each of the participants.

Effects of Intervention on Narrative Abilities

Analyses of baseline and post-intervention story grammar levels shows improvement for all three students. Student 1 exhibited a pre-intervention story grammar level mean of 22.33% (SD=4.04) and a post-intervention mean of 47.00% (SD=0). Student 2 exhibited a pre-intervention story grammar level mean of 31.50% (SD=3.0) and a post-intervention mean of 50.00% (SD=4.24). Student 3 demonstrated a pre-intervention story grammar level mean of 29.40% (SD=11.24) and a post-intervention score of 53.00%. Student 3 showed the most variability in baseline measures; his last baseline measure showed a moderate positive slope.

Effects of Intervention on MLTU

No student showed significant changes in MLTU following intervention. All students showed substantial variability. Student 1 had a baseline mean of 8.46 (SD=1.37) and a post-intervention mean of 8.03 (SD=0). Student 2 had a baseline mean of 9.58 (SD=.97) and a post-intervention mean of 11.08 (SD=.036) Student 3 had a baseline mean of 13.32 (SD=3.69) and a post-intervention mean of 13.32 (SD=3.69; see Table 15 for MLTU measures for each narrative probe).

Effects of Intervention on Landscape of Consciousness

Analysis of frequency of words reflecting landscapes of consciousness showed high positive trend between baseline and post-intervention measures for all students. Students 1 and 2 showed generally flat baselines, means of 11.0 (SD=6.25) and 14.25 (SD=2.36), respectively. Student 1 had a post-intervention mean of 42.5 (SD=.71). Student 2 had a post-intervention mean of 71.0 (SD=12.73). Student 3's baseline showed a medium positive trend, mean of 24.2 (SD=22.0; descriptive data for landscape of consciousness words in each narrative probe is shown in Table 16). Despite this positive trend, his post-intervention measure, 182 words reflecting landscape of consciousness, showed a high positive trend when compared with baseline data.

Effects of Intervention on Student Behavior in the Facility

The intention of the primary investigator was to examine changes in student behavior related to instruction in the intervention curriculum using data on student behavior already collected by the school and facility. Significant challenges with the data collected made this analysis difficult. The facility collects data at the school and in all other areas of the facility on behavioral infractions. Facility data documenting student behavioral infractions were collected and is presented in Table 17. The tracking of this data did not align with data collection in the study making analysis difficult. In addition, school was not in session during four weeks of the research further complicating the data.

Effects of Strategy Intervention on Student and Staff Perceptions

On the Social Problem-Solving Competence Student Self-Report, pre-intervention ratings for all students were as follows: 3.6 (SD=1.34) to 5.0 (SD=0.71) with an overall mean of 4.47 (SD=0.73). Post-intervention ratings for individual students ranged from 4.6

(SD=0.55) to 6.4 (SD=0.55) with an overall mean for all students of 5.33 (SD=0.63). Student 1 and S2 showed no significant difference between pre- and post-intervention perceptions of their abilities. Student 3's scores reflected a significant positive trend in his perception of his problem-solving abilities and social competence, demonstrating a pre-intervention mean of 3.6 (SD=1.34) and a post-intervention mean of 6.4 (SD=0.55). Table 18 presents staff and teacher reports pre- and post-intervention on the Social Problem-Solving Competence Teacher and Youth Care Specialist Report. Tables 19 and 20 show student responses on the Social Problem-Solving Competence Student Self-Report.

Means for individual students on the Consumer Satisfaction Survey (see Table 21) ranged from 6.2 (SD=0.84) to 7.0, with an overall mean of 6.60 (SD=0.37). Student responses indicated high levels of student satisfaction in all areas assessed with little variability in responses.

Reliability

Treatment fidelity. Measures of treatment fidelity were collected initially by the primary investigator and second by an observer (shown in Table 22). The primary investigator and observer independently listened to audio recordings of 20% of the sessions, randomly selected. Each observer noted lesson components that were delivered in each session on the Treatment Integrity Checklist (Appendix N). Session treatment integrity measures based on the primary investigator's report ranged from 82% to 100% with an overall treatment fidelity measure of 97%. Session treatment integrity measures based on the observer's report ranged from 40% to 100% with an overall treatment fidelity measure of 96%.

Interrater agreement and reliability. Agreement between observers on 100% of pre- and post-intervention measures of social problem-solving abilities and story grammar level was evaluated. The overall mean percentage of agreement between observers was 96.12% (SD=6.49) for the Reflection on Social Problem-Solving and Decision-Making Rubric, and 99.3% for the measures on the Narrative Scoring Rubric. Interrater reliability results, calculated point-by-point between the primary investigator and observer using Scott's pi (Scott, 1955), were .97 for social problem solving, .80 for story level ratings of setting, ending and character, and .93 for story level ratings of plot. When disagreements in observations occurred on scoring of landscapes of consciousness, the primary investigator and observer discussed and resolved the differences. Interrater agreement measures for social problem-solving abilities for S1, S2, and S3 are presented in Tables 9-11, and for narrative abilities in Tables 12-14.

Summary

In summary, visual analysis and descriptive statistical analysis of pre- and post-intervention data showed that all participants demonstrated significantly increased inclusion of social problem-solving strategy steps, story level grammar, and landscapes of consciousness in personal narratives post-intervention. Pre- and post-intervention data measuring MLTU did not show significant change. Results of surveys asking for education and security staff to report their perceptions of the individual participants' social problem-solving abilities and behavior, and students to report their perceptions of their own social problem-solving abilities and behavior, overall were not meaningful. Students' report of satisfaction with the intervention was positive.

Discussion

The purpose of Study Three was to evaluate the efficacy of an individual, narrative-based, cognitive-behavioral intervention written to teach social problem-solving strategy steps to high-risk, adolescent males. Three incarcerated adolescents with ED received intervention in story-telling and social problem-solving strategies with anticipated outcomes of improved social problem-solving, narrative, language, landscape of consciousness, and behavior abilities of participants, and initial evidence supporting the efficacy of the treatment. A multiple baseline across participants design was employed to document the effects of the intervention on participant's performance in the areas social problem solving, narrative, landscape of consciousness, language and behavior. Data were graphed and evaluated through visual analysis and descriptive statistics.

The results of this study indicated overall increase in inclusion of social problem-solving strategy steps in personal narratives following intervention. In addition, all participants showed significant positive change in their social problem solving, narrative, and landscape of consciousness. Significant change in performance was not demonstrated for all variables in the study; pre- and post-intervention measures of MLTU and frequency of connective words showing landscape of consciousness, both measures of expressive language complexity, reflected much variability and no significant increase overall. Security and education staff perceptions did not show improvement from pre- to post-intervention ratings or observable patterns. Intervention was implemented with fidelity. Consumer satisfaction surveys reflected high levels of satisfaction from the students. The discussion that follows attends to and explores the results related to each research question that guided

this study, contributions of the study, limitations of the study, and implications for future research and practice.

Did student use of social problem-solving steps in a spontaneous personal narrative change after treatment? There is strong evidence in the literature for small to moderate gains in the social problem-solving abilities of adolescents with ED following participation in cognitive-behavioral interventions (e.g., Gresham, 2005; Maag, 2006; Cook et al., 2008). The results of this study are consistent with previous research. Significant improvements were documented based on visual and descriptive analysis of data pre- and post-intervention for all three participants. Prior to intervention, students were most successful with identifying the problem and generating one solution. Following intervention the inclusion of social problem-solving strategy steps increased. Students, in their personal narratives, reflected more on their feelings and the feelings of others, their emotional regulation, and their motivation or goals. They typically generated two positive solutions and showed more examination of possible consequences for these solutions before identifying the best solution to the given problem. Though they noted their feelings and the feelings of others more post-intervention, overall they generally labeled feelings with less complex feeling vocabulary. Students did not consistently share steps necessary to carry out or enact on their solution. They may need explicit instruction on specific social skills so they can effectively carryout their responses.

Three areas of the curriculum required further elaboration to support students in learning and using the strategy: (1) setting an end goal, (2) perspective taking across the framework (e.g., identifying how you and others think and feel about the problem and predict the possible consequences for you and others), and (3) decision making. One step of the

strategy was to set an end goal following problem identification. This step not only helped students focus on how they wanted the situation to turn out and their own motivation in the situation, it also served to support students in evaluating how the situation actually ended compared to how the student wanted it to end. Several times students evaluated their actions by the criteria, "Did it work for me right now?" An example of this is a student sharing a story about getting contraband into the facility. He shared that the action worked as he got what he wanted, access to something students were not allowed possession of. As he shared his story, it became clear that if consequences were just examined from that perspective, "for me right now," that the student's evaluation of his behavior was true, but not helpful in building prosocial abilities. As the story unfolded, the student shared that now he was dealing with other consequences for his choice including missing a family visit. He shared he had not thought about that possibility when he acted.

In response to this, students were asked early in the intervention process to identify and note personal long-term goals (e.g., have good relationships with family and friends, graduate from high school, get a good job, get a car, and get paroled). Then when engaged in the social problem solving strategy, specifically when working through the set and end goal step, students were asked to note not only a goal to address their present need and motivation (i.e., I need the person to stop disrespecting me) but also note their long term goals. Then when students engaged in the end/evaluation step their perspective was broadened about how effective their selected solutions and actions were.

Perspective taking was challenging for students. Similar to observations noted above, students' perspectives were frequently egocentric and oriented in the present. Students were taught questions to guide them in widening their perspective to include the feelings, thoughts,

and motivations of others, and to think about the consequences of their behavior in the future as well as the present. When identifying the problem, they not only identified what the problem event was, but they were asked to identify what they felt and needed in response to this event and what others (those immediately involved and those who would be impacted by the student's response). When predicting consequences for possible solutions they were also asked to consider not only how they would think and feel, immediately and later, but how others would think, feel, and act in response, immediately and later. After this work students had a more complete picture of the problem and were better positioned to engage in making social decisions.

Social decision making was challenging for many students initially. An expanded visual graphic was created to support students through the steps involved. Students used this graphic to guide their work in thinking of possible solutions, predicting possible outcomes, and labeling their decision. The visual graphic prompted students to predict possible consequences to self, others and to consider consequences that would be rather immediate (e.g., If I steal the car, I will have the ride I need and make my curfew) and those that might be more removed (e.g., If I steal the car, I will probably get caught and end up serving time, and missing my family).

Social decision making is more complex than simply making a choice. Initially students were taught to examine and evaluate their possible solutions and possible consequences and decide on a solution that "leads to the most positive and least negative results" (Hazel, et al., 1981, p. 111). In fact, this was on our scoring rubric. Yet, during work with students it became clear that making this decision was much more complicated. Initially students were asked to put a "+" or "-" next to each prediction as a visual to assist them in

weighing their predictions. This was quickly modified to include large, medium and small "+" or "-" to indicate that the impact of consequences was on a larger continuum. In addition, sometimes students selected choices that did not have the most positive, but their choice reflected sacrifice for a friend or family member who benefited from a large positive consequence or students in avoiding a large negative consequence did not enjoy the positive consequences they predicted for themselves. Students needed much modeling and mediation, along with the use of the visual graphic and skill steps to become independent with this process.

Did student story grammar in a spontaneous personal narrative change after treatment? Little to no research is available in the literature regarding the oral narrative abilities of adolescents in general, or the narrative abilities of high-risk adolescents. Two applicable studies have examined the narrative abilities of adolescent offenders in a community-based program (Humber & Snow, 2001; Snow & Powell, 2005). In these studies, narrative grammar was assessed quantitatively and qualitatively when telling the story expressed in a six-frame black and white cartoon (e.g., "tell the story of what happened"). The participants' performance when compared to that of the control group showed some inconsistency. Humber and Snow (2001) shared that **t**he narratives of the young offenders included fewer story grammar elements and less critical information Snow and Powell (2005), though, noted that the number of story grammar elements was not significantly different between groups, yet the quality of responses was. Expression of the character's plan, consequences of one's action and the solution or resolution were limited.

In this study, narrative grammar was assessed using personal narratives of the students. In addition, the populations were different; participants in this study were

adjudicated youth residing and attending school in a state juvenile correctional facility. Even so, cursory comparisons seem appropriate. Students in this study showed similar patterns in their baseline measures to students' patterns in study 2 and those in the studies of Snow and her colleagues (Humber & Snow, 2001; Snow & Powell, 2005). Some students struggled much with the task in general and their narratives included only a limited number of story components (e.g., setting, characters, end, plot). While other students included more story components yet the quality of these components was less detailed or complex. Many of the students' stories did not have a plot, even a very simple one. Rather their narratives were comprised of actions, either lacking sequence, or narratives were shared in a logical sequence, but without explicit identification of a problem and its resolution.

Following intervention, all students' narrative abilities reflected significant gains. Students' performance on post-intervention measures increased primarily due to the inclusion of more narrative components and some increased complexity in how they included these in their narratives. For the most part though, students generally included more components in a simple way. Students added more information regarding the setting of the story and the ending. Pre-intervention, students earned a mean score of .42 (SD=.51), out of a possible 3 points, on their description of the setting, 1.00 (SD=0), out of a possible 3 points, on their description of the character, and .58 (SD=.79), out of a possible 3 points, on their recounting of the ending on the Narrative Scoring Rubric. Post-intervention, students earned a mean score of 1.2 (SD=.45) on their description of the setting, 1.2 (SD=.45) on their description of the character, and 2.00 (SD=0) on their telling of the ending, again with all scores being out of a possible 3 points. Students shared more details about where and when the story happened and what was going on when the story started, reporting more relevant

information. Little change was noted in description of the character(s). While they continued to identify the characters involved, they generally did not describe personality traits or attributes of the characters. Students were explicitly taught to describe the context or setting of the story noting who was involved, when and where it happened and what was going on when the story started. Their narratives reflected inclusion of details they had been taught to include. Further instruction on the characters and the relationship between their personalities and how this may influence their needs, goals, and behavior in social contexts is needed.

Pre-intervention students' narratives were generally characterized a very simple plot or no plot at all; student's earned a mean score of 2.50 (SD=.80) out of a possible 6 points. Following intervention all student narratives included a very simple plot, which reflected more complexity than the narratives observed prior to intervention. Students earned a mean score of 3.00 (SD=0) on post-intervention measures. No student's narrative reflected a simple plot, pre- or post-intervention, the highest-level plot in students' narratives was a very simple narrative. Fey, et al. (2004) defined a very simple plot as identification of a problem and its resolution. This was the level of narrative plot students were instructed in during the narrative intervention and then this simple narrative structure was generalized to social problem-solving instruction. The strategy steps and visual graphic used in the intervention were designed to support teaching and student use of narrative language with a simple or very simple plot (Fey, et al., 2004). Students' performance on post-intervention measures indicates that instruction was effective to this end.

Did student complexity of expressive language skills as measured by mean length of T-units change after treatment? Hunt (1965) and Loban (1976) identified means of T-units for students' grade. For students in the ninth through twelfth grade, a T-unit of 10.05 to

13.27 would be expected. No improvement in MLTU was noted. One explanation for the lack of increased MLTU is that the intervention was targeted at social problem solving and narrative language and did not directly address this area of language.

Student performance on baseline measures though was not consistent with MLTU's obtained in study 2. Student 1 MLTU was not statistically different on pre- and post-intervention measures. His MLTU was also significantly below the range for his grade reported by Hunt (1965) and Loban (1976). Yet students 2 and 3 had MLTUs in both pre- and post-intervention measures within the expected range for grade (Hunt, 1965; Loban, 1976). Snow and her colleagues (Humber & Snow, 2001; Snow & Powell, 2005) did not collect data on complexity of oral language during oral narratives.

Did occurrences of words in narrative reflecting narrative landscape change after treatment? There is no known research describing the frequency with which typically developing and/or students with EBD include landscapes of consciousness words in their oral narratives. Nor is there any known research describing the types of words commonly used or patterns of use. The three students in this study showed minimal use of landscape of consciousness words in their baseline narratives. Landscape of consciousness is reflected in narratives by the use of words illustrating emotions and metacogntion, and evaluative words. Simple and complex connective words can also be used to show landscape of consciousness. Simple relationships were expressed through words such as "so" "then" and "if" in post-intervention measures. The three students showed significant increase in frequency of landscape of consciousness and connective words. These data were originally presented in aggregate form (Figure 7), but the increase was so significant, the data were then disaggregated into evaluative words and connective words for further analysis. This

disaggregation of data provided informative data regarding the changes in language expressed in narratives (Figures 8-9). Gains in use of connective words showed significant gains for two of the students. Gains in use of evaluative words was significant for all three students. Gains in evaluative words was more significant than gains in connective words.

Did frequency of problem behaviors decrease following instruction in the intervention? One concern expressed by researchers has been the lack of data supporting the effectiveness of interventions designed to teach social skills and strategies including social problem solving. While it was the intent of the primary investigator to explore the effectiveness of the intervention, the measures taken were not meaningful. Measures of students' behavioral infractions are collected and recorded by the facility and by the school. Several other factors are seen as influencing these data. Facility data appeared the most stable. Security staff are trained on what behaviors are documented and infractions recorded appeared consistent with facility guidelines. Students' infractions documented included damage to property, verbal threats, battery, possession of contraband and stealing. Students' placements were consistent during the time data were recorded as they were each residing in the same living unit throughout this time.

School data presented with unique challenges. Teachers do not receive as much training as security staff in what behavioral errors to document and report. Behaviors reported from school staff ranged from walking around class, not doing work, throwing paper wads at another student, and not tucking in shirt, to stealing, verbal threats, and fighting. In addition, school was not in session during 4 weeks of the study and this impacted trends in data. Data overall were highly inconsistent for each participant and across participants; at this time no interpretations are made from it.

Did staff and student ratings of social problem-solving competence change following intervention? Overall, the data show that student and security and education staff perceptions of participants' behavior and social problem-solving abilities did not improve following intervention. Several factors may have influenced this. First there was attrition with staff, and one of the students had different staff respondents for pre- and post-test measures. Second, school was not in session when intervention was completed with student three and initiated with student 3; this created a delay in being able to request the data and in teachers responding to questionnaires. Last, students were not seen as solid historians of their own social competency prior to intervention and were seen as much more skilled, reflective, and thoughtful about their abilities and the process following intervention. This may have accounted for some of the inconsistencies observed.

What were students perceptions regarding the intervention experience? Results of student assessment of the intervention were high. Students reported feeling positive about the (a) the information and skills taught; (b) their problem-solving skills: (c) chances they would use what they learned; (d) the program overall; and (e) their comfortableness with the interventionist.

Contributions of the Study

Results from this study contribute to the already extensive body of research investigating the efficacy of cognitive-behavioral interventions to improve social problem-solving abilities in students with EBD. This study was unique in that the intervention investigated addressed narrative abilities and then social problem-solving and related abilities within a narrative framework. The intervention was implemented with a group of students at high-risk for negative outcomes as adults, specifically incarcerated adolescents with ED.

In addition, this research contributed to the limited body of research describing adolescent narrative development, and the complexity of expressive language use in students with ED. Results offer initial data describing the inclusion of landscapes of consciousness words in the personal narratives of adolescents with ED. Results of this research also further our understanding of the components of the problem-solving process and the relationship between these components, specifically of the role of narrative language.

Limitations of the Study

There are limitations of this study that need to be considered. Limitations will be discussed as threats to external validity and threats to internal validity.

Threats to external validity. External validity, or the ability to generalize results from one study to other people and settings, is strengthened with the single-subject multiple baseline design through replication of the effects of the intervention across different participants (Horner, et al., 2005; Kennedy, 2005). In the current study, effects of the intervention were replicated across three participants, with one researcher, in variations of one setting. Yet, one must be careful to generalize results until these studies are replicated across other participants, in other settings and with other researchers.

Threats to internal validity. Internal validity or the evidence supporting experimental control is strengthened by comparisons of each participant's performance across phases of the study, as well as comparisons of each participant's performance against the other participants (Horner, et al., 2005). These comparisons were completed through both visual analysis and descriptive statistics. Results indicated an experimental relationship between the intervention and changes in social-problem solving, narrative and landscape of consciousness abilities. Yet, results must be interpreted with caution. Other studies

replicating similar findings will be necessary to provide the sufficient data necessary to confidently speak of a causal relationship. In addition, attrition was an issue with both student and staff participants. Student one was released from the facility prior to completing the last probe. Two staff members completed pre-intervention questionnaires, yet were not available to complete post-intervention measures.

Internal validity can be strengthened through monitoring fidelity of intervention. Fidelity measures of the intervention were completed to examine adherence, or the number of intervention components delivered to students. This is just one measure of treatment fidelity however. Additional measures of treatment fidelity, such as the competence of the interventionist, or the quality with which the intervention is delivered, would enhance trust in the relationship between the intervention and the documented effects (Gresham, 2005; Schulte, Easton, & Parker, 2009).

Two caveats need to be discussed regarding fidelity of intervention. One concerns the context of intervention sessions. One concerns the impact of individual learning skills, personal qualities of each participant, and their unique personal situations on an interventionist's adherence to only specific aspects of an intervention. First, the consistency of the intervention setting must be acknowledged. When providing intervention under typical conditions, in an authentic setting, over a period of time, there is risk for inconsistency as not everything can be controlled for. That was true for this study. Intervention for each student generally occurred in an agreed upon place in each student's living unit and followed an agreed upon routine. Yet, sometimes we were asked to work in alternative offices. Sometimes we did not have tables or much space in which to work. While staff worked to support us in having a quiet work space and uninterrupted time, it was not uncommon to

have other activities occurring around us (e.g., showers, bible study meetings, movies, staff meetings, casual staff and/or student conversations) and/or sessions interrupted for short periods of time (participants removed for medication rounds or short meetings with staff).

Second, the characteristics of each participant and the individual events in their lives during the study need to be recognized. Each participant presented unique and individual learning abilities, background knowledge and experiences, and levels of engagement and motivation. Each participant was also involved in significant experiences during the study. During the study, students shared varied personal events. One participant went to court to try to get time with his children. Two prepared for release and reentry to the community. One had surgery. Two responded to not having family show up for planned visits. All were disciplined and managed consequences for significant behavior infractions. It is difficult to calculate the influence of these factors and events on student engagement, motivation, attitude and learning Treatment fidelity measures showed a high degree of adherence despite these variations.

Schulte, Easton, and Parker (2009) discuss that given factors such as those outlined above, a strict adherence may be "problematic" and that "skillful adaptation of the treatment to a client's unique situation" may be appropriate (p. 462). Maag (2006) added that given the significant needs of students with EBD, "a continuum of intervention" may be appropriate in addressing these concerns. This interventionist, in addition to adhering to the intervention protocol, provided adaptations and supports to further engage and motivate participants, bring meaning to the content, and assist in comprehension and application of the material. Fidelity of treatment curriculum must be assessed within recognition of this.

Implications for Future Research

Horner et al. (2005) recommend that "Single-subject research documents a practice as evidence based when (a) the practice is operationally defined; (b) the context in which the practice is to used is defined; (c) the practice is implemented with fidelity; (d) results from single-subject research document the practice to be functionally related to change in dependent measures; and (e) the experimental effects are replicated across a sufficient number of studies, researchers, and participants to allow confidence in the findings" (p. 176). They further define the last recommendation: "A practice may be considered evidence based when (a) a minimum of five single-subject studies that meet minimally acceptable methodological criteria and document experimental control have been published in peer-reviewed journals, (b) the studies are conducted by at least three different researchers across at least three different geographical locations, and (c) the five or more studies include a total of at least 20 participants" (p.176). Given these recommendations, the current study needs to be replicated to gather additional evidence on the effectiveness of the practice.

Studying the effectiveness of the intervention and generalization of the strategy and related skills to other settings and people is important. Smith and Travis (2001) highlight an important outcome of social competence instruction, "Effective social skills training must help students achieve measurable outcomes associated with desirable personal and social development" (i.e., social competence; p. 361). More comprehensive planning is necessary to support this inquiry in future studies. Complications related to attrition will need to be planned. Part of this planning will need to continue to address how to best deliver intervention and evaluate intervention provided in everyday situations, such as students' living units and schools.

Social problem solving is complex and requires complex intra- and inter-personal language abilities to support the cognitive and behavioral demands of the process. It is not surprising that complexity of expressive language, as measured by MLTU, did not increase in this study, as it was not directly targeted. It is interesting that students did, however, begin to use more connective words in their narratives post-intervention. This indicated that students were communicating more relationships through their language. Schumaker and Sheldon (1985) have demonstrated positive outcomes when explicitly teaching at-risk adolescent learners to generate not only simple but also compound, complex, and compound-complex sentence structures. Further research should examine if increasing the complexity of expressive language has a positive impact on learning and using social problem-solving skills.

The influence of interventionist factors on all aspects of intervention, as discussed in the literature (e.g., Schulte, Easton & Parker, 2009; Smith & Daunic, 2004) and observed by this researcher in treatment sessions with students deserves further investigation. These factors include competence, attitude, and therapeutic alliance. With all interventions, yet most certainly with more involved ones, such as social problem solving, the qualities of the interventionist are relevant. Mathur and Schoenfeld (2010) noted, "If students in juvenile correctional settings are to receive instruction that engages them in learning and facilitates their future success, the personnel who teach them must be fully prepared to provide high quality educational and related services" (p. 23). In addition to having the technical competence necessary to deliver the instruction, adapt and provide additional supports as needed, the therapeutic alliance is critical. Therapeutic alliance refers to the collaborative and positive relationship between an interventionist and student. Elias (2004a) discussed this in

an educational context. He refers to “Three essential Social and Emotional Learning principles… (National Center for Innovation and Education in Elias, 2004): (1) Caring relationships are the foundation of all lasting learning; (2) Emotions affect how and what we learn, and (3) Goal setting and problem solving provide focus, direction, and energy for learning” (p. 54). These principles reflect the need for interventionists to build positive relationships with students, attend to students’ emotional regulation, provide support for students as appropriate, and collaboratively plan with students so their needs and interests are attended to. Research and professional conversations should continue to investigate interventionist factors as part of treatment fidelity.

Chapter 6

Conclusion

Narrative development is recognized as an ecologically valid (Botting, 2002), strong predictor of later academic success (Fazio, Naremore, & Connell, 1996). Clinically, narrative development has been recognized by educators as an intervention to support literacy development (Westby, 2004), by speech language pathologists to support language development (Moore-Brown, Sanger, Montgomery, & Nishida, 2002), and, as previously noted, by psychologists to support emotional organization and regulation (Oppenheim et al., 1997).

In summary, three studies were completed to investigate the relationship between narrative language and social problem solving. The first study was designed to socially validate the components of a narrative-based social problem-solving model. Study two was then implemented for two purposes. The first purpose was to examine the narrative skills of high-risk adolescents. The second purpose was to investigate the complex relationship between the narrative and social problem-solving skills of high-risk adolescents. This study indicated that deficits in story narrative and social problem-solving deficits were detected in high-risk students. Additionally, this study provided the rationale for developing an intensive intervention to improve problem-solving abilities of high-risk students, specifically youth with ED who are adjudicated. Finally, the third study was the intervention study.

Smith and Travis (2001) in "Conducting Social Competence Research: Considering Conceptual Frameworks" wrote:

> Generating solutions to intervene more effectively with students who have more significant social and behavioral problems will require educators and researchers to rethink and redefine the research to practice process (see Gresham, 1998). To

> intervene effectively with a student who displays social deficits, a myriad of interventions are needed that must be guided by a complete understanding of a student's social system, including interactions between the student and other individuals and environmental expectations and variables. Yet there is little in the educational literature that helps us organize our thinking about what variables comprise a student's sphere of social influence (i.e., those individuals' who influence a person's behavior) and how those variables might interact. What we seem to lack in out efforts to minimize a student's social interaction problems and increase prosocial skills are epistemological models or conceptual frameworks that guide our thinking about what constitutes successful social interactions and, ultimately, the development of social competence (Smith & Travis, 2001, p. 363).

The intervention in this final study was based on a new framework of intervention proposed by the primary investigator and written to respond to concerns in the social problem-solving literature such as those noted above by Smith and Travis (2001). It was unique in that it taught social problem solving within a narrative context. The assumption was that improving students' narrative abilities, through instruction in story grammar, and then using this narrative framework to teach social problem-solving skills, would lead to better intervention outcomes than those previously reported in the literature for efficacy and effectiveness. The narrative framework was not only well aligned with traditional social problem-solving steps (e.g., identify the problem, think of possible solutions) but it also provided a structured, comprehensive, and meaningful context for teaching other skills and strategies identified in the literature as related to social problem-solving (e.g., perspective-taking, identification of emotions, social skills).

There is also discussion in the social competence literature that practices to understand and teach social behavior must attend to the social context (e.g., Guerra, Boxer, & Kim, 2005), functional assessment, or the relationship between one's behavior and the antecedent and consequent events and the function of the behavior (Dunlap, et al, 2006; Lewis, Hudson, Richer, & Johnson, 2004) and explicitly teach needed social skills,

replacement behaviors, and strategies (Dunlap et al., 2006; Lewis et al., 2004), but also those skills related to social competence (e.g., Dunlap et al., 2006; Smith & Travis, 2001). The narrative framework has the potential to structure and implement the range of this intervention work as well. Intervention grounded in this framework is sensitive to individual students and the authentic context of students' real experiences, naturally building in social and ecological validity. This intervention framework supports the call for interventions comprised of multiple components (Dunlap et al., 2006; Smith & Daunic, 2004).

Through instruction in this framework, students are taught to "how to think" instead of "what to think." This type of instruction has been demonstrated to result in students learning of target behaviors with more ease than instruction relying more on consequents from adults (Harris & Pressley in Smith & Daunic, 2004). In addition, this approach gives choice and voice to students creating motivation, and gives them tools to do the real work of their lives in other settings with other people and original social challenges.

Social problem solving is a complex process. Given the complexity of the process, it is a concern that if the framework is not kept simple it may be too challenging for students to learn and use, yet without addressing the complexity of the process, there is concern that interventions will not be robust enough to show efficacy and effectiveness. The intervention used in this study, though, was more complex, and expanded on more traditional models to include skills and strategies noted in the literature as related to social problem solving and social competence, though not frequently noted on frameworks or included as components of social problem-solving curriculum: emotional regulation, awareness of social context or setting, perspective taking, identification of feelings, current and future goal setting, decision

making, motivation, the legal, ethical, and moral nature of decisions, and social knowledge and replacement behaviors.

Analysis of the results from this single-subject multiple-baseline study showed that all students demonstrated significant increases in inclusion of social problem-solving steps, story grammar components, and landscapes of consciousness words in their personal narratives. Students reported high levels of satisfaction with both the instruction and skills learned. The intervention was implemented with fidelity. Results of this study provide evidence that this intervention warrants further consideration as an intervention to teach high-risk youth social problem-solving skills, and narrative skills. Future research should investigate replication of the current study.

Figures

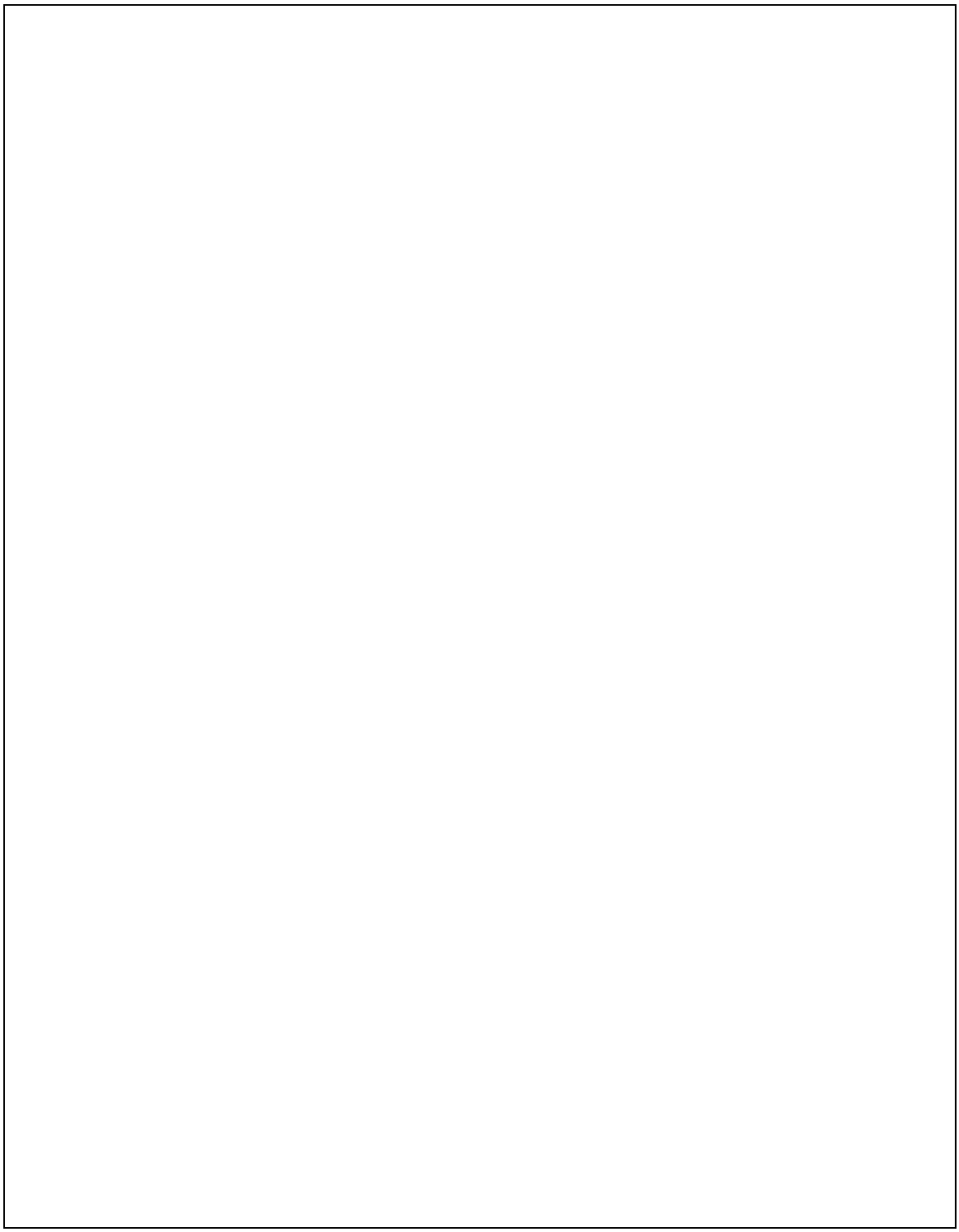

Figure 1. **Mean Scores of Responses by Youth Respondents to Each Survey Item.**

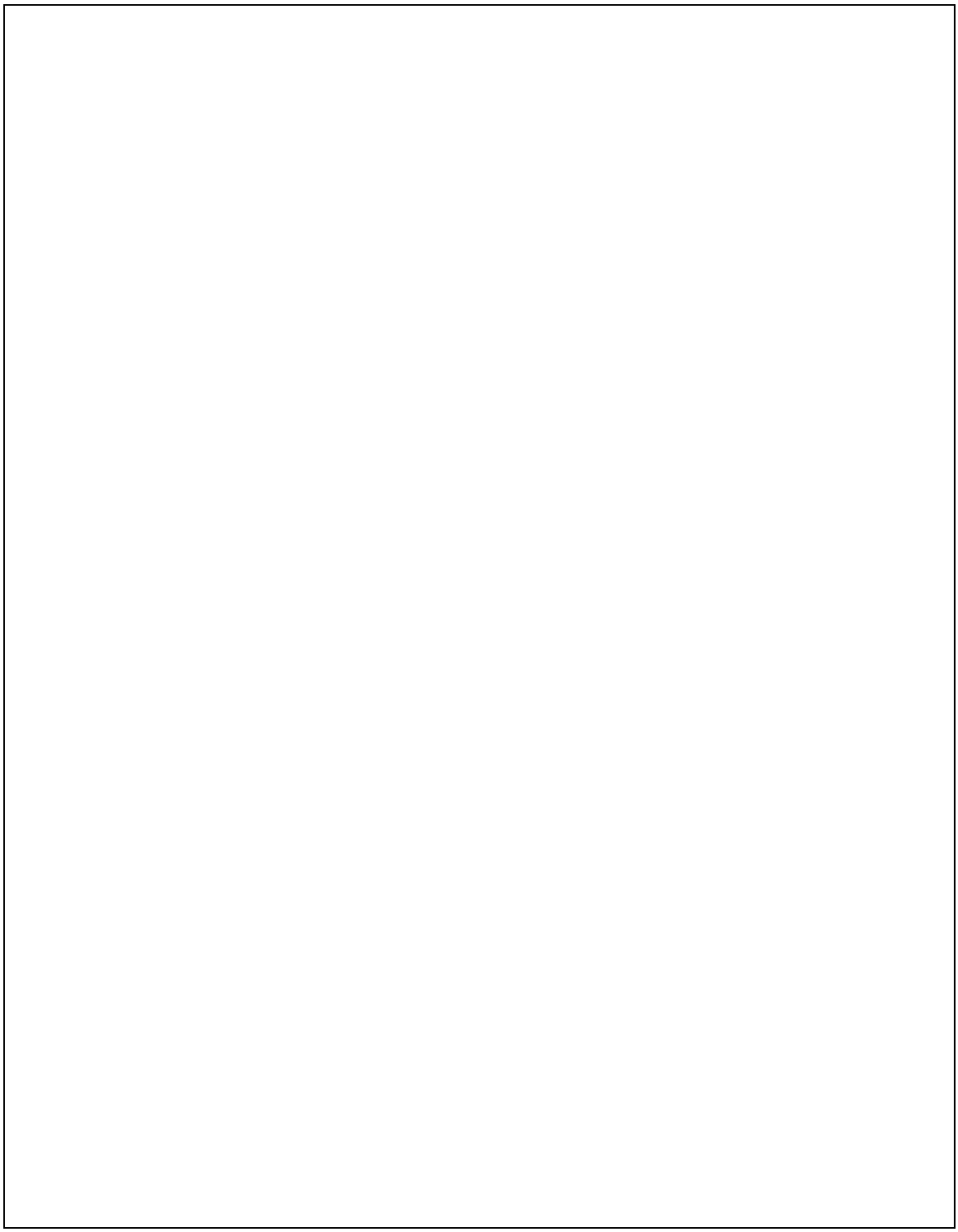

Figure 2. **Mean Scores of Responses by Adult Respondents to Each Survey Item.**

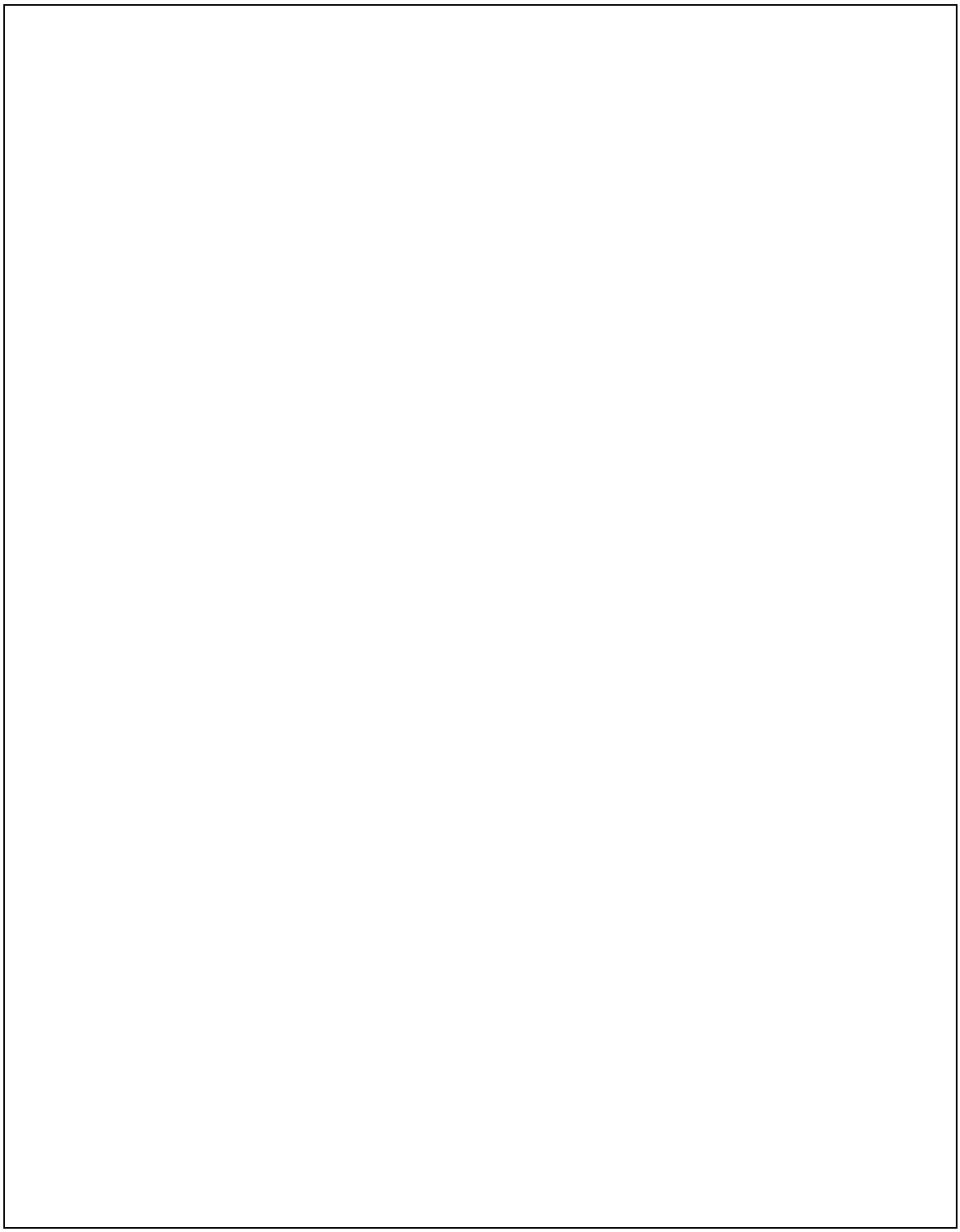

Figure 3. **Mean Scores of Responses by All Respondents to Each Survey Item.**

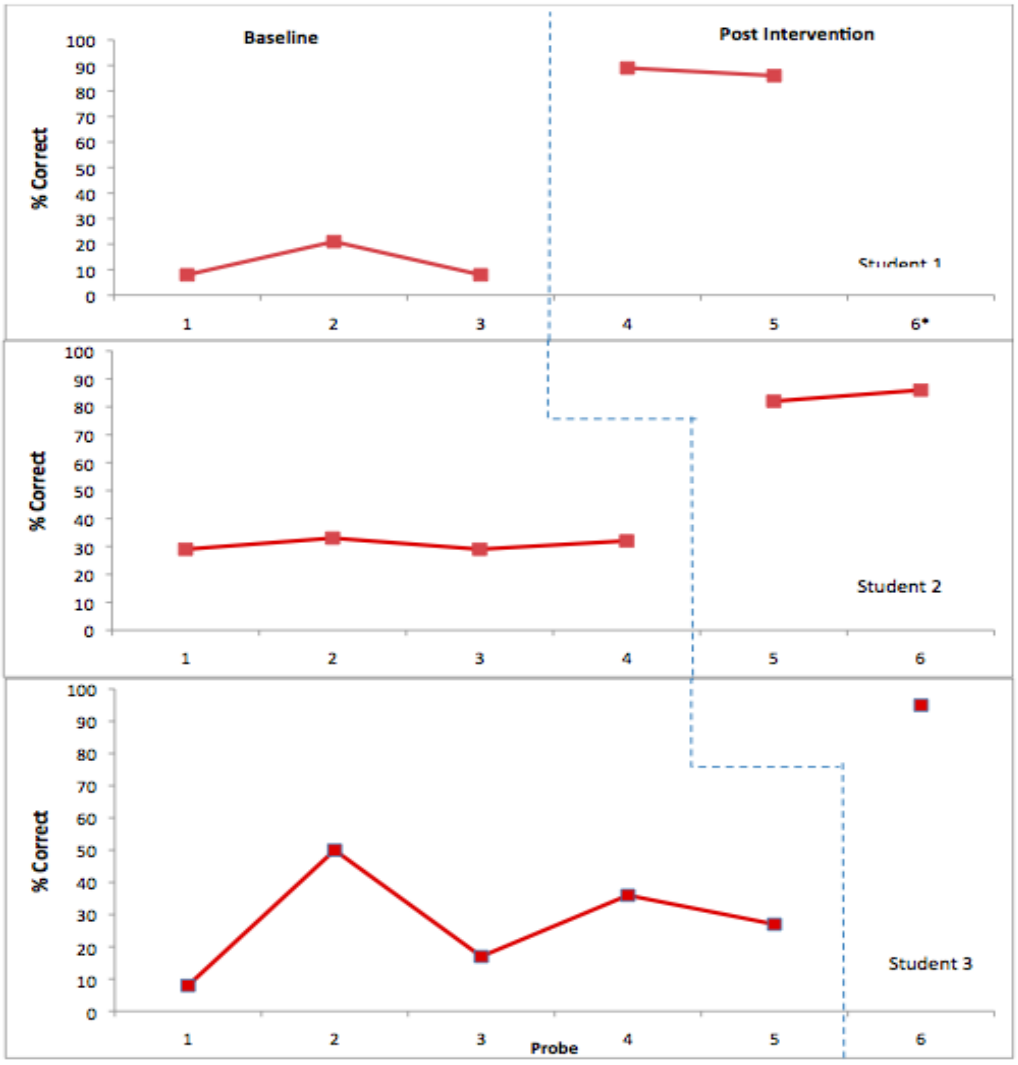

Figure 4. **Percentage of Social Problem-Solving Strategy Steps Performed Correctly in Personal Narratives.**

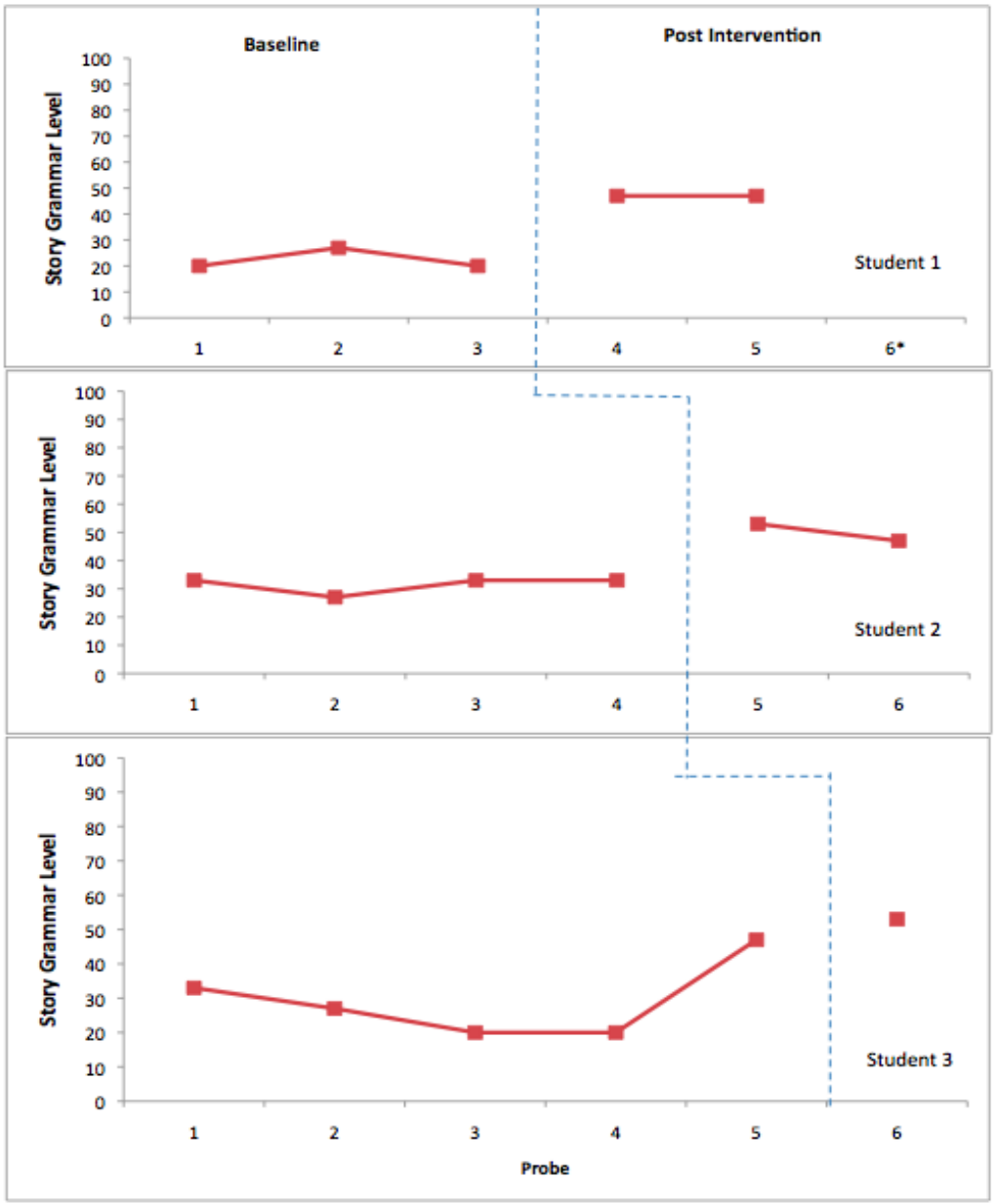

Figure 5. **Percentage of Quality of Story Grammar Elements Reflected in Personal Narratives.**

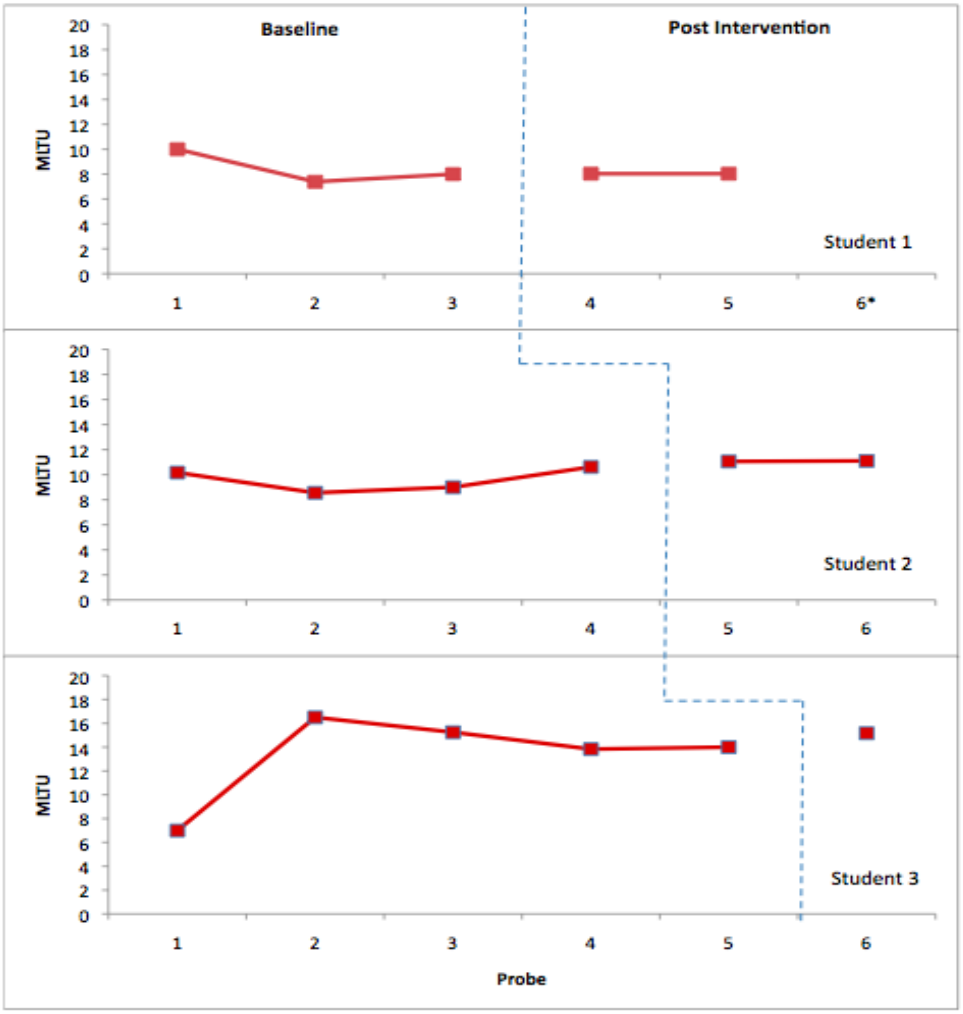

Figure 6. **Mean Length of T-Units in Personal Narratives.**

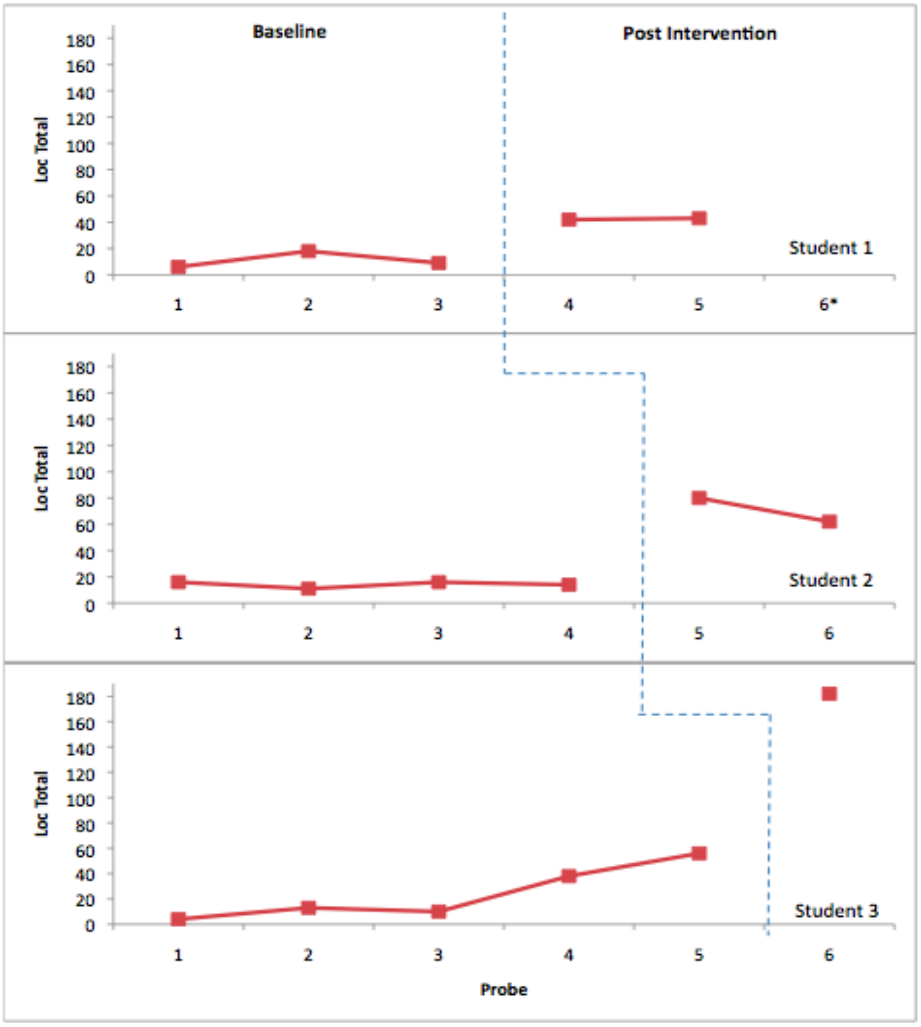

Figure 7. **Total Number of Words Showing Landscapes of Consciousness in Personal Narratives.**

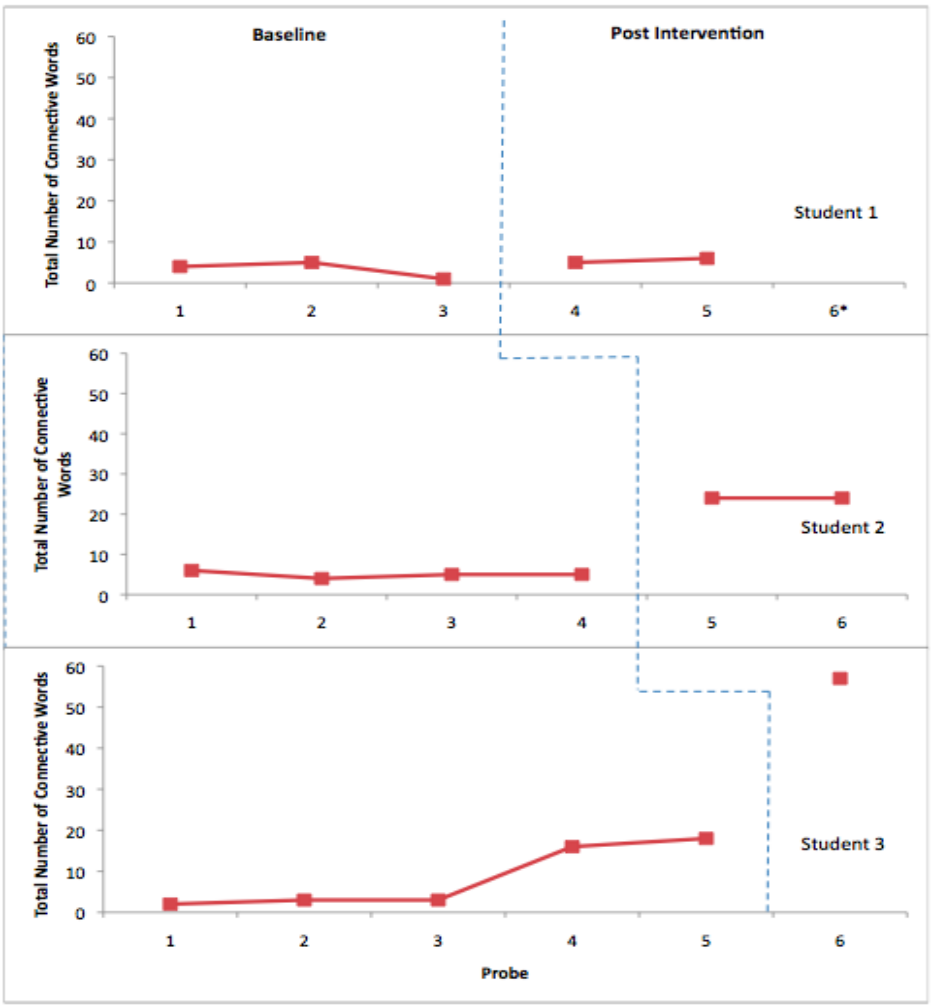

Figure 8. **Total Number of Connective Words in Personal Narratives.**

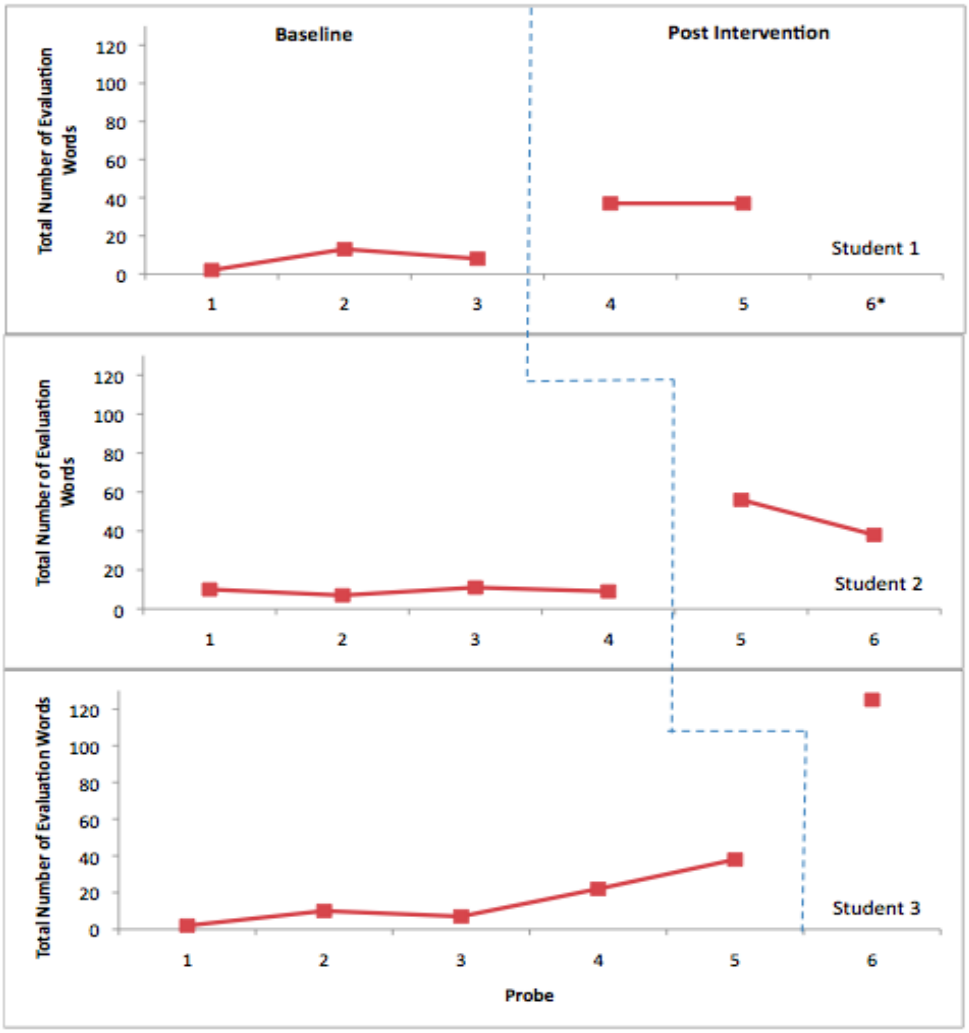

Figure 9. **Total Number of Evaluative and Metacognitive Words Showing Landscapes of Consciousness in Personal Narratives.**

Tables

Table 1.

Descriptive Summary of Problem-Solving Studies

Study	Participants	Settings	Dependent variables	Measurements	Independent variables	Research design
			Adolescent			
Dangel et al., 1989	5 F, 13 M 11 to 17 years EBD	residential treatment facility	verbal and physical aggressive behaviors	observation	6- 1 hour sessions group training	multiple baseline
Feindler et al., 1984	N=36 13.8 years mean age delinquent	school, special programs	problem solving ability, self-control	MEPSI LCSC BRSQ MFFT disruptive behavior at school	10 biweekly- 50 minute sessions group training	pretest-posttest control group AB group design
Feindler et al., 1986	21 M 13-18 years EBD	psychiatric treatment facility	frequency and patterns of aggressive behavior self-control	video tape role plays MFFT BRSQ daily logs	8 week/ 11 session group training	quasi-experimental nonequivalent, waiting list control group
Hayward, et al., 2000	35 F 15.8 years mean age socially phobic	unknown	diagnosis of social phobia	ADIS SPAI	16 week 16- 1.5 hour sessions group training	pretest-posttest control group
Robinson et al., 2002	41 M 11 to 15 years BD/ED	special day school and self-contained classes in school	problem solving behavior social confidence external expressions of anger recall of information and terminology from curriculum	CBCL STAXI recall test	5 week 10- 50 minute treatment sessions and 5- 50 minute practice sessions group training	pretest-posttest control group

Table 1 (continued)

Study	Participants	Settings	Dependent variables	Measurements	Independent variables	Research design
			Family			
Serna et al., 1986	2 F 10 M 13-18 years delinquent 6 parents	offices and meeting rooms with county juvenile court services family homes	targeted social skills family interaction	observations questionnaires	8 sessions 8 weeks	prettest-posttest multiple baseline design, parent control group
Serna et al., 1986	3 families 8 adolescents 5 M, 3 F 12-16 years delinquent, adjustment problems, aggressive	university rooms family homes	targeted social skills family interaction	observations questionnaires	6 to 11 months	pretest-postest multiple baseline design

Table 2.

Summary of Outcomes Problem-Solving Studies

Study	Intervention efficacy	Maintenance	Generalization	Social validity
Dangel et al., 1989	improvement, yet erratic pattern	follow up low incidence of verbal aggression	to other settings limited	subjective evaluation
Feindler et al., 1984	modest change	5 week		not addressed
Feindler et al., 1986	significant change	2 month clear evidence	3 year follow up positive discharge results	not addressed
Hayward 2000	moderate short term change	1 year follow up no evidence		not addressed
Robinson et al., 2002	significant change	4 week follow up continued yet diminishing		anecdotal

Table 3.

Descriptive Summary of Narrative Studies

Study	Participants	Settings	Dependent variables	Measurements	Independent variables	Research design	Findings
Snow & Powell, 2005	30 M 13-19 years delinquent	not identified	oral language competence, narrative discourse ability	TLC-E, SCOLP, narrative sample	offender vs. non offending male adolescents	simple between groups design	significant differences between groups
Humber & Snow, 2001	15 M 13-21 years delinquent	not identified	oral language competence, narrative discourse ability	TLC-E, SCOLP, narrative sample	offender vs. non offending male adolescents	simple between groups design	significant differences between groups

Table 4.

Means and Standard Deviations of MLTU

	Service Delivery	Mean	SD	N
MLTU 1	General Education JJS	8.06240	1.439546	5
	ED JJS	8.03580	1.206955	5
	LD/SLI JJS	6.84600	2.824720	5
	Total	7.64807	1.905985	15
MLTU 2	General Education JJS	8.73100	2.497999	5
	ED JJS	8.42380	2.892397	5
	LD/SLI JJS	7.63760	.422260	5
	Total	8.26413	2.109791	15
MLTU 3	General Education JJS	9.68480	2.817746	5
	ED JJS	8.27960	.727167	5
	LD/SLI JJS	8.18140	.848264	5
	Total	8.71527	1.769304	15

Table 5.

Means and Standard Deviations for Story Grammar

	Service Delivery	Mean	SD	N
Story 1	General Education JJS	38.80	8.701	5
	ED JJS	31.20	4.868	5
	LD/SLI JJS	26.80	15.959	5
	Total	32.27	11.291	15
Story 2	General Education JJS	37.60	4.669	5
	ED JJS	27.80	14.025	5
	LD/SLI JJS	42.40	16.502	5
	Total	35.93	13.408	15
Story 3	General Education JJS	25.40	9.326	5
	ED JJS	22.40	11.127	5
	LD/SLI JJS	27.80	18.580	5
	Total	25.20	12.791	15

Table 6.

Means and Standard for Landscape of Consciousness

	Service Delivery	Mean	SD	N
LOC 1	General Education JJS	17.60	6.504	5
	ED JJS	17.00	12.000	5
	LD/SLI JJS	20.80	17.370	5
	Total	18.47	11.934	15
LOC 2	General Education JJS	23.40	18.968	5
	ED JJS	11.00	10.050	5
	LD/SLI JJS	43.80	28.490	5
	Total	26.07	23.654	15
LOC 3	General Education JJS	19.80	13.142	5
	ED JJS	21.40	32.254	5
	LD/SLI JJS	36.20	28.226	5
	Total	25.80	25.152	15

Table 7.

Means and Standard for Social Problem-Solving Skills

	Service Delivery	Mean	SD	N
PS 1	General Education JJS	29.00	17.277	5
	ED JJS	13.40	4.930	5
	LD/SLI JJS	11.60	9.607	5
	Total	18.00	13.565	15
PS 2	General Education JJS	30.00	16.155	5
	ED JJS	22.40	12.341	5
	LD/SLI JJS	22.40	20.695	5
	Total	24.93	15.944	15
PS 3	General Education JJS	16.80	6.017	5
	ED JJS	20.20	10.183	5
	LD/SLI JJS	21.40	18.188	5
	Total	19.47	11.771	15

Table 8.

Participant Demographic Data

	Age	IDEA Eligibility	Ethnicity	Language Dominance
Student 1	17-7	ED	Native American	English
Student 2	18-8	ED	Hispanic	English/Spanish
Student 3	17-7	ED	Caucasian	English

Table 9.

Reflection on Social Problem-Solving and Decision-Making Rubric: Scores, Student 1

Student 1	N1	N2	N3	N4	N5	N6
1. Remain calm.						
Primary	0	0	0	0*	1	-
Observer	0	0	0	2	1	-
Agreement	1	1	1	0	1	-
2. Decide exactly what the problem was.						
Primary	2	2	2	2	2	-
Observer	2	2	2	2	2	-
Agreement	1	1	1	1	1	-
3. Name a possible solution.						
Primary	0	2	0	2	2	-
Observer	0	2	0	2	2	-
Agreement	1	1	1	1	1	-
4. Name another possible solution.						
Primary	0	0	0	2	2	-
Observer	0	0	0	2	2	-
Agreement	1	1	1	1	1	-
5. Name another possible solution.						
Primary	0	0	0	NA	NA	-
Observer	0	0	0	NA	NA	-
Agreement	1	1	1	1	1	-
6. Name the positive and negative results for the first possible solution.						
Primary	0	1	0	2	2	-
Observer	0	1	0	2	2	-
Agreement	1	1	1	1	1	-
7. Name the positive and negative results for the second possible solution.						
Primary	0	0	0	2	2	-
Observer	0	0	0	2	2	-
Agreement	1	1	1	1	1	-

Table 9 (continued)

Student 1	N1	N2	N3	N4	N5	N6
8. Name the positive and negative results for the third possible solution.						
Primary	0	0	0	NA	NA	-
Observer	0	0	0	NA	NA	-
Agreement	1	1	1	1	1	-
9. Decide on the most desirable result for the third possible solution.						
Primary	0	0	0	2	2	-
Observer	0	0	0	2	2	-
Agreement	1	1	1	1	1	-
10. Choose the solution that leads to the most positive and least negative results.						
Primary	0	0	0	2	2	-
Observer	0	0	0	2	2	-
Agreement	1	1	1	1	1	-
11. Formulate the steps necessary to accomplish this solution.						
Primary	0	0	0	2	1	-
Observer	0	0	0	2	1	-
Agreement	1	1	1	1	1	-
12. If the first solution does not work, pick the second best.						
Primary	0	0	0	NA	NA	-
Observer	0	0	0	NA	NA	-
Agreement	1	1	1	1	1	-
Total	2/24	5/24	2/24	16/18	16/18	-
%	8	21	8	89	89	-
Agree	12/12	12/12	12/12	11/12	12/12	-
%	100	100	100	92	100	-

Table 10.

Ratings and Agreement Social Problem Solving, Student 2

St 2	N1	N2	N3	N4	N5	N6
1. Remain calm.						
Primary	0	0	0	1	2	2
Observer	0	0	0	2	2	2
Agreement	1	1	1	.5	1	1
2. Decide exactly what the problem was.						
Primary	2	2	2	2	2	2
Observer	2	2	2	2	2	2
Agreement	1	1	1	1	1	1
3. Name a possible solution.						
Primary	2	2	2	2	0	2
Observer	2	2	2	2	1	2
Agreement	1	1	1	1	.5	1
4. Name another possible solution.						
Primary	0	0	0	0	2	1
Observer	0	1	0	0	2	1
Agreement	1	.5	1	1	1	1
5. Name another possible solution.						
Primary	0	0	0	0	2	0
Observer	0	0	0	0	2	0
Agreement	1	1	1	1	1	1
6. Name the positive and negative results for the first possible solution.						
Primary	0	1	0	1	2	2
Observer	0	0	0	1	2	2
Agreement	1	.5	1	1	1	1
7. Name the positive and negative results for the second possible solution.						
Primary	0	0	0	0	2	2
Observer	0	0	0	0	2	2
Agreement	1	1	1	1	1	1

Table 10 (continued)

St 2	N1	N2	N3	N4	N5	N6
8. Name the positive and negative results for the third possible solution.						
Primary	0	0	0	0	1	2
Observer	0	0	0	0	1	2
Agreement	1	1	1	1	1	1
9. Decide on the most desirable result for the third possible solution.						
Primary	0	1	0	0	2	2
Observer	0	0	0	0	2	2
Agreement	1	.5	1	1	1	1
10. Choose the solution that leads to the most positive and least negative results.						
Primary	2	2	2	1	2	2
Observer	2	2	2	1	2	2
Agreement	1	1	1	1	1	1
11. Formulate the steps necessary to accomplish this solution.						
Primary	1	0	1	0	1	2
Observer	1	0	0	0	1	2
Agreement	1	1	.5	1	1	1
12. If the first solution does not work, pick the second best.						
Primary	0	0	0	NA	NA	NA
Observer	0	0	0	NA	NA	NA
Agreement	1	1	1	1	1	1
Total Score	7/24	8/24	7/24	7/22	17/22	19/22
%	29	33	29	32	82	86
Total Agree	12/12	10.5/12	11.5/12	11.5/12	11.5/12	12/12
%	100	87.50	95.83	95.83	95.83	100

Table 11.

Ratings and Agreement Social Problem Solving, Student 3

St 3	N1	N2	N3	N4	N5	N6
1. Remain calm.						
Primary	0	0	0	0	0	1
Observer	0	0	0	0	0	1
Agree	1	1	1	1	1	.5
2. Decide exactly what the problem was.						
Primary	2	2	2	2	1	2
Observer	2	2	2	0	1	2
Agreement	1	1	1	0	1	1
3. Name a possible solution.						
Primary	0	2	2	2	1	2
Observer	0	2	2	0	1	2
Agreement	1	1	1	0	1	1
4. Name another possible solution.						
Primary	0	2	0	0	0	2
Observer	0	2	0	0	0	2
Agreement	1	1	1	1	1	1
5. Name another possible solution.						
Primary	0	0	0	0	0	2
Observer	0	0	0	0	0	2
Agreement	1	1	1	1	1	1
6. Name the positive and negative results for the first possible solution.						
Primary	0	1	0	2	1	2
Observer	0	1	0	2	1	2
Agreement	1	1	1	1	1	1
7. Name the positive and negative results for the first possible solution.						
Primary	0	1	0	0	1	2
Observer	0	1	0	0	1	2
Agreement	1	1	1	1	1	1

Table 11 (continued)

St 3	N1	N2	N3	N4	N5	N6
8. Name the positive and negative results for the first possible solution.						
Primary	0	0	0	0	0	2
Observer	0	0	0	0	0	2
Agreement	1	1	1	1	1	1
9. Decide on the most desirable result for the third possible solution.						
Primary	0	1	0	0	1	2
Observer	0	2	0	0	1	2
Agreement	1	.5	1	1	1	1
10. Choose the solution that leads to the most positive and least negative results.						
Primary	0	2	0	2	1	2
Observer	0	2	0	2	1	2
Agreement	1	1	1	1	1	1
11. Formulate the steps necessary to accomplish this solution.						
Primary	0	0	0	0	0	2
Observer	0	0	0	2	0	2
Agreement	1	1	1	0	1	1
12. If the first solution does not work, pick the second best.						
Primary	0	0	0	NA	NA	NA
Observer	0	0	0	NA	NA	NA
Agreement	1	1	1	1	1	1
Total	2/24	12/24	4/24	8/22	6/22	21/22
%	8	50	17	36	27	95
Agree	12/12	11.5/12	12/12	9/12	12/12	11.5/12
%	100	96	100	75	100	96

Table 12.

Ratings and Scoring Agreement on Narrative Scoring Rubric, Student 1

St 1	N1	N2	N3	N4	N5	N6
Setting						
Primary	0	1	1	1	1	-
Observer	0	1	1	1	1	-
Agree	1	1	1	1	1	
Character						
Primary	1	1	1	1	1	-
Observer	1	1	1	1	1	-
Agreement	1	1	1	1	1	
Ending						
Primary	1	0	0	2	2	-
Observer	1	0	0	2	2	-
Agreement	1	1	1	1	1	
Plot						
Primary	1	3	1	3	3	-
Observer	1	3	1	3	3	-
Agreement	1	1	1	1	1	
Total Score	3/15	4/15	3/15	7/15	7/15	
%	20	27	20	47	47	
Total Agreements	4/4	4/4	4/4	4/4	4/4	
%	100	100	100	100	100	

Table 13.

Ratings and Scoring Agreement on Narrative Scoring Rubric, Student 2

St 2	N1	N2	N3	N4	N5	N6
Setting						
Primary	1	0	0	1	2	1
Observer	1	0	0	0	2	1
Agree	1	1	1	.5	1	1
Character						
Primary	1	1	1	1	1	1
Observer	1	1	1	1	1	1
Agreement	1	1	1	1	1	1
Ending						
Primary	0	0	1	2	2	2
Observer	0	0	1	2	2	2
Agreement	1	1	1	1	1	1
Plot						
Primary	3	3	3	3	3	3
Observer	3	3	3	3	3	3
Agreement	1	1	1	1	1	1
Total Score	5/15	2/15	5/15	5/15	8/15	7/15
%	33	27	33	33	53	47
Total Agreement	4/4	4/4	4/4	3.5/4	4/4	4/4
%	100	100	100	88	100	100

Table 14.

Ratings and Scoring Agreement on Narrative Scoring Rubric, Student 3

St 3	N1	N2	N3	N4	N5	N6
Setting						
Primary	0	0	0	0	1	1
Observer	0	0	0	0	1	1
Agree	1	1	1	1	1	1
Character						
Primary	1	1	1	1	1	2
Observer	1	1	1	1	1	2
Agreement	1	1	1	1	1	1
Ending						
Primary	1	0	0	0	2	2
Observer	1	0	0	0	2	2
Agreement	1	1	1	1	1	1
Plot						
Primary	3	3	2	2	3	3
Observer	3	3	2	2	3	3
Agreement	1	1	1	1	1	1
Total Score	5/15	4/15	3/15	3/15	7/15	8/15
%	33	27	20	20	47	53
Total Agreement	4/4	4/4/	4/4	4/4	4/4	4/4
%	100	100	100	100	100	100

Table 15.

Mean Length of T-Units

	Student 1	Student 2	Student 3
Narrative 1	10.00	10.17	7.00
Narrative 2	7.39	8.56	16.50
Narrative 3	8.00	9.00	15.25
Narrative 4	8.03	10.62	16.83
Narrative 5	8.03	11.05	14.00
Narrative 6	*	11.11	15.17

Table 16.

Landscape of Consciousness

		Student 1	Student 2	Student 3
Narrative 1				
	Evaluative Words	2	10	2
	Connective Words	4	6	2
	Total Words	6	16	4
Narrative 2				
	Evaluative Words	13	7	10
	Connective Words	5	4	3
	Total Words	18	11	13
Narrative 3				
	Evaluative Words	8	11	7
	Connective Words	1	5	3
	Total Words	9	16	10
Narrative 4				
	Evaluative Words	37	9	22
	Connective Words	5	5	16
	Total Words	42	14	38
Narrative 5				
	Evaluative Words	37	56	38
	Connective Words	6	24	18
	Total Words	43	80	56
Narrative 6				
	Evaluative Words	*	38	125
	Connective Words	*	24	57
	Total Words	*	62	182

Table 17.

Frequency Behavior Infractions

		Student 1	Student 2	Student 3
February 2011				
	Facility Behavior	0	0	0
	School Behavior	2	7	1
	Total	2	7	1
March 2011				
	Facility Behavior	0	2	0
	School Behavior	1	2	1
	Total	1	4	1
April 2011				
	Facility Behavior	0	2	0
	School Behavior	2	0	0
	Total	2	2	0
May 2011				
	Facility Behavior	2	1	1
	School Behavior	1	1	4
	Total	3	2	5
June 2011				
	Facility Behavior	0	0	0
	School Behavior	0	0	0
	Total	0	0	0
July 2011				
	Facility Behavior	0	0	0
	School Behavior	3	0	0
	Total	0	0	0
August 2011				
	Facility Behavior	*	0	0
	School Behavior	*	0	1
	Total	*	0	0

Table 18.

Staff and Teacher Self-Reports

Participant	Pretest Teacher	Posttest Teacher	Pretest Staff	Posttest Staff
Student 1	23	25	8	*
Student 2	22	*	11	20
Student 3	24	26	23	17
Mean	23	25.5	14	18.5
SD	1	.71	7.94	2.12

Table 19.

Student Self-Reports Pre-Intervention

Participant	Question 1	Question 2	Question 3	Question 4	Question 5	Mean	SD
Student 1	7	5	4	3	5	4.8	1.48
Student 2	5	5	5	6	4	5	.71
Student 3	5	2	3	3	5	3.6	1.34
Total	17	12	12	12	14	4.47	.73
Mean	5.67	4	4	4	4.67		
SD	1.15	1.7	1	1.7	.58		

Table 20.

Student Self-Report Post-Intervention

Participant	Question 1	Question 2	Question 3	Question 4	Question 5	Mean	SD
Student 1	6	5	3	5	6	5	1.22
Student 2	5	5	4	5	4	4.6	.55
Student 3	7	7	6	6	6	6.4	.55
Total	18	17	13	16	16	5.33	1.11
Mean	6	5.67	4.33	5.33	5.33		
SD	1	1.15	1.53	.58	1.15		

Table 21.

Consumer Satisfaction

Participant	Question 1	Question 2	Question 3	Question 4	Question 5	Mean	SD
Student 1	7	6	5	6	7	6.2	.84
Student 2	7	6	7	6	7	6.6	.55
Student 3	7	7	7	7	7	7	0
Total	21	19	19	19	21	6.6	.63
Mean	7	6.33	6.33	6.33	7		
SD	0	.58	1.15	.58	0		

Table 22.

Fidelity of Instruction

	Session	Primary Investigator Score	Observer Score
Student 1			
	01	18/18	18/18
	02	12/12	12/12
	03	16/16	16/16
	04	5/5	5/5
Student 2			
	01	14/17	16/17
	02	10/10	10/10
	03	5/5	5/5
Student 3			
	01	5/5	5/5
	02	5/5	2/5
	03	9/9	9/9
Total	10 sessions	99/102	98/102
%		97	96

Appendices

Appendix A

Social Validation Questionnaire

Different adolescents solve problems in different ways. Some are more successful than others. Please read and consider the following examples.

> Alex did not complete his final English paper on time and asked his teacher for an extension. His teacher told him, "No." Alex first offered excuses and asked again for an extension. When his teacher again said, "No" he yelled, "You always treat me unfairly. You just don't care and neither do I!" He left the classroom and slammed the door.
>
> Daniel did not complete his final English paper on time and asked his teacher for an extension. His teacher told him, "No." Daniel recognized that the decision came from an authority figure and thought about the consequences of not following the teacher's decision. He responded by saying, "Okay" using appropriate body language, facial expression and tone of voice. Daniel then complied with his teacher's decision.

In this questionnaire, you will be asked to determine what are the essential skills an adolescent needs to be successful when solving problems in social settings. Please complete the following, indicating your response by circling the number that corresponds to your answer, using the following scale:

1 = Strongly Disagree
2 = Disagree
3 = Somewhat Disagree
4 = Undecided
5 = Somewhat Agree
6 = Agree
7 = Strongly Agree

1. A young person's success when presented with interpersonal problems in social situations seems dependent in part on their ability to **interpret the social situation and language of others.**

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

---

2. A young person's success when presented with interpersonal problems in social situations seems dependent in part on their ability to **identify the given problem.**

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

---

3. A young person's success when presented with interpersonal problems in social situations seems dependent in part on their ability to **identify their own feelings and needs relative to the situation.**

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

---

4. A young person's success when presented with interpersonal problems in social situations seems dependent in part on their ability to **generate possible appropriate solutions.**
1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

5**.** A young person's success when presented with interpersonal problems in social situations seems dependent in part on their ability to **anticipate possible consequences of their actions.**
1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

---

6. A young person's success when presented with interpersonal problems in social situations seems dependent in part on their ability to **take the perspective of others.**
1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

---

7. A young person's success when presented with interpersonal problems in social situations seems dependent in part on their ability to **choose an appropriate action.**
1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

---

8. A young person's success when presented with interpersonal problems in social situations seems dependent in part on their ability to **carry out their selected action.**
1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

---

9. A young person's success when presented with interpersonal problems in social situations seems dependent in part on their ability to **evaluate the success of their choice.**
1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

---

10. A young person's success when presented with interpersonal problems in social situations seems dependent in part on their ability to **repair unsuccessful actions.**
1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

---

11. In your opinion, what is the most critical component of an effective cognitive-behavioral intervention program for teaching social problem-solving skills to adolescents?

Comments:

Thank you.

Appendix B

Narrative Protocol: Study Two

School: _____
Student: _____
Interviewer: _____
Date: _____

Script:

Introduce myself, the study, and state expectations.

My name is Kristine Noel. I am a student at the University of New Mexico. Dr. Westby, Dr. Serna and I are investigating how young people express themselves when they are talking about challenges in their lives. Specifically the purpose of the study is to investigate the relationship between story telling and problem solving/decision making skills. We are asking you to help by telling some stories.

Present prompts.

Tell me a story about a time with your family or friends that you wanted something and they wanted something else. Tell me what you were thinking and how you solved the problem.

Tell me a story about a time someone asked you to do something you knew you weren't supposed to do. Tell me what you were thinking and how you solved the problem.

Tell me a story about a time an adult (teacher, parent, police officer) told you something about yourself you did not like. Tell me what you were thinking and how you solved the problem.

Appendix C

Narrative Scoring Rubric

(Fey, Catts, Proctor-Williams, Tomblin, & Zhang, 2004)

ID Number _____ Date _____

Setting

0- None or only Once upon a time…
1- The time, place or physical conditions are described in ways that are directly were described by the examiner.
2- The time, location, or physical conditions are described. This is the maximum score that can be awarded for setting if there is no nuclear dyad.
3- There is an explicit relationship between the time, location, or physical conditions and the story's problem or resolution.
Some feature of the story turns on at least one specific detail of the time or location at which the story takes place.

_____

Characters

0- No characters are identified.
1- At least one character is explicitly labeled, or otherwise described, including family relationships or "friends."
2- Characters are named or described in ways that include personality traits, attributes and mental or emotional states, but not emotional reactions to an event.
This is the maximum score that can be awarded for characters if there is no nuclear dyad.
3- There is an explicit relationship between the attributes of the characters and the problem or its resolution.
A character trait provides the motivation for the problem or an action.
Some feature of the story turns on at least one specific feature of a character.

_____

Ending

0- No explicit ending of any type.
1- The story is closed with a stereotypic closure phrase.
This is the maximum score that can be awarded for an ending if there is no nuclear dyad.
2- The story extends beyond the resolution in the nuclear dyad.
The extension may be stated as a summary or response to the turn of events, but must be related to the problem and/or resolution.
If the closing sentence includes the resolution, points cannot also be awarded for the ending.
A stereotypic closure sentence is not required.
3- A moral or lesson learned is stated.
Some action is performed that explicitly or implicitly indicates what will, could, or

should happen in the future based on the events of the story.
A stereotypic closure sentence is not required.

Plot

0- No actions are included in the story.
1- NO PLOT.
The story includes actions but they are not sequenced.
2- NO PLOT.
The student uses words that suggest a sequence.
The story contains actions in a logical sequence.
There is no nuclear dyad to provide a plot.
3- A VERY SIMPLE PLOT
The story contains one nuclear dyad. That is, an overtly identified problem and its resolution create a simple plot.
A problem is a need, desire, conflict, danger, or goal of the character.
It may be made explicit by a character's internal response or actions, or language contained in the resolution. There may be a sequence of sentences that make the problem explicit rather than a single sentence.
A resolution is an overt indication that the problem has or has not been resolved, giving closure to an episode. It may be an explicit statement or entailed in an ending statement indicating a character's future intentions or behaviors.
Note: If inferences need to be drawn from a series of statements to create a problem or resolution, it is not sufficiently explicit. Sequence of actions may intervene between the problem and the resolution, but is not required.
4- A SIMPLE PLOT
The story contains one nuclear dyad and one or more complications intervene between the problem and the resolution.
A SIMPLE PLOT
The story contains two sequenced nuclear dyads. There are no complications. There is a single resolution for each plot.
5- A COMPLEX PLOT
The story contains more than one nuclear dyad. This represents a complex plot.
One or more complications intervene between the problem and the resolution of at lease one of the dyads.
A COMPLEX PLOT
There are two or more attempts to resolve one of the problems. The attempts may or may not be successful. OR There is a single resolution to two different problems.
6- A COMPLEX ORGANIXED PLOT
The story contains more than one nuclear dyad. At least one nuclear dyad is embedded within another. This is an 0rganized and complex plot.
6- A COMPLEX ORGANIZED PLOT
The story contains more than one nuclear dyad. The problems are identified early in the story. The trajectories of the dyads are interwoven. At least two dyads contain two or more attempts to resolve the problem. The attempts may or may not be successful.

It may be that the resolution resolves both problems and that problem 1 must be resolved in order to resolve problem 2. There may also be complications and embedded plots.

TOTAL	/15	%

Note. Referenced in "Oral and written story composition skills of children with language impairment," by M.E. Fey, H.W. Catts, K. Proctor-Williams, J.B. Tomblin, & X. Zhang, 2004, Journal of Speech, Language, and Hearing Research, 47, page 1306. Reprinted with permission of the author.

Appendix D

CLAN Coding for Connectives and Landscapes of Consciousness

(adapted from CHILDES; MacWhinney, 2000)

```
" $CN    Connectives
  :AD     Additive (and)
  :CD     Conditional (if)
  :AV     Adversative (but)
  :TRA Transitional
  :ALT Alternative (either, or)
  :AS As
  :PRO Pronouns (used as connectives in relative clauses)
  :T       Temporal
   :THN  Then
   :WHN  When
   :WHL  While
   :UNT  Until
   :BEF  Before
   :AFT  After
   :OTH  Others
  :CA     Causal
   :SO-  So (word is used, but not in a true casual manner)
   :SO+  So(appropriate use of so)
   :BEC  Because
   :OTH  Other
" $EVL  Evaluation
  :INT Intention (e.g., want, tried)
  :COM  Compulsion (e.g., must, have to, made)
  :MOD  Modal (e.g., could, would)
  :EVL  Evaluation of situation (e.g., easy, hard)
  :COL  Colorful words
   :SWE Swearing
   :OTH  Other
  :ADV  Adverb
   :TIM Time (e.g., still again)
   :QUL Quality
    :JST  Just
    :ONL  Only
    :USU  Usually
    :PROB Probably
    :REL  Really
    :OTH  Other
  :MET  Metacognitive
   :EMO  Emotional verbs (e.g., felt, liked, hated)
   :COG  Cognitive verbs (e.g., thought, guessed, forgot)
  :DIA  Dialogue
   :DIR  Direct dialogue (gives words to character, e.g., Max asked,
        "Why are you crying?")
   :IDR  Indirect dialogue (e.g., Max told the snail to stop crying).
  :EMO  Emotion
   :PRI  Primary (happy, mad, sad, scared/afraid)
   :SEC  Secondary (all other emotions, e.g., jealous, worried, terrified)
```

Appendix E

Social Problem Solving Scoring Rubric

(adapted from Hazel, Schumaker, Sherman, Sheldon-Wildgen, 1981)

Student _____ Date:_____

1. Remain calm.
   2- does not yell, raise voice, or cry; low mellow voice
   0- not mentioned; yells, raises voice, cries, is agitated; identifies an inappropriate feeling (i.e., happy) _____
2. Decide exactly what the problem was.
   2- able to identify a problem
   0- does not identify a problem _____
3. Name a possible solution.
   2- names a solution that is appropriate and plausible
   1- names a solution but it does not seem plausible
   0- names an illegal or inappropriate solution, or no solution given _____
4. Name another possible solution.
   2- names a solution that is appropriate and plausible
   1- names a solution but it does not seem plausible
   0- names an illegal or inappropriate solution, or no solution given _____
5. Name another possible solution.
   2- names a solution that is appropriate and plausible
   1- names a solution but it does not seem plausible
   0- names an illegal or inappropriate solution, or no solution given _____
6. Name the positive and negative results for the first possible solution.
   2- states a positive and negative consequence
   1- states a positive or negative consequence
   0- does not identify a positive or negative consequence _____
7. Name the positive and negative results for the second possible solution.
   2- states a positive and negative consequence
   1- states a positive or negative consequence
   0- does not identify a positive or negative consequence _____
8. Name the positive and negative results for the third possible solution.
   2- states a positive and negative consequence
   1- states a positive or negative consequence
   0- does not identify a positive or negative consequence _____
9. Decide on the most desirable results (most positive and least negative).
   2- demonstrates reflection of weighing positive and negative consequences
   1- demonstrates reflection of considering a positive or negative consequences
   0- demonstrates no evidence of weighing consequences, or

inappropriately weighs consequences _____

10. Choose the solution that leads to the most positive and least negative results.
    2- states choice of appropriate solution related to most positive and least negative results
    0- no choice stated or inappropriate choice stated _____
11. Formulate the steps necessary to accomplish this solution.
    2- outlines steps required to achieve solution
    1- outlines some of the steps required to achieve solution
    0- does not identify steps, or discusses inappropriate or actions/steps_____
12. If the first solution did not work, pick the second best solution and figure out the steps for achieving it.
    2- if appropriate and necessary, selects another solution and outlines steps required to achieve it
    1- if appropriate and necessary, selects another solution, or outlines some of the steps required to achieve solution
    0- if appropriate and necessary, does not identify steps, or discusses inappropriate or actions/steps
    NA- only required when first solution did not work _____

TOTAL ___/24
TOTAL ___/22

% _____

Appendix F

Narrative Protocol: Study Three

ID Number: _____
Date: _____

Initial Administration Script:

> *"Today I will ask you to tell me several stories describing how you have solved a few problems. I will give you a situation and ask you to tell me the story of what the problem is and how you solved it. It is important that you listen carefully as I describe the situation. I will be recording your answers so I may study them later."*
>
> *"What questions do you have?"*
>
> *"Let's begin."*

Script for Ongoing Probes:

> *"I want to find out how you are dealing with problems you face with others. Today I will ask you to tell me a story describing how you might solve (or how you have solved a few problems). I will give you a situation and ask you to tell me the story of what the problem is and how you solved it (or how you would solve it). It is important that you listen carefully as I describe the situation. I will be recording your answer so I may study it later."*
>
> *"What questions do you have?"*
>
> *"Let's begin."*

Posttest Script:

> *"You have given a lot of time and energy to learn a strategy to help you think about, talk about and solve problems you encounter with others. Today I will ask you to tell me several stories describing how you might solve a few problems. I will give you a situation and ask you to use the strategy as you tell me the story of what the problem is and how you would solve it. It is important that you listen carefully as I describe the situation, and do your best in using your new strategy. I will be recording your answers so I may score them later. When we are finished I will score your answers and share your score with you."*
>
> *"What questions do you have?"*
>
> *"Let's begin."*

Appendix G

Reflection on Social Problem-Solving and Decision-Making Rubric

(adapted from Hazel, Schumaker, Sherman, Sheldon-Wildgen, 1981)

ID Number _____ Date:_____

1. Remain calm.
   - 2- does not yell, raise voice, or cry; low mellow voice
   - 1- reflects on calm behavior, or calm behavior is inferred
   - 0- not mentioned; yells, raises voice, cries, is agitated; identifies an inappropriate feeling (i.e., happy) _____
2. Decide exactly what the problem was.
   - 2- explicitly identifies a problem
   - 1- a problem is inferred, but not explicitly stated
   - 0- does not identify a problem _____
3. Name a possible solution.
   - 2- names a solution that is appropriate and legal
   - 1- names a solution this is appropriate or legal
   - 0- names an illegal solution, one that is not plausible, or no solution given _____
4. Name another possible solution.
   - 2- names a solution that is appropriate and legal
   - 1- names a solution that is appropriate or legal
   - 0- names an illegal solution, one that is not plausible, or no solution given _____
5. Name another possible solution.
   - 2- names a solution that is appropriate and legal
   - 1- names a solution that is appropriate or legal
   - 0- names an illegal solution, one that is not plausible, or no solution given
   - NA- only required if responses to 3 or 4 are scored 0 _____
6. Name the positive and negative results for the first possible solution.
   - 2- states a positive and negative consequence
   - 1- states a positive or negative consequence
   - 0- does not identify a positive or negative consequence _____
7. Name the positive and negative results for the second possible solution.
   - 2- states a positive and negative consequence
   - 1- states a positive or negative consequence
   - 0- does not identify a positive or negative consequence _____
8. Name the positive and negative results for the third possible solution.
   - 2- states a positive and negative consequence
   - 1- states a positive or negative consequence
   - 0- does not identify a positive or negative consequence
   - NA- only required if there is a solution stated in 5 _____

9. Decide on the most desirable results (most positive and least negative).
   2- demonstrates reflection of weighing positive and negative consequences between two possible solutions
   1- demonstrates reflection of considering a positive or negative consequences
   0- demonstrates no evidence of weighing consequences, or inappropriately weighs consequences _____
10. Choose the solution that leads to the most positive and least negative results.
   2- states choice of appropriate solution related to most positive and least negative results
   1- reflects on what a solution that would have lead to more positive and fewer negative results
   0- no choice stated or inappropriate choice stated _____
11. Formulate the steps necessary to accomplish this solution.
   2- outlines steps required to achieve solution
   1- outlines some of the steps required to achieve a solution
   0- does not identify steps, or discusses inappropriate or actions/steps_____
12. If the first solution did not work, pick the second best solution and figure out the steps for achieving it.
   2- if appropriate and necessary, selects another solution and outlines steps required to achieve it
   1- if appropriate and necessary, selects another solution, or outlines some of the steps required to achieve solution
   0- if appropriate and necessary, does not identify steps, or discusses inappropriate or actions/steps
   NA- only required when first solution did not work _____

TOTAL ___/___

% _____

Appendix H

Social Problem-Solving Competence

Student Self-Report

ID Number:
Date:

Directions: Please read each question and then circle the response for each question which best represents how you feel. You may have the items read to you. There is a section at the end of the survey for your comments.

1. When I have personal problems with others, I usually understand what is going on around me.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

2. When I have a personal problem, I can usually understand why this is a problem.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

3. When I have personal problems with others, I usually make positive choices.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

4. When I have personal problems with others, I usually think about the thoughts and feelings of others before I decide what to do.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

5. When faced with problems with others, I usually know what to do take positive action.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

6. When I have made good choices within the past month, an adult has acknowledged my appropriate behavior [e.g., compliment, Positive Behavior Support (PBS) acknowledgement].

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

Comments:

Appendix I

Social Problem-Solving Competence

Teacher and Youth Care Specialist Report

ID Number:
Date:

Directions: Please read each question and then circle the response for each question which best represents how you feel. There is a section at the end of the survey for your comments.

1. When faced with personal problems with others, this student usually pauses and reflects before taking action.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

2. When faced with personal problems with others, this student usually makes positive choices.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

3. When faced with personal problems with others, this student usually attempts a second resolution if his first one is not successful.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

4. In the last month, this student has demonstrated the ability to make good choices in a variety of social situations.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

Comments:

Appendix J

Consumer Satisfaction Survey

ID Number:
Date:

Directions: Please read each question and then circle the response for each question which best represents how you feel. You may have the items read to you. There is a section at the end of the survey for your comments.

1. How satisfied are you with the information and skills you were taught?

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

2. How satisfied are you with your problem solving skills?

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

3. What are the chances that you will use what you have learned?

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

4. What is your general feeling about the program you participated in?

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

5. How comfortable did you feel working with the instructor?

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Not Sure	Slightly Agree	Moderately Agree	Strongly Agree

Comments:

Appendix K

BEST PLANS Social Problem-Solving Instructional Curriculum Overview

(adapted from Ellis, Deschler, Lenz, Schumaker and Clark, 1991)

Stage	Purpose	Mastery
Part One: Collection of Pre-Intervention Data		
Stage One: Pretest and Set Goals	The purpose of this stage of instruction is three-fold. o The first objective is to assess what narrative and social problem-solving skills a young person has and how the young person is currently using these skills to understand and tell stories, and to respond to social dilemmas. o The second objective is to share with the young person what was learned through the assessment and to introduce the SPACE Storytelling Strategy and BEST PLANS Social Problem-Solving Strategy as strategies he could learn to improve his performance and outcomes in challenging social situations. o The last objective is for the instructor and young person to each make a commitment to teach and learn the strategy, respectively.	Not Applicable
Part Two: SPACE Storytelling Strategy Instruction		
Stage Two: Learning the Storytelling Strategy Components	The purpose of this stage is reflected in two components. o The first is to share with the young person the reasons for learning and using the SPACE Storytelling Strategy, when and where they will able to use the new strategy, and how knowing this strategy will help them with telling stories and social problem solving. o The second purpose is to provide the young person with a detailed description of the strategy and of the tools they will employ to support remembering and use of the strategy steps- the Storytelling Strategy steps, the SPACE Storytelling Outline (visual graphic device) and SPACE (mnemonic).	Not Applicable

Stage Three: Seeing the Storytelling Strategy in Practice	The purpose of this stage is for the young person to see in practice the actual thinking (covert cognitive) and doing (overt behavioral) of the steps of the strategy by the teacher. In addition the young person will be encouraged to participate in the process along with the teacher.	Not Applicable
Stage Four: Remembering and Explaining the Storytelling Strategy Steps	The purpose of this stage is to make sure that the young person understands the SPACE Storytelling Strategy and can explain in their own words what it is for, the rationale for using it, and describe each step. In addition, in this stage young people are asked to memorize the strategy steps.	80%
Stage Five: Using the Storytelling Strategy to Understand and to Retell Stories You Have Heard	The purpose of this stage is to provide the young person with opportunities to practice the SPACE Storytelling Strategy in comprehension tasks and in retell tasks that are not quite as demanding as tasks requiring students to generate and tell original stories. So in this stage the young person will be asked to apply the strategy steps to demonstrate comprehension and expression of stories told to him. This practice is designed so the young person not only gains confidence with the strategy, but also becomes more fluent and employs the strategy more independently.	80%
Stage Six: Using the Storytelling Strategy to Tell Your Stories	The purpose of this stage is to provide the young person with opportunities to apply the strategy in situations that they are currently met with in authentic settings (e.g., living unit, home, school). Rather than a focus on how to employ the strategy there is now a focus on how to use the strategy to respond to demands closer to those in their own life. In this stage young people are still using the strategy within a highly supportive and individualized learning context, yet the social situations presented are current, relevant and meaningful to the young person. Instruction should be planful in moving the young person not only to independent practice at this level of complexity, but also in moving the young person "from teacher-mediated to student-mediated feedback" (p.	80%

	17). This practice is designed to support the young person in becoming more responsible and independent in the planning, use, monitoring, and evaluation of the strategy with authentic social dilemmas.	
Part Three: BEST PLANS Social Problem-Solving Strategy Instruction		
Stage Two: Learning the Social Problem-Solving Strategy Components	There are two purposes to this stage. o The first is to share with the young person the reasons for learning and using the BEST PLANS Social Problem-Solving Strategy and when and where they will able to use the new strategy. o The second purpose is to provide the young person with a detailed description of the strategy and of the two tools they will employ to support remembering and use of the strategy steps- the SPACE Outline (visual graphic device) and BEST PLANS (mnemonic).	Not Applicable
Stage Three: Seeing the Social Problem-Solving Strategy in Practice	The purpose of this stage is for the young person to see in practice the actual thinking (covert cognitive) and doing (overt behavioral) steps of the BEST PLANS Social Problem-Solving Strategy by the teacher. In addition the young person will be encouraged to participate in the process along with the teacher.	Not Applicable
Stage Four: Remembering and Explaining the Social Problem-Solving Strategy Steps	The purpose of this stage is to make sure that the young person understands the strategy and can explain in their own words what it is for, the rationale for using it, and describe each step. In addition, in this stage young people are asked to memorize the strategy steps.	80%
Stage Five: Using the Social Problem-Solving Strategy with Everyday Problems	The purpose of this stage is to provide the young person with opportunities to practice the strategy in situations that are not quite as demanding as the social situations they encounter each day with others so he can focus more on learning and using the strategy. Although very similar to Stage 5, in this stage, students are challenged by a task that begins to approximate Stage 7, as the problem situation presented are personal and authentic to the young person, therefore increasing the	80%

	complexity of the instructional materials. So in this stage the young person will be asked to apply the strategy steps to challenging social situations they have personally experienced. This practice is designed to so the young person not only gains confidence with the strategy, but also becomes more fluent and employs the strategy more independently.	
Stage Six: Using the Social Problem-Solving Strategy to Think About How You Have Solved Recent Social Challenges	The purpose of this stage is to provide the young person with opportunities to apply the strategy in situations that they are currently facing in authentic settings (e.g., living unit, home, school). Rather than a focus on how to employ the strategy there is now a focus on how to use the strategy to respond to authentic demands in their own life. In this stage young people are still using the strategy within a highly supportive and individualized learning context, yet the social situations presented are current, relevant and meaningful to the young person. Instruction should be planful in moving young person not only to independent practice at this level of complexity, but also in moving young person "from teacher-mediated to student-mediated feedback" (p. 17). This practice is designed to support the young person in becoming more responsible and independent in the planning, use, monitoring, and evaluation of the strategy with authentic social dilemmas.	80%; then posttest
Part Four: Collection of Post-Intervention Data		
Stage Seven: Post-test	The purpose of this stage is to "confirm and celebrate" the young person's mastery and to forecast possibilities with their new strategy knowledge (p. 18).	80%

Appendix L

SPACE Storytelling Outline

Setting *Who is involved?* *When does it happen?* *Where does it happen?* *What's going on?*	**P**roblem *What is the problem?* *How do the characters feel?* *What do the characters need or want?*
Action *What did the character do?*	**C**onsequence *What was the result of the character's action?*
End / **E**valuation How did the story end? What was the lesson learned? How do you feel in response to the story?	

Appendix M

BEST PLANS Social Problem-Solving Strategy SPACE Outline

<table>
<tr>
<td>Setting
(1) Be aware of the setting
Who is involved?
When does it happen?
Where does it happen?
What's going on?</td>
<td>Problem
(2) Examine the problem
What is the problem?
How do the characters feel?
What do the characters need or want?</td>
</tr>
<tr>
<td>Action-mind
(4) Think about what you could do
What are my choices?
(6) Label your decision
What is the best choice?</td>
<td>Consequence-predicted
(5) Predict the possible consequences
what might happen if…?</td>
</tr>
<tr>
<td>Action-behavior/body
(7) Arrange a plan and take action
What will the character do?</td>
<td>Consequence-actual
(8) Notice the consequences
What was the result of the character's action for each of the characters</td>
</tr>
<tr>
<td colspan="2">End goal
(3) Set an end goal
What is the goal?</td>
</tr>
<tr>
<td colspan="2">End evaluation
(9) Study the end
Did the plan work? Yes, move on. No, problem solve again.</td>
</tr>
</table>

Appendix N

Treatment Integrity Checklist

BEST PLANS Social Problem-Solving Strategy Instruction
Stage1: Pretest and Set Goals
Session Content:

- ☐ Share the assessment process with the student.
- ☐ Administer the assessment, following the protocol.
- ☐ Share the assessment results with the student.
- ☐ Make commitments.
- ☐ Wrap-up lesson.

SPACE Storytelling Strategy Instruction
Stage 2: Learning the SPACE Storytelling Strategy Components
Session Content:

- ☐ Introduce the lesson.
- ☐ Teach the steps of the strategy and the memory strategy.
    - ☐ Think about the task.
    - ☐ Organize the components of the story using SPACE.
        - ☐ Setting.
        - ☐ Problem.
        - ☐ Action.
        - ☐ Consequence.
        - ☐ End.
    - ☐ Tell the story.
- ☐ Teach the SPACE visual device.
    - ☐ Introduce the SPACE Storytelling Outline.
        - ☐ Setting.
        - ☐ Problem.
        - ☐ Action.
        - ☐ Consequence.
        - ☐ End.
- ☐ Wrap-up lesson.

SPACE Storytelling Strategy Instruction
Stage 3: Seeing the SPACE Storytelling Strategy in Practice
Session Content:

- ☐ Introduce the lesson.
- ☐ Show the strategy in practice.
- ☐ Wrap-up lesson.

SPACE Storytelling Strategy Instruction
Stage 4: Remember and Explaining the SPACE Story Strategy Steps
Session Content:

- ☐ Introduce the lesson.
- ☐ Verbal practice of explaining strategy and steps.
- ☐ Verbal rehearsal of strategy steps and story components, with cue cards.
- ☐ Verbal rehearsal of strategy steps and story components, rapid fire with cue card.
- ☐ Verbal rehearsal of strategy steps, rapid fire without cue cards.
- ☐ Assessment of strategy knowledge.
- ☐ Wrap-up lesson.

SPACE Storytelling Strategy Instruction
Stage 5: Using the SPACE Storytelling Strategy to Understand Stories and Retell Stories You Have Heard
Session Content:

- ☐ Introduce the lesson.
- ☐ Present a short story and prompt student to begin practicing the strategy.
- ☐ Ask student to tell you the “story.”
- ☐ Provide feedback.
- ☐ Wrap-up lesson.

SPACE Storytelling Strategy Instruction
Stage 6: Using the SPACE Storytelling Strategy to Tell Your Own Stories
Session Content:

- ☐ Introduce the lesson.
- ☐ Present a narrative prompt to the student.
- ☐ Ask the student to tell you the “story.”
- ☐ Provide feedback.
- ☐ Wrap-up lesson.

BEST PLANS Social Problem-Solving Strategy Instruction
Stage 2: Learning the Social Problem-Solving Strategy Components
Session Content:

- ☐ Introduce the lesson.
    - ☐ Define social problem solving.
    - ☐ Offer a rationale for social problem solving.
    - ☐ Talk about when and where this social problem-solving strategy can be used.
- ☐ Teach the steps of the strategy and the memory strategy.
    - ☐ Pause and stay calm.
    - ☐ Be aware of the setting.
    - ☐ Examine the problem.
    - ☐ Set an end goal.
    - ☐ Think about what you could do.
    - ☐ Predict the possible consequences.
    - ☐ Label your decision.
    - ☐ Arrange a plan and take action.
    - ☐ Notice the consequences.
    - ☐ Study the end.
- ☐ Teach the SPACE visual device.
- ☐ Wrap-up lesson.

BEST PLANS Social Problem-Solving Strategy Instruction
Stage 3: Seeing the Social Problem-Solving Strategy in Practice
Session Content:

- ☐ Introduce the lesson.
- ☐ Show the strategy in practice.
    - ☐ Pause and stay calm.
    - ☐ Be aware of the setting.
    - ☐ Examine the problem.
    - ☐ Set an end goal.
    - ☐ Think about what you could do.
    - ☐ Predict the possible consequences.
    - ☐ Label your decision.
    - ☐ Arrange a plan and take action.
    - ☐ Notice the consequences.
    - ☐ Study the end.
- ☐ Wrap-up lesson.

BEST PLANS Social Problem-Solving Strategy Instruction
Stage 4: Remember and Explaining the Social Problem-Solving Strategy Steps
Session Content:

- ☐ Introduce the lesson.
- ☐ Verbal practice of explaining strategy and steps.
- ☐ Verbal rehearsal of strategy steps and story components, with cue cards.
- ☐ Verbal rehearsal of strategy steps and story components, rapid fire with cue card.
- ☐ Verbal rehearsal of strategy steps, rapid fire without cue cards.
- ☐ Assessment of strategy knowledge.
- ☐ Wrap-up lesson.

BEST PLANS Social Problem-Solving Strategy Instruction
Stage 5: Using the Social Problem-Solving Strategy With Everyday Problems
Session Content:

- ☐ Introduce the lesson.
- ☐ Verbal practice of explaining strategy steps.
- ☐ Verbal rehearsal of strategy steps, with cue card.
- ☐ Verbal rehearsal of strategy steps, rapid fire with cue cards.
- ☐ Verbal rehearsal of strategy steps, rapid fire without cue cards.
- ☐ Assessment of strategy knowledge.
- ☐ Wrap-up lesson.

BEST PLANS Social Problem-Solving Strategy Instruction
Stage 6: Using the Social Problem-Solving Strategy to Think About How You Have Solved Recent Social Challenges
Session Content:

- ☐ Introduce the lesson.
- ☐ Present a social dilemma and prompt student to begin practicing strategy.
- ☐ Ask the student to tell you the "story."
- ☐ Provide feedback.
- ☐ Wrap-up lesson.

BEST PLANS Social Problem-Solving Strategy Instruction
Stage 8: Posttest
Session Content:

- ☐ Share the assessment process with the student.
- ☐ Administer the assessment, following the protocol.
- ☐ Share the assessment results with the student.
- ☐ Wrap-up lesson.

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