

AN INVESTIGATION ON THE IMPACT OF A SOCIAL EMOTIONAL  
LEARNING CURRICULUM ON PROBLEM SYMPTOMS  
AND KNOWLEDGE GAINS AMONG ADOLESCENTS  
IN A RESIDENTIAL TREATMENT CENTER

by

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“An Investigation on the Impact of a Social-Emotional Learning Curriculum on Problem Symptoms and Knowledge Gains Among Adolescents in a Residential Treatment Center,” a dissertation prepared by Duane M. Isava in partial fulfillment of the requirements for the Doctor of Philosophy degree in the College of Education. This dissertation has been approved and accepted by:

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and early intervention program, it has a wide range of applications, and may be used effectively with typical, at-risk, or emotional disturbed adolescents in a variety of settings and individuals.

The study focused on important changes in both self-reported and adult reported decreases of problem symptoms and knowledge gains in resiliency and social-emotional skills. Using a pretest-posttest intervention design, results indicated that participation in the Strong Teens curriculum along with other treatment components were associated with some statistically significant and clinically meaningful changes in the desired directions on the target variables. Participants who did not participate in the Strong Teens but received other treatment components also obtained some statistically significant and clinically meaningful changes in the desired directions on the target variables. There were no statistically significant differences on the target variables at posttest between participants who participated in the Strong Teens curriculum from those who did not participate.

The study advances current intervention for high-risk adolescents with severe or chronic social, emotional, and behavioral problems. The results are promising because they suggest that the Strong Teens curriculum may be implemented with some success to a high-risk clinical adolescent population as one of several components in a comprehensive and intensive treatment plan. Replication and expansion of the study results may be beneficial to mental health professionals and the juvenile justice system when intervening with adolescents.

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## CHAPTER I

### INTRODUCTION

#### The Context of the Problem

At the national level, schools and communities are seeing an alarming increase in the number of adolescents that are afflicted with learning difficulties, emotional challenges, and behavioral problems (Colvin, Kammenui, & Sugai, 1993; Lewis & Sugai, 1999; Sugai, Bullis, & Cumblad, 1997). The numbers of adolescents affected by these problems are surprisingly high. Greenberg, Domitrovich, and Bumbarger (2001) have asserted that between 12% and 22% of adolescents under age 18 experience mental health problems of sufficient severity to be in need of mental health services. These percentages represent a staggering figure of 1 out of every 5 children and adolescents in some instances. Although this data is not reported by specific age group, it is important to consider that the period of adolescent development- with the accompanying changes in physical, cognitive, and social-emotional changes- may be a particular risk for many young people.

Murray (2003) has elaborated on the problems associated with mental health and academic failure of young people by suggesting that adolescents with severe emotional and behavioral problems are at increased risk for school dropout and incarceration, along with unemployment and lower rates of postsecondary school attendance. These troubled adolescents tend to experience school failure, substance abuse dependency, criminal activity, emotional distress, and neglect by their families and communities. Left untreated

or unsupported, adolescents with social, emotional, and behavioral problems are in serious jeopardy of becoming unproductive members of society.

There are several challenges that impede our ability to identify and intervene successfully with troubled adolescents. These challenges stem from a limited understanding by professionals (i.e. psychologists, social workers, teachers, legal advocates) to implement appropriate responses to troubled adolescents because of disagreements regarding the nature and ownership of problem behaviors, appropriate and adequate prevention and intervention plans, and ways in which to study these adolescents in the context of their behaviors (Nelson, 1995). Further, it is often difficult to provide long-term intervention to troubled adolescents in structured and supervised settings such as schools because of the high dropout or expulsion rates of students identified with emotional and behavioral disorders (Landrum & Tankersley, 1999). Conversely, when students are identified with emotional or behavioral problems, they are often placed in self-contained classrooms with other identified troubled students where problem behaviors may ‘feed off each other,’ and many of the curricula provided to teach and rehabilitate these students are found to be ineffective or insufficient (Simpson, 1999).

In many cases, mental health centers, including day treatment facilities, residential centers, and youth hospitals, become the last resort for intervention with troubled adolescents. These adolescents are considered high-risk because of the likelihood that many of them will not be successful from conventional interventions. Many of the adolescents sent for assessment and treatment to these centers have been either court or state referred because of infractions of the law or abandonment by their parents or guardians. Unfortunately, such centers that treat these adolescents, especially

adolescents with high incidence disabilities, lack the personnel, resources, and the materials to address adequately the problems and issues of these adolescents (Nelson, 1995). Programs or curricula for intervention that are offered by many of these centers are most often reactive and consist primarily of crisis intervention and other counseling programs that strive to “contain” or reduce the severity of the emotional and behavioral problems (Nelson & Colvin, 1996). In addition, adolescents’ stays at these treatment centers are usually short-term and often lack an integration of social and vocational skills training or preparation for these adolescents to be successful adults in society.

Effective intervention for adolescents with social, emotional, and behavioral problems is further compounded by the fact that many of these adolescents have a history of maladaptive social experiences and behaviors (e.g. bullying, theft, vandalism, drug abuse, high-risk sexual behaviors), and have often lived in hostile and dysfunctional environments. Further, it has been reported that many of these troubled adolescents have comorbid disorders beyond their emotional and behavioral problems. Anxiety, depression, conduct disorder, attachment disorders and severe sexual and physical abuse are common comorbid problems associated with emotional and behavioral problems in adolescents (Zahn-Waxler, Klimes-Doughan, & Slattery, 2000).

There is a general consensus in the mental health and educational communities that an understanding of the etiology or risk factors that place adolescents at a greater risk for social, emotional, and behavioral problems is a significant consideration for both prevention and intervention planning for troubled adolescents. Many studies (e.g. Murray, 2003; Nelson, 1995; Walker & Gresham, 2003) have identified and described similar or overlapping risk factors that help predict adolescents who may be at greater

risk for developing social, emotional, and behavioral problems. These risk factors include a number of individual, social, and demographic variables that are associated with poor outcomes for troubled adolescents. In fact, Nelson (1995) reported that many of these risk factors are common predictors of adolescents who eventually require a variety of services, including special education for emotional and behavioral disorders, mental health treatment, child welfare agencies, and juvenile courts. Walker et. al (1996) have suggested that the more risk factors an adolescent is exposed to over time, the greater the likelihood that negative outcomes such as school failure and antisocial behaviors will occur.

Conditions of family dysfunction, inadequate parental supervision or inconsistent and ineffective parenting practices, delinquent or criminal role models, and abusive homes are believed to be associated with placing adolescents at greater risk for maladaptive learning, behavioral, and emotional problems, especially as documented within the school setting (Doll & Lyon, 1998; Sugai & Horner, 1999). Ethnic or minority status has also been associated with not only a high incidence of both emotional and behavioral problems, but also with a disability status. According to Murray (2003), findings from numerous studies and reports have identified a disproportional representation of Minority students being placed in the disability categories as compared to White students. Whether or not ethnicity or minority status and having a disability is a predictor of poor outcomes of employment and independent living status, it is clear that these two risk factors are directly linked to poor post school outcomes and maladaptive social adjustments.

Poverty or low socioeconomic status (SES) has also been identified as a variable that appears to contribute to the risk that an adolescent will engage in delinquent behavior and have poor school outcomes. More adolescents from low SES backgrounds currently receive special education labels, including emotional/behavioral disorders, than adolescents from middle and upper SES backgrounds. Other risk factors such as peer rejection, victimization, living in a high crime community area can indirectly affect outcomes by influencing both school and social adjustment and achievement (Bullis & Walker, 1995). In addition, Walker and Shinn (2002) have suggested that both administration and teachers must address risk factors that manifest directly in school settings that promote the development of antisocial and destructive behavior. Factors such as getting in trouble with the teacher, failure to adopt and follow school rules and policies, being socially rejected by teachers and peers, and failing academically, especially in reading are all key risk factors in school that are associated with social, emotional, and behavioral problems in adolescents.

According to Burns and Hoagwood, (2002), there has been no national epidemiological study conducted to document the prevalence rates of adolescents with mental health needs. However, there have been some recent studies conducted estimating that 5-9% of the adolescent population has a severe emotional disorder with extreme impairment, 9-13% of all youth have a severe emotional disorder with substantial functional impairment, and roughly 20% of youth may meet established criteria for a diagnosable disorder. Although these rates represent a significant proportion of adolescents who present with serious mental health problems, other studies have indicated that a high percentage of youth with diagnosable disorders do not receive any

mental health services. Other studies have indicated that many high-risk youth have serious mental health needs and according to epidemiological studies of juvenile offenders, as many as 90% of them may have some type of psychiatric diagnosis, including but not limited to conduct disorders, substance abuse, ADHD, learning and developmental disabilities. The task of determining the prevalence of delinquent adolescents is challenging given the fact that arrest and adjudication are underestimates of criminal acts committed by all troubled adolescents, since many criminal acts committed by adolescents may go unsolved (Burns and Hoagwood, 2002).

#### Statement of the Problem

Walker et al. (1996) have suggested that there is no simple formula or easy solution for eliminating and reducing emotional and behavioral problems in adolescents. What we do know is that high-risk adolescents do need long-term and intense intervention and support if they are to ever have a chance to and meet the demands of schooling and the larger society. High-risk adolescents are confronted with difficult situations and may live a dangerous lifestyle where they are likely to experience a host of negative outcomes (e.g. school failure, delinquency, adult criminality, and early parenthood) that have lasting and severe consequences. Further, a challenge in intervening with adolescents is that they may have already developed an entrenched behavioral repertoire and may specialize in ways to have their needs met or fulfilled in many antisocial and maladaptive ways (e.g. bullying, crime, lying, and extortion). Given their physical size, aggressiveness, and experience, many of these adolescents do present problems that are not only detrimental to themselves but harmful to others as well.

Despite the numerous challenges and risk factors that impact helping troubled adolescents turn around their lives, there exist evidenced-based effective assessment and treatment procedures to help adolescents with social, emotional, and behavioral problems (Burns and Hoagwood, 2002). Sugai, Bullis, and Cumblad (1997) have stated that one significant way of improving the outcomes for troubled adolescents is by improving the mechanisms by which we provide empirically tested skill development and support for educators and other professionals that work with this at risk population, especially in school and mental health settings. In addition, Sprague and Walker (2000) and Todis et al. (2001) propose that direct comprehensive prevention and treatment steps must be implemented to address the service needs of high risk adolescents in order to halt maladaptive behavioral patterns and to then provide them with the skills, services, and supports necessary to reenter them in society to become productive and law-abiding citizens.

Several studies and reports (e.g. Burns & Hoagwood, 2002; Murray, 2003; Todis et al., 2001; Walker & Bullis, 1995) have documented that no single intervention is capable of reforming or changing a troubled adolescent's life given the complexity of the individual and his or her environmental interactions. These studies and reports have also cited several components necessary in providing an effective and lasting intervention plan that may allow troubled adolescents to have a second chance for successful and happy lives. One such component is inclusion of the adolescent's family and guardians whenever possible (Murray 2003). The central role of the family to provide guidance, support, and encouragement should be recognized and respected since it remains fairly constant throughout the life of many adolescents. Another important component is to

provide an interaction for an extended period of time with at least one adult mentor beyond the parent/guardian relationship, who can demonstrate caring and control by being both a guide and friend (Burns & Hoagwood, 2002). Intervention plans, where feasible, should also encourage a greater willingness of all professionals to either integrate programs or collaborate in the larger school or community area, rather than just in their own setting, since this has been proven to be useful in addressing social, emotional, and behavioral problems comprehensively (Walker & Bullis, 1995).

A wraparound approach to treatment that uses multisystemic therapy and psychopharmacology is yet another component to consider when working with troubled adolescents, especially when dealing with comorbid disorders such as ADHD, substance-use disorder, anxiety, and depression (Burns & Hoagwood, 2002). Providing community services and supports to the adolescent and his or her family as long as they need it have proven to be an effective approach to treatment. Troubled adolescents are also in need of treatment because many of these youths have experienced traumatic life events, including abuse, violence, and victimization that have resulted in maladaptive strategies for coping with the actions produced by traumatic experiences. Suicidal attempts and injuries are also not uncommon for these adolescents.

Finally, any intervention plan should include a component that is based on establishing a resiliency framework that allows an adolescent to adopt and use positive behaviors and protective factors that influence that adolescent's response to environmental hazards (i.e. risk factors), which may otherwise predispose him or her to a maladaptive outcome. Protective factors are resources for an adolescent and include individual characteristics, such as demographics and personality traits, as well as

experiences within the contexts of families, schools, peers, and broader communities.

These protective factors may serve to shape healthy development and positive long-term adjustment and outcomes for troubled adolescents who otherwise may fall victim to risk factors that lead to negative outcomes. Protective factors create and maintain resiliency in adolescents to modify or cope with the impact of risk exposure and negative life experiences and circumstances.

According to Doll and Lyon (1998), there is no one definition for resiliency. However, the premise behind the term “resiliency” centers on an individual successfully coping with or overcoming risk and adversity or the development of competence in the face of severe stress and hardship. Todis et al. (2001) suggested that resiliency is a construct that identifies the strengths and coping processes used by troubled adolescents to become successful. They stated that some adolescents, although judged to be at extreme risk for school and life failure, do manage to obtain a successful life despite insurmountable odds. Werner and Smith (1982) broaden the concept of resiliency by suggesting that resilient youth are successful by the company and resources they seek in times of need. They state that resilient youth appear to be skillful in selecting and identifying with resilient models and sources of support. Therefore, resilient youth may not necessarily seek out any professional help but may prefer instead a network of informal relationships that include appropriate friends, older peers, ministers, and some trusted adults like teachers. The concept of resiliency has significant implications for service delivery to troubled youths, since a clear understanding of the characteristics that make a person resilient may help enhance and focus prevention and intervention efforts with troubled adolescents.

Intervention procedures or curricula that emphasize both social and emotional resiliency may facilitate substantial gains for high-risk adolescents, and therefore be an important adjunct to current treatment programs. Both teachers and mental health workers are encouraged to teach anger management and anger control strategies through focused and structured social skills training. These professionals should use life-learning techniques and educational lesson plans that promote self-determination and self esteem, as well as encourage social cognitive problem-solving skills and academic competencies. In fact, Gresham, Sugai, and Horner (2001) emphasized that social competence is a central issue for students with cognitive, academic, and emotional/behavioral concerns. Systems that do not have a proactive approach tend to see frequent reports of truancy, aggression, and vandalism within the schools. When conducting social skills training one must include five domains (peer relation skills, self-management skills, academic skills, compliance skills, and assertion skills) for maximizing treatment outcomes and success for students. Also in training these domains, including a combination of modeling, coaching, and reinforcement procedures helps ensure both generalization of similar behaviors and maintenance of behaviors already learned.

Mental health professionals are also encouraged to provide protective factors in the adolescent's family and school by developing stronger school-home relationships, providing teachers and parents with specific strategies for assisting the adolescent be successful both socially and academically, while being able to effectively manage problem behaviors. At the community level, the adolescent should be encouraged to participate in clubs or organizations that promote youth involvement and enrichment. The

adolescent should also receive assistance in identifying and attaining viable employment opportunities within their community.

Walker and Shinn (2002) have added that a significant role that schools or even mental health centers may adopt to offset the negative effects of risk factors found in both school (e.g. social rejection by teachers and peers) and non-school settings (e.g. poverty and poor parenting practices) is to improve protective factors in academic, social-emotional, and mentoring-support domains. The key to the success of such a program must come with early identification and intervention in order to prevent a multitude of risks from having a destructive and disruptive influence in the live of the adolescence. Schools may also play a role for trouble adolescents who transition back from special education classes or treatment centers into general education classes by providing structure, positive adult influence, skills, and problem-solving experiences.

#### Purpose of the Study

The research study addressed in part the above stated problems and solutions by investigating the effectiveness of a recently developed social-emotional learning curriculum, the *Strong Teens* program. This curriculum, designed to promote social and emotional resiliency in adolescents, was evaluated as one of several components in a comprehensive intervention plan for promoting mental health, rehabilitation and resiliency for certain social, emotional, and behavioral problems in adolescents in a residential treatment setting. Therefore, the purpose of this dissertation study was to measure the impact of the *Strong Teens* program with this severely impacted population. Although this program is not considered to be a comprehensive or self-contained intervention for youth with severe emotional and behavioral problems, one of the

purposes for which it was designed is to serve as an important adjunct or support within comprehensive treatment programs. This study is important because it is the first study to examine the impact of the Strong Teens curriculum on a very severe group of adolescents. I hypothesized that the Strong Teens curriculum can facilitate positive gains and a reduction in negative outcomes for high risk adolescents in a residential treatment center. The curriculum was developed and designed to provide increases in adolescents' knowledge of the content of the curriculum, promote and encourage their adaptive skills, and prevent or discourage maladaptive emotions and behaviors, particularly in the internalizing domain of social-emotional problems.

#### Research Questions

The following research questions were addressed in this investigation:

*Research Question 1:* What is the impact of participation in the *Strong Teens* curriculum for participants' knowledge in areas associated with social-emotional resiliency, such as anger management, conflict resolution, emotional education, etc.?

*Research Question 2:* What is the impact of participation in the *Strong Teens* curriculum for participants' self reports and observer reports of positive social and emotional skills and affect?

*Research Question 3:* What is the impact of participation in the *Strong Teens* curriculum for participants' self-reports and observer reports of negative emotions, cognitions, and maladaptive behaviors?

*Research Question 4:* Are any iatrogenic effects noted from participating in groups with other high-risk adolescents?

*Research Question 5:* What is the perceived social validity and consumer satisfaction of the Strong Teens Curriculum by the instructors and participants in the study?

## CHAPTER II

### LITERATURE REVIEW

This section contains a review of the literature pertaining to the constructs, theories, and rationale behind the development and use of the Strong Teens curriculum. This review begins with an explanation on the parameters by which the literature was completed. This was followed by an introduction to the key terms associated with the study and then by an elaboration of the need for such a study. Next, a discussion on previous studies associated with treatment for high-risk adolescents. Finally, a discussion on the framework and organization behind this intervention research is then presented and followed with an explanation for the rationale behind both the format and content of the curriculum.

#### Parameters of Literature Review

An integrative review was conducted on the existing research literature for intervening with adolescents who suffer from severe or chronic social, emotional, and/or behavioral disorders. The review attempted to infer generalizations from the body of literature on documented treatment interventions for male adolescents who have been labeled as a high-risk clinical population. Using a time period from the eighties to present day, a search was conducted using several broad and specific topics of relevance to the present study. Broad topic searches included such key terms as Mental Health, Interventions, Treatment Efficacy, Risk and Protective Factors, Educational Outcomes,

High Risk, Antisocial Behavior, and Adolescents. Narrower topic searches included such terms as Resiliency, Poverty, Violence, Psychological Disorders, Curriculum, Treatment, Behavior Modification, Social Skills, Emotional Strength, and Therapeutic Outcomes. The search was conducted in several fields, including education, psychology, juvenile justice, and social work.

The main objective of the review was to explore the various results that had been reported in working with this high-risk adolescent population. Results that were found were then reviewed, analyzed, and interpreted in order to identify similarities and discrepancies among the researchers on potential effective interventions when working with this population. Jackson (1980) outlined six basic tasks to conceptualize the methodology of conducting an integrative review. This approach was adopted for this literature review. The six tasks are as follows: 1) selecting the questions for the review, 2) sampling the research studies that are to be reviewed, 3) representing the characteristics of the studies and their findings, 4) analyzing these findings, 5) interpreting the results, and 6) reporting the results in this study as applicable.

### Key Terms

#### *Internalizing Disorders*

According to Merrell (2001), internalizing disorders constitute a specific major subtype or domain of emotional and behavioral problems. The term “internalizing” indicates that these problems are developed and maintained to a great extent within the individual. This fact makes it difficult to detect symptoms simply through direct observation, and therefore requires a more in-depth assessment of how the individual

feels and thinks about himself/herself and their environment. Although the symptoms may be complex and vary among individuals, most internalizing symptoms can be placed within four categories: depression, anxiety, social withdrawal, and somatic complaints (e.g. stomachaches, headaches, and nausea). It is not uncommon for depression, anxiety, social withdrawal, and somatic complaints to occur in unison, and there are many overlapping symptoms. It is also possible for children and adolescents to exhibit both serious conduct problems or hyperactivity (e.g. fighting, stealing, and inattention) and internalizing symptoms at the same time.

Internalizing disorders are considered to be constituted by over-controlled, meaning that the individual experiencing the symptoms often attempts to maintain a maladaptive high level of control of his or her emotions, behaviors, and thought processes. Aggressive behavior and other conduct problems, on the other hand, are considered to be under-controlled, meaning that the individual has not developed sufficient strategies for self-regulation of their behavior, affect, and cognitions. Of all internalizing conditions, depression and anxiety have the highest incidence and prevalence rates among adolescents (Merrell & Isava, 2005).

The primary characteristics of depression are excessive sadness, loss of interest in activities, sleeping problems (either sleeping too much or not enough), slowing of physical movements or in some cases physical agitation, lack of energy, a preoccupation with death or dying, feelings of worthlessness or excessive guilt, and difficulty in thinking, concentrating or making decisions. One symptom commonly seen in depressed children and adolescents is a failure to make expected weight gains. Two additional symptoms

often characterize the presentation of depression in children and adolescents:

irritability and physical complaints (i.e. stomach pains, headaches). Not all of these symptoms are necessary for significant depression to exist. Based on a variety of studies and estimates, a conservative estimate of the percentage of children and adolescents who suffer from the symptoms of depression to an extent that would constitute a disorder or significant problem is 3-6% (Merrell, 2001). It is reported that depression is more commonly observed in girls than in boys. This fact is particularly true after adolescence, when the difference between the sexes become apparent with about twice as many girls than boys experiencing significant symptoms of depression.

Although anxiety disorders vary widely, the major characteristics remain the same and include excessive worry in general, fear or stress regarding specific situations or events, psycho-physiological arousal and or hypersensitivity, and negative and unrealistic thoughts. Syndromes that are associated with anxiety disorders may include obsessive/compulsive behavior, somatic complaints, and panic attacks. Many professionals now believe that anxiety disorders may be the most common presenting concern of all internalizing categories. Although more female adolescent may develop anxiety disorders than males, the gender discrepancy is not as significant as it is in depression (Merrell, 2001).

Social withdrawal and related forms of social dysfunction are not considered clinical entities per se, but rather a component of several clinical disorders of childhood. Because social withdrawal is not classified as a specific disorder, it is impossible to estimate the percentage of adolescents who have significant problems in this area. However, several DSM-IV diagnostic categories include social withdrawal as a

symptom of separation anxiety disorder, autistic spectrum disorders, reactive attachment disorder, depression, and adjustment disorder with withdrawal. The primary symptoms for social withdrawal are an unrealistic self-appraisal of social performance, lack of social approach behaviors, and a lack of interest in social interaction or interested complicated by excessive fear (Rubin & Stewart, 1996).

Somatic complaints are seen as complaints of physical discomfort, pain, or illness with no significant medical basis. The symptoms of somatic complaints are believed to be the result of emotional distress that is psychological in nature. Similar to social withdrawal, somatic complaints are considered as symptoms of clinical disorders. One of the most common complaints of children and adolescents are stomachaches, headaches, tingling sensations or numbness, pain in the eyes, limbs and joints. The severity of somatic complaints range from feeling uncomfortable to more severe experiences of being unable to function during daily activities (Hammen & Rudolph, 1996).

### *Externalizing Disorders*

Externalizing disorders are behaviors that are easily discernable because of the ability for others to directly observe them. These behaviors are considered to be under-controlled and include characteristics such as aggression, acting out, defiance, oppositional, antisocial and hyperactivity. Unlike internalizing disorders, externalizing behavior problems are hard to overlook and can therefore be very annoying or disruptive to other individuals. Because of the overt nature of these behaviors, they are typically the primary reason adolescents are referred for treatment. According to the DSM-IV-TR (2000), there are three major categories of externalizing disorders that are relevant to children and adolescents. These three categories are Attention Deficit Hyperactivity

Disorder, Conduct Disorder, and Oppositional Defiant Disorder. The prevalence rate for externalizing disorders in general falls under a very wide range (2%-6%) and is considered more prevalent in males than females before puberty but the rates are believed to become equal after puberty. In a substantial number of cases, externalizing disorders tend to occur in a comorbid pattern with each other, as well as with internalizing disorders (Merrell, 2003).

#### *Academic Failure and Antisocial Behavior*

As adolescents struggle to cope and deal with psychological disturbances or challenges, other aspects of their lives beyond their mental health is inadvertently affected. Educators and mental health professionals would both agree that there is a link between challenging behaviors and academic instruction. In fact, a strong connection exists between academic failure and antisocial behavior. Poor academic performance co-occurs with or is predictive of antisocial behavior (Maguin & Loeber, 1996). Maguin and Loeber have offered the following findings: (1) Poor academic performance is related to onset, frequency, persistence, and seriousness of delinquent offending in both boys and girls. Moreover, poor academic performance predicts delinquency independent of socioeconomic status. (2) Cognitive deficits and attention problems are common correlates of both academic performance and delinquency. (3) Interventions that improve academic performance co-occur with a reduction in the prevalence of delinquency.

#### Current State of the Field

The psychological community is plagued by recurring problems of violence and suffering involving high-risk adolescents. As reports continue to grow surrounding the destructive nature of many maladaptive and antisocial behaviors perpetrated and

experienced by adolescents, there is an ever-growing demand for effective prevention interventions designed to support the mental health of high-risk adolescent populations. As part of the growing concern to not only manage maladaptive and antisocial behaviors, but also to offset the negative outcomes associated with negative experiences, there is a push to equip adolescents with the strength needed to overcome risk factors that lead to maladaptive and antisocial behavioral patterns (Walker & Shinn, 2002). Unfortunately, many people tend to perceive that emotional and behavioral concerns are treatment resistant. There is a growing body of evidence indicating that with moderate time and therapeutic investment, problems can be reduced significantly, especially if addressed early in the condition's developmental trajectory.

Several longitudinal studies have uncovered some salient factors that have shown to predict positive outcomes for children who are exposed to risk factors such as poverty, a dysfunctional home, or trauma (Cowen, 1994; Rak & Patterson, 1996). Rak and Patterson (1996) and Werner and Smith (1982, 1992) have classified these factors collectively as resiliency characteristics and have summarized them as follows: (a) an active, evocative approach to problem solving; (b) an ability to gain positive attention from others; (c) a positive outlook on past experiences; (d) an optimistic outlook for the future; (e) an ability to control and manage one's emotions; (f) alertness and the ability to function autonomously; (g) an interest in novel experiences; and (h) a proactive perspective. Kendall (1996) found that by isolating such characteristics, these same characteristics could then be taught and learned as discreet skills by individuals in order to build resiliency in these individuals and thus function as protective factors.

According to Walker and Bullis (1995), longitudinal studies are now needed to determine just how long term exposure to these resiliency characteristics must be in effect before an adolescent's appropriate behavior will maintain in the absence or via a reduced form of this treatment and support. There are several studies that have shown promising short and long-term follow-up results when treating adolescents with emotional and behavioral difficulties. For example, Kahn, Kehle, Jenson, and Clark (1990) found that short-term cognitive-behavioral therapy, relaxation, and self-modeling interventions for the treatment of internalizing disorders might significantly reduce adolescent self-reported and parent-reported symptoms of internalizing problems, as well as an increase in self-esteem. Further, Stark et al. (2000) reported that child and youth interventions that focus on encouraging the development of new adaptive schemas and rules for processing information and using coping skills while also changing environmental events that create disturbances in the child/youth's life have been found to be effective change agents.

#### Systems Level of Prevention and Intervention- *The Three-Tier Model*

Sugai et al. (2000), Walker et al. (1996) and Lewis and Sugai (1999) have developed a unique approach to skill development and support of children and youth in school settings through the use of behavioral systems, which are in contrast to traditional intervention development models. A systems approach promotes support for the adoption and sustained use of effective school practices. Schools that do not adopt a systems approach have limited identification of practices, use adoptions that are incomplete or short-lived, and maintain only episodic and short-term school initiatives to address discipline. These shortcomings can easily be seen also in treatment centers and agencies

that service troubled adolescents. On the other hand, a systems approach considers multiple contexts (community, family, school, classrooms, nonclassroom, individual), a proactive perspective (positive and preventative), and stipulates clear guidelines and expectations for everyone affiliated with the system. By also integrating a team-based approach to the system, a broader expert knowledge base and improved sustainability over time is more likely to be maintained.

Horner, Crone, and Stiller (2001), Walker et al. (1996), Sugai et al. (2000) and Sugai and Horner (1999) all suggest that a systems perspective provides a continuum of support in which prevention is emphasized and intensity of problems and the context in which they occur are considered carefully. This approach allows for a more effective strategy for program assessment, development, and problem solving within the system. The concept of prevention is maintained along three levels: 1) Primary, 2) Secondary, and 3) Tertiary. The primary prevention efforts are translated into universal group preventions in order to reduce the number of new cases of emotional and behavioral problems. The objective at this level is to foster a culture of competence in which children are actively taught expectations, given opportunities to practice these expectations under guidance, and then reinforced for engaging in these expectations.

Secondary prevention efforts address the formation and development of specialized group interventions directed at children and youth who are high-risk for greater and more serious problems. The objective of intervention at this level is to provide several group-based interventions for children and youth who may be high-risk

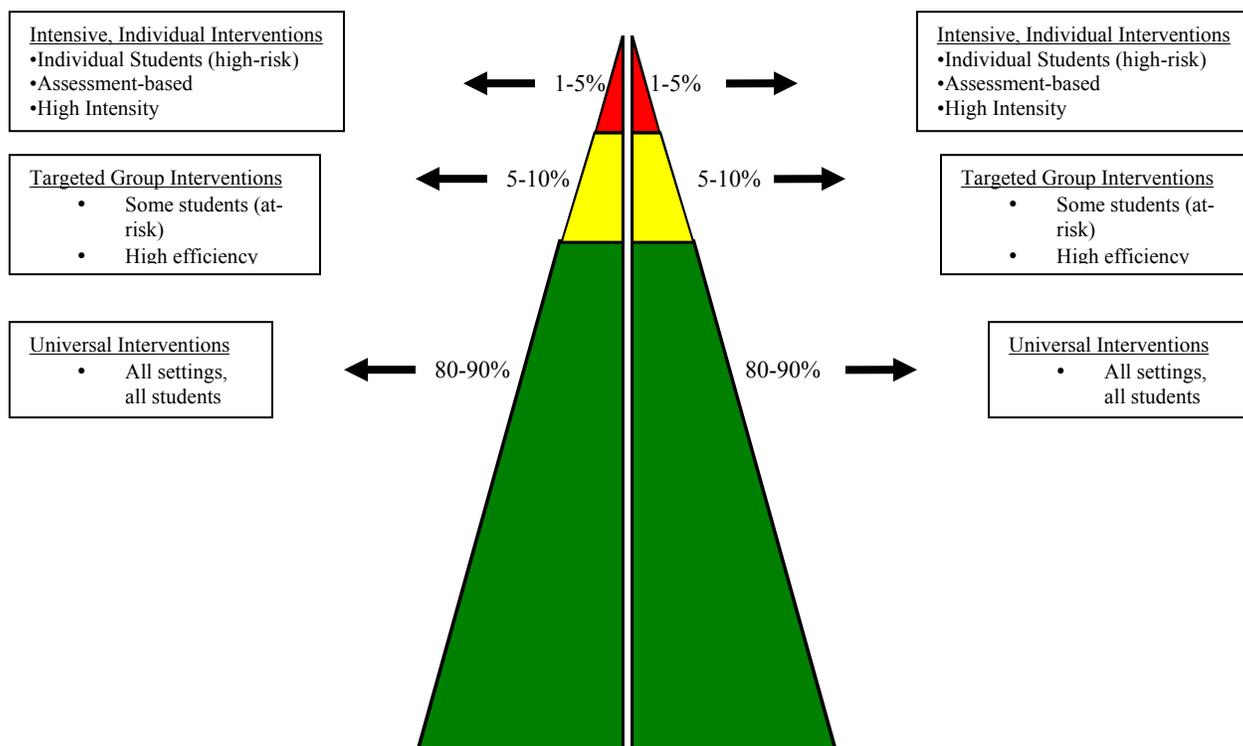
for developing more significant problems. The secondary level therefore serves to reduce the number of current cases of emotional and behavioral problems.

Finally, the tertiary prevention efforts are often conceptualized as the most intense efforts to treat youth where individualized and specialized interventions are directed at specific children and adolescents who display chronic and severe emotional and behavioral difficulties. The main objective of this level is to provide a high level of intensity support and treatment for emotional and behavioral disorders with children and adolescents who have been or will be unresponsive to intervention efforts at either the primary or secondary levels. The tertiary level therefore serves to reduce the intensity and complexity of current cases and the children and adolescents that are targeted are called high-risk. Figure 1 includes a graphic description of a continuum of support that emphasizes a systems approach, preventative perspective, and specialized interventions.

Figure 1. Continuum of behavior support: Designing systems for children and youth success. A proactive perspective maintained along three levels of continuous support.

Academic Systems

Behavioral



Adapted from Sugai, Bullis, Cumblad (1997) and Sugai et al. (2000).

This study investigated tertiary prevention efforts, in that it targeted a residential treatment center that services adolescents with severe or chronic social, emotional, and/or behavioral problems. Effective efforts at this tertiary level serve to reduce the intensity and complexity of current emotional and behavioral difficulties that were being experienced by this population. Walker et al. (1996) emphasizes the identification and reduction of known risk factors (e.g. school drop-out, substance abuse, low socioeconomic status, mental disorders) that place these children and adolescents at a greater risk for failure and hardships may be offset or buffered by the development of protective factors (e.g. self control and anger management training, academic instruction,

social skills, family support, and closer supervision and support). It was the assumption that a social/emotional curriculum would help teach and encourage more adaptive interpersonal and intrapersonal skills that would help these troubled adolescents deal or cope with the known risk factors that they had been exposed to during some time in their lives.

### Iatrogenic Effects

Emerging research literature has suggested that delinquent adolescents who associate with anti-social peers are at an increased risk of continuing and escalating delinquent behaviors (Dishion, McCord, & Poulin, 1999, Dishion, Poulin, & Burraston, 2001, and Handwerk, Field, & Friman, 2000). This phenomenon has been cited as the Iatrogenic Effects Hypothesis or as Deviancy Training. According to Greene (2004), Iatrogenic is defined as the unintended, harmful effects of a program or treatment. It is believed that residential care may inadvertently be a setting in which to promote an environment where antisocial values are reinforced, and increased social isolation, diminished sense of control, and resentment of authority figures develops.

Dishion, Poulin, and Burraston (2001) have reported that group process, more than individual affiliation patterns contribute to iatrogenic growth for problem behaviors. This finding was a result of a longitudinal study with an intervention program for families with at-risk adolescents. The study investigated early adolescent boys and girls involved in a 12 week intervention program called, Adolescent Transition Program, where it was found that deviancy training among peers, delinquency, and tobacco use were significant growth factors at the end of the intervention. Contrary to the objective of using the group

intervention to facilitate the power of influence to support adolescents' commitment to prosocial goals and behavior, it was reported that high-risk adolescents instead succumbed to negative peer influences by their association to the intervention program. Conclusions from the study stated that although group interventions in many contexts may be beneficial, it is critical that interventionists provide structure, behavior management, and attend to adolescents' peer contexts to promote health and reduce risks such as iatrogenic effects.

Several cross-sectional studies have revealed similar findings that suggest that iatrogenic effects are evident from peer associations or affiliations. These studies have reported significant and unique associations between adolescents delinquent peer friendships and group affiliations and delinquency and/or violence perpetration. In one such study by Miller-Johnson et al. (2003), it was found that victimization and weapon carrying were significantly associated with involvement of deviant peers. This finding was found in adolescent male and female students involved in a school-based intervention program to reduce high-risk antisocial behaviors. In another study by Hayne and Mchugh (2003), it was found that after controlling for identified individual and family predictors of deviancy, friendships with deviant peers contributed uniquely and significantly to respondents' levels of deviancy. This finding of deviant peer friendships and self-reported delinquency for adolescents among 7<sup>th</sup> and 12<sup>th</sup> graders was based upon self-rated antisocial behavior of each nominated peer. For this study, deviancy was measured based upon cigarette use, getting drunk, truancy, and fighting within the last 12 months.

Mager, Milich, Harris, and Howard (2005) have hesitated to confirm that the iatrogenic effects hypothesis may be sufficient reason to suggest that interventions for at-risk adolescent that occur in groups may be contradicted or lead to iatrogenic effects. In a study using two intervention groups, one with only adolescents with conduct disorders and one with adolescents with and without conduct disorder, they found that the aggregation of only adolescents with conduct disorders had better outcomes than the aggregation of adolescents with and without conduct disorders. It was reported that iatrogenic effects were observed in the mixed groups of adolescents. Their study supported the continued use of a standard group treatment model for young adolescents with conduct problems but cautions placing adolescents with antisocial behaviors (i.e. conduct disorder) with adolescents without antisocial behaviors as their primary diagnosis. Their findings suggest that social cognitive skills-training intervention, conducted in groups that consist entirely of at-risk adolescents is still an effective treatment approach. However, consistent with Dishion et al. (1999), they recommend that practitioners be aware that iatrogenic effect hypothesis or deviancy training may occur in intervention group settings and therefore close supervision of all group members and an effective behavior management system be implemented to the entire treatment group.

The body of literature on iatrogenic effects for group interventions with adolescents has thus far produced mixed results in determining whether or not treatment may be effective when adolescents with conduct disorders receive group treatment in residential care together. However, there is sufficient evidence to indicate that there are several reported variables that may offset the potential for iatrogenic effect hypothesis or deviancy training to occur in group interventions (Handwerk, Field, & Friman, 2001).

First, not all group interventions are equivalent and therefore this must be considered when factoring the potential for iatrogenic effects. Structured behavior treatment seems more effective than other treatment modalities for adolescents with behavior and emotional problems. Second, treatment seems to be more effective if applied in community-like environments rather than institutional-like environments. Third, relationships with adult role models have been shown to enhance treatment effects during group intervention with adolescents. Finally, providing positive attention, praise, and direct supervision while minimizing criticism and negative attention appear to be most successful at promoting positive outcomes for adolescents.

Although given the evidence from studies where it has been concluded that deviant peers may influence the development of antisocial behavior, there is some ambiguity in findings that may be a result of methodological differences in terms of defining participants, how peers are assessed and by whom, and how delinquency and problem behaviors are measured while the group intervention is in place? More research is needed to address the variance in how iatrogenic effects may impact the effectiveness of a group intervention. This is especially relevant since both prevention and intervention efforts for delinquent adolescents have produced only modest success both short and long term, regardless of treatment modality and setting. Further research that incorporates the recommendations and protective factors for group success, such as outlined by Dishion et al. (1999, 2001) and Handwerk et. al (2002) may serve to help ensure great efficacy with group interventions for high-risk adolescents.

### Current Research Efforts

This study focused on tertiary prevention efforts by targeting for intervention; high-risk adolescents with severe or chronic emotional and behavioral difficulties who were currently being treated in residential treatment facilities. The objective was to provide these adolescents with additional resources and skills to help them to both manage and prevent social, emotional, and behavioral difficulties. The goal at this level of intervention was to provide an additional intervention strategy that would support and enhance the current treatment plan that is targeting the social, emotional, and behavioral difficulties these adolescents have or is experiencing in their lives. The study utilized Strong Teens, a social emotional learning curriculum recently developed as part of the Oregon Resiliency Project (ORP) (Merrell, 2004). The primary goal was to use the curriculum as a medium to cultivate a culture of competence, knowledge, and motivation in handling difficult life situations. Consequently, the curriculum provides opportunities for the adolescents to be actively taught expectations, given opportunities to practice expectations, and then reinforced for displaying these expectations.

### The Strong Teens Curriculum

#### *Rationale*

Emotional resiliency is seen as the ability to recover or cope effectively in the face of difficulties that might otherwise lead to emotional problems such as depression, anxiety, social withdrawal, somatic symptoms, poor self-esteem, acting out, and so forth. Emotionally resilient individuals have better tools needed to cope with life stressors. They also are more likely to be socially and academically successful, and have less risk of developing mental illnesses and behavioral disorders, such as depression and antisocial

behavior. Resilient individuals typically have strong problem solving skills, healthy expectations, goal attaining skills, and a healthy level of positive activities. On the other hand, individuals who have not developed healthy emotional resilience often tend to have setbacks in life that may result in huge challenges where mental health problems may develop in response to these challenges.

There are many factors that lead to the development of emotional resiliency. One of the most important factors, and the one we have the most control over, is the way we think about our challenges, and the behaviors and activities we become engaged in as a response to these challenges. The Strong Teens curriculum was designed to promote emotional resiliency and social competence, and to prevent many of the problems that result from maladaptive ways of dealing with life's challenges (Merrell, 2004).

The Strong Teens curriculum was designed for the purpose of promoting emotional and social resiliency in high school aged adolescents (grades 9-12). The promotion of emotional resiliency and the various cognitive and behavioral strategies included in the curriculum may be key components in helping to prevent and reduce the severity of depression, anxiety, and related social and emotional problems. Strong Teens is both a prevention and early intervention program that may be used in a wide range of applications and with high functioning, typical, high-risk, or emotionally disturbed adolescents in a variety of settings.

### *Feasibility*

The curriculum was developed with time feasibility as a priority. Thus, the maximum duration of the curriculum is 12 weeks (if lessons are taught once a week), with the average duration of each lesson being approximately 45 to 50 minutes. Strong

Teens is a highly structured and partially scripted curriculum, designed to cover very specific objectives and goals. Each lesson follows a similar format. The lessons provide optional scripts to aide concept delivery, sample scenarios and examples to better illustrate a concept, and opportunities for guided and independent practice by the participants. Instructors can follow the scripts and examples provided as well as modify the individual lessons to accommodate specific participant needs. A psychologist, social worker, teacher, or other education/mental health professional may deliver Strong Teens in individual or group settings. The curriculum requires minimal time and resources and includes all the materials necessary for it to be implemented effectively, although additional materials and props may be used to supplement the lesson plans.

#### *Lesson Plans*

The Strong Teens curriculum is designed for use with adolescents of high school age, specifically grades 9-12 or approximately ages 14 through 18. The curriculum is also easily adapted for adolescents with a wide range of needs, and contains several suggestions for such amendments. For younger students (grades 4-8), the Strong Kids curriculum, a downward extension of the Strong Teens program, is appropriate. A social-cognitive approach to both emotional and behavioral change assumes that an adolescent will be able to conceptualize issues in both concrete and abstract terms. Cognitive behavioral techniques require problem solving through hypothetical issues and scenarios so that they can be applied and generalized to real-life situations.

The Strong Teens curriculum does not expose adolescents to real-life situations but instead the adolescents are asked to conceptualize an analogous situation and formulate an appropriate response. The lesson plans frequently use scenarios of possible

situations and the adolescents are then guided through a problem-solving process, which is made explicit through the lessons in the curriculum. Therefore, responses are not elicited through behavioral conditioning but rather through a form of cognitive conditioning that proposes a possible array of response choices that can be selected from according to the adolescents' analysis of the situation (Merrell, 2001). All 12 lesson plans follow a similar format which includes an introduction, definition of key concepts, integration of key concepts, modeling, positive and negative examples, application exercises and wrapping up. Refer to Appendix D for a lesson sample of Strong Teens (Lesson 4) with accompanying handouts, homework assignments, and overhead templates.

- *Lesson 1- Emotional Strength Training.* Adolescents are introduced to the Strong Teens curriculum and a general overview to the individual lessons is presented. A review of key concepts, a rationale for the curriculum, and behavioral and academic expectations are all then presented to the adolescents. The group leader also administers the Strong Teens pretest to assess the level of prior knowledge on the topics of the curriculum.
- *Lesson 2 and Lesson 3- Understanding Your Feelings.* Adolescents are taught the vocabulary and skills necessary to deal effectively with their emotions and emotional events. This is followed by a discussion about comfortable and uncomfortable feelings, where the adolescents also learn to identify and label these feelings, and ways to react and express these feelings in a positive manner.

- *Lesson 4- Dealing with Anger.* Adolescents learn to recognize that anger is a normal emotion with an important adaptive function given one's situation and that it is different from aggressive behavior, which is often inappropriate. The lesson then teaches adolescents to understand and manage their anger through a six-step Anger Model while allowing them to recognize that each individual plays an active role in their own anger process.
- *Lesson 5- Understanding Other People's Feelings.* Adolescents are introduced to the concept and practice of empathy training. They are further trained to discern the true feelings of others and given the opportunity to practice "seeing the world through another person's eyes" and also on how each individual may perceive the same situation differently.
- *Lesson 6 and Lesson 7- Clear Thinking.* Adolescents are taught how to recognize positive and negative thought patterns and how they contribute to our moods, choices, and actions in positive and negative ways. The adolescents are then use techniques for applying strategies to dispel negative thoughts as they occur in common situations.
- *Lesson 8- The Power of Positive Thinking.* Adolescents are provided with strategies to offset negative thought patterns that may surface from any given daily interactions. The focus is on identifying and challenging overly pessimistic thoughts and feeling. The adolescents are taught how to

evaluate their environment and apply adaptive attributions to situations within that environment.

- *Lesson 9- Solving People Problems.* Adolescents are instructed on how to be aware of useful strategies for resolving conflict between and among peers. This lesson explains the use of a problem-solving model to manage and learn from day to day conflicts with peers.
- *Lesson 10-Letting Go of Stress.* Adolescents learn appropriate techniques for managing stress through the use of mental and physical relaxation training. Adolescents are taught how to identify life stressors and how they affect mental and physical states. There is an opportunity to practice relaxing the mind and the body, as well as to brainstorm ways to also cope with stress.
- *Lesson 11- Behavior Change.* Adolescents are taught several steps that help set and attain goals, as well as identify important values in the different domains of life. This lesson helps adolescents use short-term planning to facilitate setting realistic and attainable goals that help bring back autonomy and individual control of one's own life. Adolescents therefore learn to self-manage their lives.
- *Lesson 12- Finishing UP!* Adolescents are encouraged to celebrate the accomplishments they have made through involvement in the Strong Teens curriculum and are provided with an opportunity to review key concepts, prepare for the transition out of the curriculum, and are then administered the posttest.

*Empirical support for Strong Teens*

Each lesson plan was carefully chosen based on related empirical findings and recommendations. The Strong Teens curriculum is therefore based on an understanding that adolescents can be taught the social and emotional skills that are associated with building resiliency. These skills can be then measured and captured through observation and questionnaires.

The curriculum's main objective is the teaching and practicing of prosocial skills and understanding in problem solving, anger management, empathy, and positive thinking which is focused on encouraging adolescents to be successful in challenging situations. Schools and treatment centers have both found that social problem solving programs as well as anger management programs can be effective in reducing the frequency and severity of adolescent aggression and bullying behavior (Colvin, Tobin, Beard, Hagan, & Sprague, 1998; Sprague & Walker, 2000). Kellner, Colletti & Bry (2003) found a decrease in reported fighting and subsequent increases in the use of anger logs and "talking things out" when a 10 session anger management program was implemented with middle school aged children diagnoses having emotional and behavioral disorders. Additional support for the efficacy of lesson-based activities was found by Robinson, Smith, and Miller (2002). When a 10-lesson cognitive-behavioral intervention was used to teach problem solving skills to middle school students (ages 11-15) with emotional or behavioral disorders, results indicated an improvement in social skills and a reduction in problem behaviors. Kazdin (1995) has reported evidence in the efficacy of early intervention and treatment programs, which teach anger management,

problem solving, cognitive restructuring, and internal dialogue training to children with conduct disorders.

Behavioral and cognitive skills training can significantly reduce symptoms of depression in children and adolescents. Behavior and cognitive intervention and prevention methods often include activity based programs, social skills training (which include social problem solving), attribution retraining, and skills training to combat cognitive distortions (Kaslow, Morris, & Rehm, 1998; Merrell & Gimpel, 1998; Stark, Brookman, & Frazier, 1990). One such study that has used a proactive approach and skills building activities to treat depression was conducted by Quale et al. (2001) who found that preadolescent girls in their short-term Optimism and Life skills training program reported fewer depressive symptoms and more positive self-worth than controls. In addition, studies on suicide prevention have shown that “competence enhancement curricula” can be an effective agent to reduce the prevalence and incidence of suicide (Sandoval & Brock, 1996). These curricula teach interpersonal problem solving, coping skills, and stress-reduction procedures, components that are included in the Strong Teens curriculum.

The Strong Teens curriculum also includes lesson plan that are related to effective buffering agents against anxiety-related disorders. For example, several lesson plans incorporate the teaching of specific strategies such as relaxation training (Merrell, 2001; Morris & Kratochwill, 1998), social problem solving (as a component of social skills training), and self-control training (by monitoring self-statements and maladaptive cognitions) to help reduce the symptoms or occurrence of anxiety related symptoms.

As discussed, the Strong Teens curriculum targets a broad range of skills related or linked to overall resiliency. Consequently, Strong Teens covers and integrates a wide range of topics that include but are not limited to conflict resolution, behavior change, empathy training, emotional education, and anger management. The topics selected for the curriculum are based on numerous research studies that have identified these topics as key components for emotional and behavioral resiliency (e.g. Berliner & Benard, 1999, 1995; Kahn et al., 1990; Kauffman, 2001; Langland, Lewis-Palmer, Sugai, 1998; Merrell, 2001; Walker & Bullis, 1995). Table 1 includes a synthesis of this discussion on recommended treatment or skills training for specific internalizing and externalizing problems and how the Strong Teens lesson plans relates to the mentioned treatments/skills.

Table 1. Strong Teens curriculum: Lesson description and rationale.

Lesson Name	Skills Focus	Prevention Focus
Understanding Your Feelings	Emotional education (Learning to identify emotions and understand how they feel)	Anxiety, depression, and antisocial behaviors
Understanding Other's Feelings	Empathy training (Learning to understand and tolerate another's perspective)	Antisocial behaviors, anxiety, and social withdrawal
Dealing With Anger	Anger management (Learning to avoid reacting to anger in an impulsive and irrational manner)	Conduct disorder and other antisocial behaviors such as aggression and peer victimization)
Solving People Problems	Appropriate conflict resolution or social problem solving	Conduct disorder, bullying, anxiety, depression, and social withdrawal
The Power of Positive Thinking	Learned optimism (learning to identify and challenge overly pessimistic thoughts)	Anxiety, depression, some antisocial behaviors, and social withdrawal
Letting Go of Stress	Relaxation training (Muscular and cognitive relaxation)	Anxiety, aggression, and depression
Clear Thinking	Recognizing maladaptive or thought patterns and how they affect emotions and behaviors	Anxiety, depression, social withdrawal, and some antisocial behaviors
Behavior Change	Learning to set and attain goals and increase positive activities	Anxiety, depression, some antisocial behaviors

*Treatment acceptability and implications for using Strong Teens*

The Strong Teens curriculum was developed and designed to be both a prevention and early intervention program. The curriculum has a wide range of applications and may

be used effectively with typical, high-risk, or emotionally disturbed adolescents. A variety of settings including schools, community agencies, and clinical treatment centers may find the curriculum readily adaptable to their program. It should be noted that intense or severe emotional and behavioral disorders require long term and comprehensive treatment plans and therefore the Strong Teens is not intended to be a stand-alone intervention for these disorders. Instead, it may be one part of an effective system of intervention for at risk adolescents. This recommendation is consistent with the findings of Todd, Horner, Sugai, and Colvin (1999) who suggested that no single technique or procedure could be expected to be effective with high-risk adolescents. Instead, these adolescents need additional resources, individualized systems of support, as well as a team-based approach of service delivery.

#### Summary

With continued research and development, Strong Teens may prove to be an effective component of many intense and closely monitored treatment programs that target high-risk adolescents with emotional and behavioral disorders. The purpose of this study was to be one of several initial research efforts to determine if the Strong Teens curriculum can make a meaningful impact in building social, emotional and behavioral strengths in adolescents to serve as protective factors when confronted with otherwise challenging or difficult life circumstances. If successful, the study may suggest that a social-emotional curriculum will encourage adolescents to think more positively about themselves, others, and their situations, activating a level of conscience and confidence not demonstrated by previous curricula or interventions.

## CHAPTER III

### METHODS

Research methods for this study are described in this chapter and include the following sections: (a) Participants and Settings, (b) Experimental Design, (c) Data Analysis, (d) Independent Variable, (e) Dependent Variables, and (f) Procedures.

#### Participants and Settings

Selected adolescents were initially screened during intake into a residential treatment center in order to determine if they had sufficient cognitive skills appropriate for the application of this curriculum and only participated in the study once they had received an individualized intervention plan from the Center. Parental/Legal Guardian consent was obtained either directly from the parent or guardian for the adolescent as assigned by the State. The treatment center gave written permission to conduct the study, and staff members who participated in the study also gave consent. Refer to Appendix B, C, and D for a sample of the Adolescent Consent Form, Parent/Legal Guardian Form, and Instructor Consent Form, respectively.

The sample for this study consisted of 36 male adolescents between the ages of 12 to 17 from a residential treatment center in the State of Kansas. These adolescents (herein referred to as participants) represented differing socioeconomic status levels, race/ethnic backgrounds, educational classifications, and skill levels (refer to results section for specific demographic variables about the participants). The participants selected were of various developmental levels with a range of social, emotional, and behavioral problems,

including but not limited to court referred juvenile offenders, reactive attachment disorders, mood disorders, conduct disorders, and/or sexually abused victims or convicted sexual abusers. All participants in the study were referred to a mandated 24-hour residential care program with supervision, on-site education in self-contained classrooms, and intense multiple intervention plans at the Center.

The Center that participated in this study was a Level 6, 26-bed capacity Psychiatric Residential Treatment Center that offers long term care for adolescents dealing with various social, emotional, and behavioral problems. In Kansas State, Level 6 centers are considered a secured long-term rehabilitation facility for high-risk adolescents with chronic and severe social, emotional, and behavioral problems. All the adolescents at the Center have been removed from their natural homes to attend this treatment center. Refer to Appendix A for a description of the St. Francis program. Recently admitted adolescents into the Center were randomly selected and placed into either the control or treatment groups. The participants in the treatment group received the implementation of the Strong Teens curriculum along with their already prescribed treatment plans; the participants in the control group received only their prescribed treatment plans.

While the treatment group received the Strong Teens curriculum, the control group generally had free time. Free time for the control participants consisted of either restricted or nonrestricted activities, based on a point system for good behavior. Participants who were restricted (based on not earning sufficient points for appropriate behavior during the day) were only allowed physical activity. This restricted time meant that they were allowed to be in the gym or weight room but not allowed to watch TV or play video games. Participants who were not restricted (based on having earned sufficient

points for appropriate behavior during the day) were allowed to choose between electronic entertainment and physical activities.

Given the nature of the residential setting, all adolescents were “mainstreamed”, where both the treatment and control group participants were integrated with other adolescents at the Center during the day and night. Therefore, participants from each group could have frequent contact with each other and other adolescents at all times except for during the Strong Teens lessons or during other structured activities. Participants in the control group only knew that the participants in the treatment group had a group activity but they did not perceive this activity as a special or privileged group. In fact, employees at the Center reported that the participants in the control group saw the Strong Teens lessons as taking away from some of the allocated free time and were therefore not interested in participating in the treatment group. However, the participants in the treatment group when surveyed by the same employees, reported that they did not mind participating in the group because it was interactive, had activity based lessons, and snacks and drinks were provided by the staff. The snacks and drinks were used to encourage appropriate participation and reduce resistance, where participants were given “treats” (usually home-baked rather than store bought) with either water or juice. The food was given after instruction and only allowed to be eaten while completing the homework assignment from the lessons. Further, no food was allowed to be taken out of the classroom where the Strong Teens was instructed.

### Experimental Design

This study used a between subjects pretest/posttest experimental design. It was classified as experimental because it used both a control group and a treatment group

where participants in each group were randomly selected from one existing group (i.e. intake adolescents from the treatment center). In addition, each participant selected from this pre-existing group had already met the same admissions criteria to be admitted into the treatment center for psychosocial and academic services. Because participants in the study resided and participated in treatment activities at the same center, there was conceivably some contamination across the treatment and control groups. This was considered a logistical confound given that the study was being implemented at a treatment center. Although this situation could have created a limitation in the study, all efforts were made to ensure that the only difference between the two groups was participation in the Strong Teens curriculum. There were no reported or documented conflicts from either staff members or adolescents that were associated with participants between the control and treatment groups.

The study compared the group means and variance of the treatment and control groups at posttest data. Differences within the treatment and control groups at pretest and posttest were also assessed. The independent variable was qualitative or categorical, and had two levels based on the group; the presence of curriculum implementation for the treatment group and the absence of curriculum implementation for the control group. The dependent variables were all quantitative, and consisted of posttest scores for each of the measures (i.e. self-report rating scales, Strong Teens Tests, and other rater scales). Table 2 demonstrates the theoretical experimental model of the design as a visual description.

Table 2. Visual description of the design.

Groups	Pretest Measures	Strong Teens Curriculum	Posttest Measures
Pretest Experimental	O <sub>1</sub>	X	O <sub>2</sub>
Pretest Control	O <sub>3</sub>		O <sub>4</sub>

*Note.* O<sub>2</sub> and O<sub>4</sub> represent the quantitative dependent variables, O<sub>1</sub> and O<sub>3</sub> are the quantitative dependent variables, and X or (not X) is the qualitative independent variables.

### Data Analysis

All data collected (i.e. the Strong Teens tests, self-report rating scores, and other rater scores) were first analyzed at pretest and posttest for changes in variability, trend, immediacy of effect, and similarity of effects in similar conditions (Parsonson & Baer, 1978). This visual analysis allowed for every aspect of the data to be examined to determine sources of variability, rather than just overall effects. The second step was to review and describe the demographic profiles of participants in both the treatment and control groups. The demographic variables were also analyzed to determine if they had any significant effects on the pretests within both the treatment and control groups. The third step was to collapse the 3 cohorts from the 3 different time periods that consisted of both the treatment and control groups. Both the collapsed or combined treatment and control groups were then compared to determine if there were any significant differences at pretest. The fourth step was to measure effect sizes using Cohen's d calculations with group means and pooled standard deviations (Cohen 1988). Effect sizes were examined within pretest and posttest for both treatment and control groups and between posttests for treatment and control groups. The fifth step in the analysis was to apply a two by two analysis of variance (ANOVA), with an alpha level of .05. With this analysis, time functioned as the first factor in a two-way format for pre and posttest data. Group

functioned as the second factor in a two-way format for the control and experimental groups. The interaction effect would determine if there were any statistically significant differences within pretest and posttest assessments for each group and if there were any differences between the experimental and control groups, also at posttest assessments. The pretest scores of the Strong Teens questionnaire, self-report scores, and other rater scores would act as the covariate (quantitative variable). SPSS (version13) was used to conduct the statistical analysis. Refer to Table 3 for a graphic representation of the analysis.

Table 3. Graphic representation of the analysis.

Groups	Type of Group	Comparison
Group 1	Treatment Group	Posttest data from Group 1 and Group 2
Group2	Control Group	

#### Independent Variable

Refer to Appendix D for a sample of a lesson plan from the Strong Teens curriculum.

#### *The Strong Teens Curriculum*

Each lesson plan for the curriculum was highly structured but could be adapted to fit the needs of the target adolescents and the group instructor. Each lesson plan was clearly outlined with optional scripts and activities included. The examples and non-examples provided for each lesson could be modified to specifically fit the experiences and developmental level of the adolescent audience being served. As a detailed description of the Strong Teens curriculum was discussed previously in chapter 2, refer to

this discussion for a review of individual lesson plans, suggested procedures for their application, and to Appendix E for a sample of a lesson plan.

Except for the introductory lesson (Lesson 1), each lesson plan included a review of previous concepts and homework given, an introduction to the new idea of that lesson, definition of key concepts, integration of key concepts, modeling of prosocial behaviors, positive and negative examples, in-class practice or applications, wrap-ups and homework/assessment. Each lesson plan came with templates for group instructor overheads, student handouts, and homework assignments. Additional materials needed were access to a copy machine, overhead projector, and chalk board/dry erase board.

#### Dependent Variables

Refer to Appendix G through I for samples of 4 (i.e. the 2 Strong Teens tests, SSBS-2, and HCSBS) of the 6 instruments that were used in data collection for both the treatment and control groups. Permission to photocopy the 2 other instruments (the Children's Depression Inventory and Achenbach Youth Self Report) was not obtained from the publishers and copyright holders, so these instruments do not appear in the appendices. The following 6 instruments were used: the Strong Teens Content Test, the Strong Teens Symptoms Test, the Children's Depression Inventory (CDI), the Youth Self-Report Form (YSR), the School Social Behavior Scales (SSBS-2), and the Home and Community Social Behavior Scales (HCSBS). The 6 instruments were further analyzed via the YSR subscales (3 total scales), the SSBS-2 subscales (2 total scales), and the HCSBS subscales (2 total scales). Thus, a total of 10 comparisons were made in this study. Refer to Table 4 for a summary of the relationship between the research questions and dependent and independent variables for pretest and posttest. Refer to table 5 for a

description of all 10 measures (i.e. dependent variables) and a predicted outcome for the treatment group at posttest.

Participants were asked to complete the Strong Teens Knowledge Test, the Strong Teens Symptoms Test, and two self-report rating scales. The instructor of the Strong Teens curriculum was asked to complete a questionnaire on each participant from both the treatment and control groups. The instructor was asked to complete the same questionnaire for both groups because this person was a therapist who had regular social and therapeutic contact with both group participants daily throughout the study. The parent or legal/custodial guardian was also asked to complete one questionnaire about their child/custodial from either the treatment or control groups.

#### *Strong Teens pretest and posttest*

The pretest and posttest consists of two individual tests. Both tests are used together to determine how well the curriculum “works” in improving adolescents’ emotional resiliency and increasing their knowledge regarding the concepts that are taught in the lessons. The first test is called *The Strong Teens Knowledge Test* and was constructed to measure each adolescent’s level of knowledge regarding the concepts that are taught in the Strong Teens curriculum. The pretest/posttest measures this level of knowledge just prior to the implementation of the curriculum and soon after the completion of the curriculum, respectively. The assessment instrument contains at least 3 items that are directly linked to each lesson concept. The 20-item test takes approximately 15 minutes to complete during group administration. Part 1 of the test is formatted as 6 “True/False” statements. Some examples of statements include: “It is normal to feel stressed out once in a while” and “Anger is a natural emotional reaction”.

Part 2 consists of 14 multiple-choice questions and some examples include: 1) *Anger is a natural emotional reaction*; 2) *Thinking errors occur when- You see things differently than what really happened or what might happen*; 3) *An example of an emotion that is uncomfortable for most people is - frustrated*. The knowledge test is an experimental measure. According to the author, previous studies have shown it to be sensitive to treatment gains, and internal consistency reliability with small samples has ranged from .60 to .69.

The second test is called *Strong Teens Symptoms Test*. This questionnaire takes approximately 10 minutes to complete by adolescents and also consists of 10 items. Adolescents respond to questions that examine how adolescents might sometimes feel and things they might sometimes do. Adolescents respond to questions like, “I argue with other people”, “I feel depressed or sad”, and “I feel sick to my stomach”. Adolescents rate each questions based on a number value ranging from 0 to 3 where “0” indicates “Never True”, “1” indicates “Hardly Ever True”, “2” indicates “Sometimes True”, and “3” indicates “Often True”. Refer to Appendix B for a copy of the Strong Teens Pretest and Posttest assessment instrument. According to the author, this experimental measure has shown sensitivity to treatment effects in several pilot studies, and internal consistency reliability for this brief scale with small samples has ranged from .72 to .82.

#### *Children Depression Inventory- Short Form (CDI-S)*

The CDI-S is a 10-item self-rated symptom oriented scale that may be used for school-aged children and adolescents (7 to 17 years). The instrument quantifies a range of depressive symptoms (i.e. negative mood, ineffectiveness, anhedonia, and negative self-esteem) but contains no specific subscales because of the brevity of the form. The CDI-S

is best used as part of a comprehensive screening device in a number of settings (e.g. residential treatment centers, schools, and clinics). Each CDI-S consists of three choices, keyed as 0, 1, 2, with higher scores indicating an increasing severity of depressive symptoms. Sample items include: “I feel like crying everyday”, “I have plenty of friends”, and “I hate myself”. Total scores can range from 0 to 20 and are converted to t-scores on a profile form for comparison on a scale with children of the same age and gender of a normative sample. The CDI-S can be completed in 10 minutes or less.

The CDI was normed on 1,266 students in Florida between the ages of 7 and 16 years. Internal consistency for the CDI is good with the reliability coefficients range from .71 to .89. Overall, the CDI appears to have an acceptable level of test-retest reliability with a range from .82 for normal youths within a time interval of two weeks to .59 for psychiatric inpatients within a time interval of 6 weeks. The CDI also appears to have good discriminant validity when used as part of a multi-instrument battery to identify children with depression from other clinically diagnosed disorders. Finally, the concurrent validity of CDI as a measure for depression has been well documented to other similar measures of depressive symptoms and social adjustment. For example, when the CDI was compared to the Coopersmith Inventory, the coefficients were  $r = .72$  for girls and  $r = .67$  for boys. The CDI has also been found to have strong correlations with measures of related constructs such as anxiety and self-esteem. When compared to the full CDI, the CDI-S correlates with an  $r = .89$  for internal consistency in the normative sample and an alpha reliability coefficient equal to .80. These analyses indicate that the CDI-Student responds- approximates the overall content of the full CDI at an

acceptable level and is a good measure to identify depressive states in children (Kovacs, 2003).

### *Youth Self-Report Form (YSR)*

The YSR, part of Achenbach's System of Empirically Based Assessment (ASEBA), is normed for ages 11-18. The measure is completed by youths to describe their own functioning based on a broad spectrum of competencies, adaptive functioning, and problems. The YSR also obtains 11 individualized descriptions, plus open-ended reports of the best things and greatest concerns about youth who are assessed, such as favorite hobbies, jobs or chores, performance in academic subjects, and problems in school. Youths are then asked to describe their behaviors, feelings, and thoughts now and within the past 6 months. Each of the 112 items consists of three choices, keyed as 0, 1, 2, with "0= Not True", "1= Somewhat or Sometimes True"; and "3= Very True or Often True". Sample items include: "I act too young for my age", "I feel lonely", "I bite my fingernails", and "I get into many fights". The YSR takes approximately 20 minutes to complete (Achenbach & Rescorla, 2001).

There are three primary scales that are then broken down into several subscales. The YSR competency scale is based on two scales: the activities and social scales. A total competency scale is computed by summing the raw scores of the competency scales. Norms for the scales are displayed as percentiles and normalized T scores based on a national sample of 1, 057 youths across gender and age ranges. The syndrome scales are based on eight syndromes including but not limited to Anxious/Depressed, Thought Problems, Attention Problems, and Aggressive Behavior. It is based on a diverse range of

youths (i.e. SES, 40 States, gender, and ethnicity) and includes 2, 551 respondents. The problem scale is based on a sum of three internalizing and two externalizing syndromes.

The test-retest reliability for the YSR indicates very high test-retest reliability (the means were .88 for the competency scales and .82 for the problem scales). Concurrent validity for the YSR when compared to the Behavioral Assessment Scale for Children ranged from .38 to .89 with the highest correlations being for broader-band internalizing, externalizing and total problem scales (.74 to .89). Finally, based on over 4000 publications associated with the ASEBA, there is compelling support for construct validity based on analogous scales of other instruments and DSM criteria for diagnosis, cross-cultural replications of the syndromes in the measure, genetic and biochemical findings, and by predictions of long term outcomes.

#### *School Social Behavior Scales (SSBS-2)*

The SSBS-2 is a behavior rating scale designed for use in evaluating social competence and antisocial behavior of children and youth ages 5-18 (Merrell, 2002). The SSBS-2 is typically completed by teachers and other school-based raters, such as counselors and administrators and usually takes 8-10 minutes to complete. This instrument includes 64 items in two major scales: Social competence (scale A) and Antisocial Behavior (Scale B), each consisting of 32 items. A calculated raw score is created for the SSBS-2 which is obtained from both scales using a five-point scale on which the anchor points range from 1= Never to 5= Frequently.

The Social Competence Scale includes items that describe positive social skills and traits that are characteristic of well-adjusted and socially skilled students. This scale is divided into three empirically-derived subscales: 1) The *Peer Relations* consists of 14

items that measure social skills or characteristics that are important in establishing positive relationships with and gaining social acceptance from peers. A sample item is “Invites other students to participate in activities”. 2) The *Self-Management/Compliance* consists of 10 items that measure social skills related to self-restraint, cooperation, and compliance with the demands of school rules and expectations. A sample item is “Responds appropriately when corrected by teachers”. 3) The *Academic Behavior* consists of 8 items that relate to competent performance and engagement on academic tasks. A sample item is “Completes school assignments on time”. The Antisocial Behavior scale includes items, which describe various socially related problem behaviors that may impede socialization, be destructive or harmful to others, and produce negative social outcomes. The problem behavioral characteristics reflected by items include a combination of overt and covert antisocial behaviors. A sample item for overt antisocial behaviors is “Threatens other students”. A sample item for covert antisocial behavior is “Destroys or damages school property”.

The SSBS-2 was standardized in the United States and contains a norming sample of 2,280 cases of teacher ratings of students from k-12 educational settings. Overall, the psychometric properties of this rating scale are good. Test-retest reliability measures taken by the same rater on the same student in a 3-week retest ranged from .60 to .83 (Shuster, 1996). Interrater reliability is moderate to moderately high, ranging from .53 to .86 (Merrell, 2003). Additionally, studies have shown the SSBS-2 to be very strong and positive in direction for convergent validity among similar measures of social competence and antisocial behavior scores and to have modest to strong discriminant validity among internalizing and externalizing symptoms (Merrell & Gimpel, 1998).

*Home and Community Social Behavior Scales (HCSBS)*

The HCSBS is a behavior rating scale designed for use in evaluating social competence and antisocial behavior in children and youth ages 5-18 (Merrell & Caldarella, 2002). The instrument was developed to be used by parents and other home-based raters, such as grandparents and guardians and usually takes 8-10 minutes to complete. The HCSBS is a companion instrument to the SSBS-2 and when used together allows the administrator the opportunity to identify behaviors using a multi-method, multi-source and multi-assessment approach. The HCSBS and the SSBS-2 are conceptually similar, contain similar numbers of items, and include similar item content and rating forms. Sample items for the Social Competence Scale include “Cooperates with others”; “Shows self-restraint”, and for the Antisocial Behavior Scale include “Has temper outbursts or tantrums”; “Takes things that are not his/hers”.

The HCSBS was standardized in the United States and contains a norming sample of 1,562 cases that are representative of the general population in terms of race/ethnicity, SES, gender and general/special education classification status. The internal reliability of the HCSBS is uniformly strong for making important individual decisions. The test-retest reliability measures taken within a 2-week interval are .84 for the Social Competence Scale and .91 for the Antisocial Behavior Scale. The interrater reliability of HCSBS scores across parent raters within the same setting is strong, and enhances the confidence of using this measure with multiple raters. Several studies have shown substantial evidence for the validity of the HCSBS as a measure of social competence and antisocial behavior (Merrell & Gimpel, 1998).

Table 4. Measurement overview. Relationship between research questions and dependent and independent variables for pretest and posttest.

Research Question	Dependent Variable	Independent Variable	Design
1) What is the impact of participation in the <i>Strong Teens</i> curriculum for participants' knowledge in areas associated with social-emotional resiliency, such as anger management, conflict resolution, emotional education, etc.?	The <i>Strong Teens</i> Curriculum Knowledge Test	Presence or absence of <i>Strong Teens</i> Curriculum	Pre and Post Tests for experimental and control groups
2) What is the impact of participation in the <i>Strong Teens</i> curriculum for participants self reports and observer reports of positive social and emotional skills and affect?	Child Depression Inventory, Youth Self Report, School Social Behavior Scales, Home and Community Social Behavior Scales, <i>Strong Teens</i> Symptoms Test	Presence or absence of <i>Strong Teens</i> Curriculum	Pre and Post Tests for experimental and control groups
3) What is the impact of participation in the <i>Strong Teens</i> curriculum for participants' self-reports and observer reports of negative emotions, cognitions, and maladaptive behaviors?	Child Depression Inventory, Youth Self Report, School Social Behavior Scales, Home and Community Social Behavior Scales, <i>Strong Teens</i> Symptoms Test	Presence or absence of <i>Strong Teens</i> Curriculum	Pre and Post Tests for experimental and control groups
4) What is the impact of iatrogenic effects from participating in groups with other high-risk adolescents?	Student and Instructor Survey	Presence or absence of <i>Strong Teens</i> Curriculum	Pre and Post Tests for experimental and control groups
5) What is the perceived social validity and consumer satisfaction of the <i>Strong Teens</i> Curriculum by the instructors and participants in the study?	Instructor and Participant Feedback Forms	Presence or absence of <i>Strong Teens</i> Curriculum	Pre and Post Tests for experimental and control groups

Table 5. Description of the measures and anticipated outcome for treatment group.

Measure	Range of Raw Scores	Clinical Significance of Scores	Anticipated Outcome
CDI	0 – 20	Higher scores= Greater clinical concern	<i>LOWER</i>
YSR Internalizing	0 - 62	Higher scores= Greater clinical concern	<i>LOWER</i>
YSR Externalizing	0 - 64	Higher scores= Greater clinical concern	<i>LOWER</i>
YSR Total Score	0 - 240	Higher scores= Greater clinical concern	<i>LOWER</i>
SSBS Scale A	32 - 160	Higher scores = Greater social adjustment	<i>HIGHER</i>
SSBS Scale B	32 - 160	Higher scores= Greater levels of social-behavioral problems	<i>LOWER</i>
HCSBS Scale A	32 - 160	Higher score= Greater levels of social-adjustment	<i>HIGHER</i>
HCSBS Scale B	32 - 160	Higher scores= Greater levels of social-behavioral problems	<i>LOWER</i>
Symptom Test	0 - 30	Higher scores= Greater emotional stress	<i>LOWER</i>
Knowledge Test	0 - 20	Higher scores= Greater knowledge of curriculum	<i>HIGHER</i>

*Student and Instructor Survey Forms*

This form was created in order to help determine the types of peer group dynamics and influences that may be associated with iatrogenic effects during a group intervention, such as with Strong Teens. The form is a modification of the Social Networking-Light Assessment (LSNET), which asks respondents about their general feelings about their friendship group, to list their five most important friends, and answer 10 items about each friend (Andrews, Dishion, & Harrington, 1992). The instrument was designed to assess the child's social network by asking such questions as (1) how many kids they usually spend time with?, (2) how often they feel there is not a group for them to spend time with?, and (3) whether they would like more or fewer friends? Respondents are then asked to list their five most important friends. Questions are asked about each friend concerning the favored activities with that friend, supportiveness, getting into trouble with the friend, age of the friend, ethnicity, gang connections and geographical proximity. The instrument provides quantitative indices of the size, deviance density and characteristics of boys' and girls' networks. The LSNET has been used in previous studies to help identify the possibility of iatrogenic effects with group interventions (e.g. Dishion, McCord, & Burraston, 2001).

Participants in both the treatment and control groups were asked to complete the student survey form twice, once in the beginning and once at the end of the study. The Student Survey Form asked participants from both the treatment and control groups 3 questions that related to rank ordering 3 other adolescents at the Center who they liked most, who they talked to most, and who was part of their group. Refer to Appendix K for a copy of the Student Survey Form. Participants were asked these questions in order to

identify the peers who would probably have the most influence and contact with them during the duration of their stay at the Center.

The curriculum instructor or a therapist was asked to complete an instructor version of the survey form twice, one at the beginning and one at the end of the study. The same instructor or therapist at the Center was responsible for completing the instructor survey at both pretest and posttest. The instructor survey asked 4 specific questions about each participant from both groups, and his 3 identified peers. The 4 questions focused on identifying previous infractions at the Center, compliance with therapy and classes, engaging in suspicious activities (e.g. bullying, abuse, drugs, etc), and hanging around troublemakers at the Center. Refer to Appendix K for a sample of this survey form.

#### *Participant Feedback Form*

The evaluation questionnaire consisted of 10 close-ended statements that measured the participants of the treatment group perceptions on the value of the materials presented in Strong Teens. Using a 4-point likert scale, participants could respond by marking “Strongly Agree, Agree, Disagree, and Strongly Disagree” from sample statements such as “I understood the lessons presented”, “The skills taught will be useful to me”, and “ I participated in most activities and discussions”. The questionnaire also included three open-ended questions that asked participants to report about what they liked best and least about Strong Teens, as well a section for additional suggestions or comments. The questionnaire took approximately 10 minutes to complete. Refer to Appendix L for a sample of this Participant Feedback Form.

### *Instructor Feedback Form*

The instructors for Strong Teens were asked to complete an open-ended questionnaire at the end of the study that asked them to describe their professional opinions and experiences with the Strong Teens curriculum. In addition, instructors were encouraged to write any additional comments on the final blank page of the feedback form. This evaluation form was called the Instructor Feedback Form. Refer to Appendix M for a sample of this Instructor Feedback Form.

### Procedure

#### *Data Collection*

Adolescents selected and consenting to participate in the study were assessed on several measures prior to implementation of the *Strong Teens* curriculum. First, participating adolescents were screened and assessed by their therapist and residential care supervisor (court assigned guardian) using 2 teacher/parent behavior rating scales (i.e. SSBS-2 and HCSBS). The instructor also completed an instructor survey about the relationship of each of the participant's friends. Additionally, the instructor was given the opportunity to complete an acceptability/satisfaction survey on the curriculum upon the completion of the curriculum. The teacher rating scale, survey, and Feedback form took approximately 30 minutes to complete. These measures were completed twice during the duration of the study, once during the week before and once during the week after the implementation of the curriculum.

Measures administered to each participant were counterbalanced so that the order in which each participant completed each measure differed at pretest and posttest. The participants in the treatment and control groups completed the assessments separately by

being placed into two different rooms. Both groups completed both the pretest and posttest at the same time. The participants were asked to complete the Strong Teens pretest and posttest Knowledge Test and Symptoms Test. The participants also completed the CDI-S and the CBCL- YSR. These 4 instruments took approximately 1 hour to 1 1/2 hours to complete. These measures were completed twice during the duration of the study, once during the week before and once during the week after the implementation of the curriculum. In addition, upon completion of the curriculum, the adolescents were provided an opportunity to evaluate the curriculum by completing a 5-minute acceptability/satisfaction survey (Self-Evaluation Questionnaire).

#### *Curriculum Leaders*

Two masters' level therapists who were staff members at the treatment center implemented the Strong Teens curriculum individually. These staff members, along with other members of the staff at the center, received a two-day training seminar by the investigator of this study prior to implementation of the curriculum. The purpose of this training was to instruct the staff on how to administer and implement the Strong Teens curriculum. The training also discussed the study and how it would be conducted at the Center. The two curriculum leaders were encouraged to qualitatively evaluate both the program weekly and participants' performance, by making notes of adolescent cooperativeness, level of interest and engagement, differences in adolescent to adolescent interactions and adolescent to instructor interactions, and any events that may be related to the presentation of the curriculum.

### *Treatment Integrity*

Several steps were taken to monitor procedural integrity. Procedural integrity (or fidelity of implementation) refers to the extent to which experimental procedures were implemented as intended, or implemented as written. During the implementation of the curriculum, the director at the treatment center conducted periodic fidelity checks to monitor the integrity of implementation for the curriculum. This was done by weekly progress reports on lessons implemented and reviews of upcoming lessons presented to the director by the instructors. The director also observed several classroom sessions where lessons were instructed to the participants. The investigator also provided a weekly phone call to support and facilitate the instructors during the implementation of the curriculum. The implementation of Strong Teens lasted for six weeks, where all 10 lessons were administered to the treatment group. Half of the first week was used for pretest data collection and half of the sixth week was used for posttest data collection. The other five weeks were used for the implementation of the Strong Teens curriculum, where the treatment group was instructed twice a week, an hour each on two separate lesson plans. To ensure the completion of homework assignments, all homework was completed after instructional sessions. To ensure that the instructional materials that were provided to the participants were not lost or shared with the control group participants, folders were provided to each participant in the treatment group. The participants were not allowed to take them from group.

### *Participant Monitoring*

Some of the questionnaires used in the study required the participants to reflect on their own feelings and behaviors, as well as their life experiences, which had the potential

to cause mild distress. The participants were assured confidentiality and responses were coded to protect their privacy. A counselor was accessible to the participants if they choose to discuss any issues or emotions that they may have felt if they needed assistance. To minimize risks, the participants were observed and instructed in-group settings only to minimize the potential for feeling singled out. All participant responses were coded and thus individual participant confidentiality was maintained to prevent any participant's emotions and behaviors being identified or singled out by peers or instructors. Only the investigator and the director of the Saint Francis Academy had access to the coding key.

## CHAPTER IV

### RESULTS

The purpose of this study was to measure the effects of the Strong Teens curriculum on a group of adolescents who were considered to be a high-risk clinical population and in the process of receiving treatment at a residential center.

First, all participants raw scores were visually screened for outliers or missing data points in order to determine if any specific participant's data set was spoiled or invalid at either or both pretest and posttest. Second, results identifying the demographic profiles of participants in both the treatment and control groups were conducted in order to obtain a description of the sample. Additionally, an analysis was conducted to determine if any of the identified demographic variables resulted in creating significant differences between the treatment and control groups at pretest. Third, there were three cohorts (based on time of entry into the program) for both the treatment and control group participants. An analysis was conducted to determine if the 3 cohorts from each group could be collapsed as one treatment and one control group. The treatment and control group means were then compared to determine if there were any significant differences between the measures at pretest. Fourth, a nonparametric test was used to compare the means within both the treatment and control groups to determine if there were any significant differences between the pretest and posttest measures. Another nonparametric method was then used to compare means between the treatment and control groups to determine if there were any significant differences with the posttest

measures. Fifth, effect sizes were then measured within the pretest and posttest means for both the treatment and control groups. Effect sizes were also measured between the posttests of both the treatment and control groups. Sixth, an analysis was conducted to determine the relationship between participant's self-reported friends and deviancy behaviors by these friends, as reported by the therapists. Finally, narrative descriptions of the Participant Evaluation Questionnaire and Instructor Feedback were completed.

#### Type of Analysis

All data gathered (i.e. Strong Teens Tests, self-report rating scores, and teacher/parent rating scores) were analyzed visually and statistically by a non-parametric test. Although a two by two Analysis of Variance (ANOVA) was arguably the most powerful approach for this design, the data set did not support several assumptions of ANOVA. When considering the current data set, several assumptions of ANOVA were not tenable with the comparisons made in the study. These violations included the assumption of homogeneity of variance, a normal distribution (with no outliers) for the variables of interest, the assumption of equal means of the covariate (pretest), the assumption of a strong (at least .80) correlation to the dependent variable, and finally, the assumption that the slope between the covariate and the dependent variables are the same for all groups (Cone & Foster, 1993).

Because many of these assumptions would be violated in the comparisons using an ANOVA, analyses were conducted via two nonparametric methods, the *Wilcoxon's matched pairs test* for differences between dependent groups (Pretest and posttest for treatment and control groups) and the *Mann-Whitney U test* for differences between independent groups (posttests for treatment and control groups). This analysis provides

exact p-values and tests for location and scale (rank order comparisons) using raw data and tests that are based on simple linear rank statistics. The use of the nonparametric method allows the processing of data from small samples and on variables about which nothing is known (concerning their distribution). Therefore, a nonparametric test is often used in situations when assumptions for a traditional ANOVA or ANCOVA are not tenable, when the sample size is not large (<19 degrees of freedom), and consequently, the sample is sparsely distributed or skewed (Maxwell & Delaney, 1990). Nonparametric methods do not rely on the estimation of parameters (such as mean or the standard deviation) in describing the distribution of the variable of interest in the population of the sample.

In this study, interest was in the differences in means at pretests and posttests for the treatment and control groups expressed as change. Therefore it was necessary to use nonparametric tests since this type of analysis would account for the small sample size ( $n > 17$ ) and the use of the pretest in both groups as dependent variables in the analysis. ANOVA is designed to have the pretest function as a covariant (or independent variable) in order to determine if the pretest was having an effect on the posttests. This factor was not of significance for this study, since there were six weeks between the administration of the pretest and posttests measures, allowing adequate time lapse between pretest and posttest assessment for participants in both groups.

Effect sizes were then measured separately as the standardized difference within the pretest and posttest means for both the treatment and control groups. Effect sizes were also measured as the standardized difference between the treatment and control groups at posttest. Cohen's  $d$  was used to calculate the effect sizes (Cohen, 1988). Pooled standard

deviations and pretest/posttest means were used to calculate effect sizes within and between treatment and control groups (Rosnow and Rosenthal, 1996). By convention when calculating effect sizes, the subtraction of  $M_1$  and  $M_2$  is done so that means differences are positive if they are in the direction of improvement or in the predicted direction and negative if they are in the direction of deterioration or opposite to the predicted direction. However, because the following 3 measures: SSBS scale A, HCSBS A, and Knowledge Test report improvement by higher scores, the direction of the effect size in reporting improvement should be viewed as reversed in evaluating outcomes for these 3 measures.

#### Mode of Analysis

Raw scores obtained from the measures with the sample were the values used for the analysis of the data for several reasons. First, the raw scores when converted to t-scores from four of the measures used (i.e. CDI, YSR, SSBS-2, and HCSBS) would have “flattened” the data. That is, the raw score differences in these measures from pretest to posttest were not large, with an average change of 10 points in either a positive or negative direction. Second, the sample is based on a skewed distribution of a high-risk clinical population and therefore differs significantly from a normal distribution. Third, the participants were all adolescent males and therefore belonged to similar developmental age levels and same gender classification. Finally, participants in this sample were considered a clinical sample and not a normal sample. The dependent variables used in this study are based on norm-referenced comparisons to obtain t-test scores for explaining results.

A visual analysis was conducted with all the raw scores obtained from each participant in both the treatment and control groups at pretest and posttest to determine if there were any outliers in the data set. This was done to determine if any specific participants had responded to the self-report instruments in an inconsistent or random manner and thus spoiling the utility of that instrument. Although, one participant in the treatment group did report extremely elevated scores on the CDI and YSR instruments for both pretest and posttest, no random or inconsistent responding patterns were found. These high scores, which suggest significant clinical concerns for depression and both internalizing and externalizing problems, may be in fact a true representation of this participant's emotions and behaviors. This is plausible given that these participants all represent a high-risk clinical population.

#### Participants

A total of 36 participants completed the study. Only one participant assigned to the control group was withdrawn at the beginning of the study because he refused to voluntarily complete the assessment at pretest. No participant withdrew from the study once implementation of the Strong Teens had begun and no participant had to be administratively dropped from the study because of any conflict with the integrity of the implementation of the study. After posttest data collection, three of the control group participants were however dropped from the data analysis because they either did not complete or spoiled some or all the measures on their posttest results. These three participants did not have sufficient data at posttest to establish a valid and reliable measure in which to compare their scores to the pretest measures. No significant difference was found when the values in the measures the three participants did complete

at posttest were compared to the values in all the measures without the three participants in the data set for the control group at posttest. Therefore, the few measures they did complete did not have an effect on the overall control group variances. Results for the study were based on a total of 21 participants in the treatment group and 15 participants in the control group.

### *Demographic Profile*

The first step of the analysis was to create a cross tabulation table based on the frequency and percentage distribution of demographic information collected for each participant. This data was collected to obtain a description of the sample in terms of age, ethnicity, grade level, and special education status. To express the relationship between these 4 demographic variables of the participants, a chi-square was used in the analysis because these 4 variables of interest were categorical in nature and were based on a small sample size in the study. Table 6 shows the results of the frequency and percentage distributions for the above-mentioned four variables for the complete sample (i.e. both treatment and control groups).

Table 6. Frequency and percentage distributions for demographic variables.

Demographic Variables for All Participants	Frequency	Percentage
<b>Age</b>		
12	2	5.5%
13	5	13.8%
14	2	5.5%
15	7	19.4%
16	11	30.5%
17	9	25%
Total	36	
<b>Ethnicity</b>		
White	30	83.3%
Black	1	2.7%
Hispanic	2	5.5%
Table 6 cont'd.		
Demographic Variables for All Participants	Frequency	Percentage
Other	3	8.3%
Total	36	
<b>Grade</b>		
6	5	13.8%
7	2	5.5%
8	5	13.8%
9	5	13.8%
10	15	41.6%
11	4	11.1%
Total	36	
<b>Special Education Status</b>		
Yes	27	75%
No	9	25%
Total	36	

\* Data for each participant was obtained from the information completed on the Demographic Form as reported during the initial intake into the residential treatment center.

As a result of the small sample size for the participants in both groups, the six identified ethnic group categories (i.e. Caucasian, Black, Hispanic, Asian, Native American, and Other) were combined to form two ethnic groups. Caucasian participants were placed in the first group (White) and the other 5 ethnic groups (i.e. Asians, Blacks, Hispanics, Native Americans, and Other) were all placed in the second group

(Nonwhite). These two ethnic classification terms of White and Nonwhite were obtained from the US Bureau of Census. When using the classification of Whites and Nonwhites to identify ethnic backgrounds, it was found that there was some but limited variance between the treatment and control groups. Therefore, the ethnic difference between the two groups indicated a reasonably similar distribution. Participants in the treatment group reported their ethnicity as 81% White and 19% Nonwhite. Participants in the control group reported their ethnicity as 86.7% white and 16.7% Nonwhite.

The demographic variable of age reported by both the treatment and control group was between 12 and 17 years of age. As with ethnicity, there was some variance between the groups but this was small, especially when the ages reported by the participants were grouped into 3 categories of 12 to 13, 14 to 15, and 16 to 17. Participants in the treatment group reported that 19% were either 12 or 13, 23.8% were either 14 or 15, and 57.1% were either 16 or 17 years of age. Similarly but not equally, participants in the control group reported that 20% were either 12 or 13, 26.7% was either 14 or 15, and 53.3% were either 16 or 17 years of age. Developmentally, the three identified age ranges for the distribution of the participants between the treatment and control group were considered similar.

The demographic variable of grade was between grade 6 and 11. As with the two previous variables, there was some variance for grade distribution but overall the two groups were more similar than dissimilar. Participants in the treatment group reported that 19% were in grades 6 or 7, 28.6% were in grades 8 or 9, and 52.4% were in grades 10 or 11. Participants in the control group reported that 20% were in grades 6 or 7, 26.7% were in grades 8 or 9, and 53.3% were in grades 10 or 11.

Of the four demographic variables reported, Special Education status was most evenly matched between the treatment and control groups. Of the participants in the treatment control, 76.2% had a special education classification and 23.8% had a regular education classification. Of the participants in the control group, 73.3% had a special education classification and 26.7% had a regular education classification.

Despite a disproportionate number of participants between the treatment (i.e. 21 participants) and control (i.e. 15 participants) groups, similar demographic information was reported between the two groups. Refer to Table 7 for the frequency and distribution of participants in the treatment and control groups for the four demographic variables.

Table 7. Frequency and percentage distributions for groups by demographic variables.

Demographic Variables for All Participants	Treatment Group		Control Group	
	Frequency	Percentage	Frequency	Percentage
<b>Age</b>				
12 – 13	4	19%	3	20%
14 – 15	5	23.8%	4	26.7%
16 - 17	12	57.1%	8	53.3%
Total	21		15	
<b>Ethnicity</b>				
White	17	81%	13	86.7%
Nonwhite	4	19%	2	16.7%
Total	21		15	
<b>Grade</b>				
6 – 7	4	19%	3	20%
8 – 9	6	28.6%	4	26.7%
10 - 11	11	52.4%	8	53.3%
Total	21		15	
<b>Special Education Status</b>				
Yes	16	76.2%	11	73.3%
No	5	23.8%	4	26.7%
Total	21		15	

\* Data for each participant was obtained from the information completed on the Demographic Form as reported during the initial intake into the residential treatment center.

The second step of the analysis was to conduct a comparison of each of the four demographic variables between the pretest treatment and control groups to determine if there were any statistically significant differences between the overall scores for the treatment and control groups. Scores were obtained on each participant in the two groups for 10 measures that were based on six dependent variables (refer to table 5 for a summary of measures used in the study). A MANOVA was conducted to determine if there were any significant effects related to the demographic data on the scores for each of the 10 measures reported. A MANOVA was used because of the analysis of multiple variance can be run at a single time. However, no interactions of the variables were included in this analysis. No significant differences were found to exist between the treatment and control groups at pretest when looking at the demographic variables of age, grade, ethnicity, and special education status.

#### *Treatment and Control Groups*

As a result of the limited number of intake adolescents that came to the treatment center monthly, data collection for the experimental and control groups were taken during three sessions over a nine-month period. Each of the three sessions was conducted once there were a sufficient number of participants selected for each session. Therefore, three cohorts of participants were identified in April, June, and December that represented the total number of participants in both the treatment and control groups. Time was not a critical factor when pooling the results from each cohort for several reasons. First, each participant represented a clinical sample with similar social, emotional, and behavioral problems. Secondly, each participant received similar treatment planning based primarily on three factors. These factors were that all participants were admitted into the Center,

they all began to receive their treatment within one to two weeks of each other and most of the psychological and educational interventions, including other daily activities (e.g. meals, free time, recreation, etc.) were conducted in small group format. Third, participation in either the experimental or control group was based on random selection. Refer to Table 8 for the number of participants in each of the 3 cohorts for both the treatment and control groups across the 3 sessions.

Table 8. Distribution of participants by cohorts for both groups.

Groups	April Cohort <i>Session 1</i>	June Cohort <i>Session 2</i>	December Cohort <i>Session 3</i>	Total
Treatment	11	5	5	21
Control	7	5	3	15

An attempt was made to ensure homogeneity among participants in each cohort in order to ensure that the instructional level and pace was appropriate for the participants. This was done because of the range in ages and developmental levels of the participants from the Center. The first cohort (April) that represented the treatment group was split into two treatment sub-groups with two different instructors. This main split occurred because of identified differences among the 11 participants in the treatment group in terms of social functioning, maturity level, cognitive ability, and age. This split was considered legitimate because the Strong Teens curriculum has a structured and scripted format that can be applied reasonably consistently between two instructors. Further, grouping participants into two sub-groups based on similar abilities and functioning ensured that the pace and instructional level was appropriate for all the participants in each sub-group. The second and third cohorts for the treatment groups were not divided into subgroups. Cohort 2 (June) was fairly uniform in age, however, one youth had a

delayed cognitive ability, and another youth had disorder of written expression. Cohort 3 (December) was uniform in regards to cognitive ability, but age was somewhat skewed with a 13 year old in with 16 and 17 year olds. Cohorts 2 and 3 were not sub-divided into 2 groups but the 3 above mentioned participants were allowed extra time to complete activities and additional assistance was provided as needed to help these participants grasp the concepts and contents of Strong Teens.

A MANOVA was used to determine if there were any significant differences in the variances of the 10 measures for each of the 3 cohorts for both the treatment and control groups. The 3 cohorts that represented the treatment group were compared statistically; there was one measure that showed a significant difference between the 3 cohorts. This measure was observed to be on the YSR Externalizing domain (a subscale of the YSR instrument) ( $p > .005$ ) and suggests that there was greater variance among the participants in each cohort when assessed with the YSR at pretest. The treatment group was still collapsed because this difference in one measure only suggests that there are some behavioral characteristics self-reported by the participants that make these participants different as measured by this instrument. This difference in the 3 cohorts is a phenomenon that could not be controlled for but it was still necessary to collapse the 3 cohorts into one group ( $n= 21$ ) in order to have a more statistically sound sample for analysis. When the 3 cohorts that represented the total participants in the control group ( $n= 15$ ) were collapsed into one group because no significant differences were found between the three cohorts at pretest.

In order to determine if there were any significant differences between the treatment and control groups at pretest, the 3 collapsed cohorts for both groups were

compared using a MONOVA. A type III sum of squares was used in the multivariate model to account for the unequal number of participants between the treatment and control groups. Results of the analysis indicated that 8 of the 10 measures that were compared between the treatment and control groups at pretest did not show significance between the two groups. The scores on the remaining two measures (i.e. YSR Externalizing and HCSBS Scale B measures) were statistically significantly between the treatment group ( $M= 27.24$ ,  $SD= 11.099$ ,  $M= 89.62$ ,  $SD= 17.690$ ) and control group ( $M= 19.93$ ,  $SD= 9.098$ ,  $M= 79.80$ ,  $SD= 12.869$ ) at pretest,  $p > .001$  and  $p > .034$ , respectively. Therefore, these two measures were looked at with more scrutiny during further analysis with the posttests between the treatment and control groups.

#### Analysis of Measures

##### *Treatment Group Outcomes*

Refer to Table 9 for results of the nonparametric test and measure of effect size for the treatment group.

On the CDI, participants in the treatment group at posttest when compared to pretest, showed a decrease in overall self-reported depressive symptoms. This finding may indicate that participants in the treatment group showed an improvement in their affect and mood at posttest. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the CDI within the treatment group,  $p= .50$ . Based on Cohen's  $d$  definition of effect size, the treatment effect was not in a meaningful or clinically significant manner.

On the YSR- Internalizing subscale, participants in the treatment group at posttest when compared to pretest, showed a decrease in overall self-reported negative thoughts

and feelings. This finding may indicate that participants in the treatment group had a slight improvement at posttest. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the YSR- Internalizing within the treatment group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the treatment effect was not in a meaningful or clinically significant range.

On the YSR- Externalizing subscale, participants in the treatment group at posttest when compared to pretest, showed a decrease in overall self-reported behavior problems. This finding may indicate that behavior problems had slightly improved at posttest. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the YSR- Externalizing within the treatment group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the treatment effect was not in a meaningful or clinically significant manner.

On the YSR- Total Problems, participants in the treatment group at posttest when compared to pretest, showed a decrease in overall self-reported problems. The results from the nonparametric analysis indicate that there was a statistically significant difference in pretest and posttest change scores from the YSR- Total score,  $p < .05$  level. The posttest mean ( $M = 73.90$ ,  $SD = 43.870$ ) decrease from the pretest mean ( $M = 79.33$ ,  $SD = 34.320$ ) indicate a considerable reduction in overall self-reported problems. However, based on Cohen's  $d$  definition of effect size, the treatment effect was not in a meaningful or clinically significant manner.

On the SSBS- Scale A, participants in the treatment group at posttest when compared to pretest, showed an increase in overall social competence as reported by a

therapist at the Center. The results from the nonparametric analysis indicate that there was a statistically significant difference in pretest and posttest change scores from the SSBS- Scale A score,  $p < .001$  level. The posttest mean ( $M = 101.00$ ,  $SD = 25.747$ ) increase from the pretest mean ( $M = 84.38$ ,  $SD = 21.108$ ) indicate that participants in the treatment group showed a considerable improvement in peer relations, self-management/compliance skills, and academic behaviors. Based on Cohen's  $d$  definition of effect size, the  $ES$  of .71 was indicative of a meaningful effect of medium size, a little more than two-thirds of a standard deviation difference between pretest and posttest.

On the SSBS- Scale B, participants in the treatment group at posttest when compared to pretest, showed a decrease in overall antisocial behaviors as reported by a therapist at the Center. This finding may indicate that participants in the treatment group showed a slight improvement in hostile/irritable, antisocial/aggressive, and defiant/disruptive behaviors. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the SSBS- Scale B within the treatment group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the treatment effect was not in a meaningful or clinically significant manner.

On the HCSBS- Scale A, participants in the treatment group at posttest when compared to pretest, showed an increase in overall social competence as reported by a parent or guardian. The results from the nonparametric analysis indicate that there was a statistically significant difference in pretest and posttest change scores from the HCSBS- Scale A score,  $p < .001$  level. The posttest mean ( $M = 109.38$ ,  $SD = 18.071$ ) increase from the pretest mean ( $M = 97.86$ ,  $SD = 16.871$ ) indicate that participants in the treatment group

showed a considerable improvement in peer relations, self-management/compliance skills, and academic behaviors. Based on Cohen's *d* definition of effect size, the *ES* of .66 was indicative of a meaningful effect of medium size, two-thirds of a standard deviation difference between pretest and posttest.

On the HCSBS- Scale B, participants in the treatment group at posttest when compared to pretest, showed a decrease in overall antisocial behaviors as reported by a parent or guardian. The results from the nonparametric analysis indicate that there was a statistically significant difference in pretest and posttest change scores from the HCSBS- Scale B score,  $p < .001$  level. The posttest mean ( $M = 76.71$ ,  $SD = 21.357$ ) decrease from the pretest mean ( $M = 89.62$ ,  $SD = 17.690$ ) indicate that participants in the treatment group showed a considerable improvement in hostile/irritable, antisocial/aggressive, and defiant/disruptive behaviors. Based on Cohen's *d* definition of effect size, the *ES* of .66 was indicative of a meaningful effect of medium size, two-thirds of a standard deviation difference between pretest and posttest.

On the Strong Teen Symptom Test, participants in the treatment group at posttest when compared to pretest, showed a decrease in overall self-reported social, emotional, and behavioral symptoms. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the Strong Teen Symptom Test within the treatment group,  $p = .50$ . Based on Cohen's *d* definition of effect size, the *ES* of .27 was indicative of a meaningful effect of small size, slightly more than a quarter of a standard deviation difference between pretest and posttest.

On the Strong Teens Content Test, participants in the treatment group at posttest when compared to pretest, showed an overall increase in knowledge from the contents of the Strong Teens curriculum. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the Strong Teen Content Test within the treatment group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the  $ES$  of  $.52$  was indicative of a meaningful effect of medium size, slightly more than half of a standard deviation difference between pretest and posttest.

Table 9. Nonparametric test and effect size for treatment group.

Measures	Pretest		Posttest		Mean Difference	p-value	Effect Size
	Mean	SD	Mean	SD			
CDI	4.14	3.665	4.05	5.417	0.09	.195	0.02
YSR- Internalizing Scale	20.90	14.775	19.57	17.154	1.33	.149	0.08
YSR- Externalizing Scale	27.24	11.099	25.33	13.581	1.91	.281	0.15
YSR- Total Problems	79.33	34.320	73.90	43.870	5.43	.048*	0.14
SSBS- Scale A	84.38	21.108	101.00	25.747	-16.62	.003**	0.71** +
SSBS- Scale B	88.19	18.678	84.90	30.817	3.29	.555	0.13
HCSBS- Scale A	97.86	16.871	109.38	18.071	-11.52	.006**	0.66** +
HCSBS- Scale B	89.62	17.690	76.71	21.357	12.91	.002**	0.66**
Symptoms Test	13.71	6.026	12.14	5.480	1.57	.149	0.27*
Content Test	10.24	2.897	11.90	3.477	-1.66	.069	0.52** +

\* Indicates significant effect or small effect size ( $d = .2$ )

\*\* Indicates very significant effect or medium effect size ( $d = .5$ )

\*\*\* Indicates highly significant effect or large effect size ( $d = .8$ )

† Indicates significant effect size in the direction not hypothesized

+ Indicates that the direction of the effect size ( $-/+$ ) is reversed because of the function of the measure used

### *Control Group Outcomes*

Refer to Table 10 for results of the nonparametric test and measure of effect size for the control group.

On the CDI, participants in the control group at posttest when compared to pretest, showed a decrease in overall self-reported depressive symptoms. The results from the nonparametric analysis indicate that there was a statistically significant difference in

pretest and posttest change scores from the CDI score,  $p < .001$  level. The posttest mean ( $M = 3.33$ ,  $SD = 2.944$ ) decrease from the pretest mean ( $M = 5.00$ ,  $SD = 3.485$ ) indicate a considerable reduction in overall self-reported depressive symptoms. Based on Cohen's  $d$  definition of effect size, the  $ES$  of  $.52$  was indicative of a meaningful effect of medium size, slightly more than half of a standard deviation difference between pretest and posttest.

On the YSR- Internalizing subscale, participants in the control group at posttest when compared to pretest, showed a decrease in overall self-reported negative thoughts and feelings. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the YSR- Internalizing within the control group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the control effect was not in a meaningful or clinically significant manner.

On the YSR- Externalizing subscale, participants in the control group at posttest when compared to pretest, showed an increase in overall self-reported behavior problems. This finding may indicate that behavior problems had gotten slightly worse at posttest. However, the results from the nonparametric analysis indicate that there was no significant difference in pretest and posttest change scores from the YSR- Externalizing within the control group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the control effect was not in a meaningful or clinically significant manner.

On the YSR- Total Problems, participants in the control group at posttest when compared to pretest, showed a decrease in overall self-reported problems. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the YSR- Total score within the

control group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the control effect was not in a meaningful or clinically significant manner.

On the SSBS- Scale A, participants in the control group at posttest when compared to pretest, showed an increase in overall social competence as reported by a therapist at the Center. The results from the nonparametric analysis indicate that there was a statistically significant difference in pretest and posttest change scores from the SSBS- Scale A score,  $p < .05$  level. The posttest mean ( $M = 99.00$ ,  $SD = 18.555$ ) increase from the pretest mean ( $M = 89.33$ ,  $SD = 15.963$ ) indicate that participants in the control group showed a considerable improvement in peer relations, self-management/compliance skills, and academic behaviors. Based on Cohen's  $d$  definition of effect size, the  $ES$  of  $.56$  was indicative of a meaningful effect of medium size, a little more than half of a standard deviation difference between pretest and posttest.

On the SSBS- Scale B, participants in the control group at posttest when compared to pretest, showed a decrease in overall antisocial behaviors as reported by a therapist at the Center. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the SSBS- Scale B within the control group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the  $ES$  of  $.41$  was indicative of a meaningful effect of small size, slightly more than two-fifths of a standard deviation difference between pretest and posttest.

On the HCSBS- Scale A, participants in the control group at posttest when compared to pretest, showed an increase in overall social competence, as reported by a parent or guardian. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from

the HCSBS- Scale A within the control group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the  $ES$  of .64 was indicative of a meaningful effect of medium size, somewhat more than three-fifths of a standard deviation difference between pretest and posttest.

On the HCSBS- Scale B, participants in the control group at posttest when compared to pretest, showed a decrease in overall antisocial behaviors as reported by a parent or guardian. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the HCSBS- Scale B within the control group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the  $ES$  of .32 was indicative of a meaningful effect of small size, approximately one third of a standard deviation difference between pretest and posttest.

On the Strong Teens Symptom Test, participants in the control group at posttest when compared to pretest, showed a decrease in overall social, emotional, and behavioral symptoms. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the Strong Teens Symptom Test within the control group,  $p = .50$ . Based on Cohen's  $d$  definition of effect size, the  $ES$  of .41 was indicative of a meaningful effect of small size, slightly more than two-fifths of a standard deviation difference between pretest and posttest.

On the Strong Teens Content Test, participants in the control group at posttest when compared to pretest, showed an overall increase in knowledge from the contents of the Strong Teens curriculum. However, the results from the nonparametric analysis indicate that there was no statistically significant difference in pretest and posttest change scores from the Strong Teens Content Test within the control group,  $p = .50$ . Based on

Cohen's *d* definition of effect size, the control effect was not in a meaningful or clinically significant manner.

Table 10. Nonparametric test and effect size for control group.

Measures	Pretest		Posttest		Mean Difference	p-value	Effect Size
	Mean	SD	Mean	SD			
CDI	5.00	3.485	3.33	2.944	1.67	.004**	0.52** †
YSR- Internalizing Scale	19.13	13.958	17.33	13.808	1.8	.730	0.13
YSR- Externalizing Scale	19.93	9.098	20.07	11.329	-0.14	.306	0.01
YSR- Total Problems	66.73	31.313	61.60	36.604	5.13	.477	0.15
SSBS- Scale A	89.33	15.963	99.00	18.555	-9.67	.031*	0.56** † +
SSBS- Scale B	85.33	14.371	77.53	22.671	7.8	.233	0.41* †
HCSBS- Scale A	94.67	16.167	105.87	18.818	-11.2	.052	0.64** † +
HCSBS- Scale B	79.80	12.869	74.47	19.853	5.33	.158	0.32* †
Symptoms Test	14.60	4.372	12.80	4.507	1.8	.212	0.41* †
Content Test	9.73	3.081	10.27	3.751	-0.54	.363	0.16

\* Indicates significant effect or small effect size ( $d = .2$ )

\*\* Indicates very significant effect or medium effect size ( $d = .5$ )

\*\*\* Indicates highly significant effect or large effect size ( $d = .8$ )

† Indicates significant effect size in the direction not hypothesized

+ Indicates that the direction of the effect size (-/+ ) is reversed because of the function of the measure used

### Posttest Outcome

Refer to Table 11 for results of the nonparametric test and measure of effect size for posttests between the treatment and the control groups.

*Mann-Whitney U tests* were conducted to determine if there were any significant differences between the 10 measures in the treatment and control groups at posttest. No statistically significant differences were found between any of the 10 measures at posttest between the treatment and control groups.

However, when the 2 measures (i.e. YSR- Externalizing & HCSBS- Scale B) that were found to be significant at pretest ( $p > .05$ ) between the treatment and control groups were examined more closely, the following results were observed. With the YSR- Externalizing subscale, the control group ( $M = 19.93$ ) had a lower mean than the treatment group ( $M = 27.24$ ) at pretest with a significance level of  $p > .001$ , suggesting that

the control group had significantly less overall self-reported behavior problems than the treatment group at pretest. However, the control group at posttest ( $M= 20.07$ ) responded with a slight increase in overall self-reported behavior problems, whereas the treatment group at posttest ( $M= 25.07$ ) responded with a decrease in overall self-reported behavior problems. This increases Type I error because it suggests that the two groups started off as equal in severity of overall self-reported behavior problems but that was not the case according to this measure. Further, it indicates that a treatment effect may have occurred from the treatment group participating in the Strong Teens but without a significant level.

With the HCSBS- Scale B, the control group ( $M= 79.80$ ) had a lower mean than the treatment group ( $M=89.62$ ) at pretest with a significance level of  $p>.034$ , suggesting that the control group had significantly less overall reported antisocial behaviors by a parent or guardian than the treatment group at pretest. However, the control group at posttest ( $M= 74.47$ ) responded with a smaller decrease in overall reported antisocial behaviors than the treatment group at posttest ( $M= 76.71$ ). This increases Type I error because it suggests that the two groups started off as equal in severity of overall reported antisocial behaviors but that was not the case according to this measure. Further, it indicates that a treatment effect may have occurred from the treatment group participating in the Strong Teens but without a significant level.

Cohen's  $d$  was used to calculate the effect sizes between the 10 measures in the treatment and control groups at posttest. The following observations were made based upon the effect size for the 10 measures.

On the CDI at posttest, the control group as compared to the treatment group showed a better response with an overall decrease in self-reported depressive symptoms. This finding may indicate that participants in the treatment group did not show as much improvement in their affect and mood as compared to the control group. However, this difference was not in a meaningful or clinically significant manner, based on Cohen's *d* definition of effect size.

On the YSR- Internalizing subscale at posttest, the control group as compared to the treatment group showed a better response with an overall decrease in self-reported negative thoughts and feelings. This finding may indicate that participants in the treatment group did not show as much improvement in their internalizing mood as compared to the control group. However, this difference was not in a meaningful or clinically significant manner, based on Cohen's *d* definition of effect size.

On the YSR- Externalizing subscale at posttest, the control group as compared to the treatment group appeared to show an overall decrease in self-reported behavior problems. On further analysis, this finding is misleading since the control group self-reported mean score had in fact increased from pretest to posttest. In addition, the pretest score between the treatment and control group was statistically significant as reported earlier in this chapter. The treatment group had actually self-reported an overall decrease in behavior problems unlike the control group who had reported an overall increase in behavior problems. Therefore, no statistical significance could be obtained from this measure between the groups.

On the YSR- Total Problems at posttest, the control group as compared to the treatment group showed a better response with an overall decrease in self-reported

problems. This finding may indicate that participants in the treatment group did not show as much improvement in their problems as compared to the control group. The obtained *ES* of .30 was indicative of a meaningful effect of small size, slightly less than one third of a standard deviation difference between the two posttests.

On the SSBS- Scale A at posttest, the treatment group as compared to the control group showed a better response with an overall increase in social competence as reported by a therapist at the Center. This finding may indicate that participants in the control group did not show as much improvement in peer relations, self-management/compliance skills, and academic behaviors as compared to the treatment group. However, this difference was not in a meaningful or clinically significant manner, based on Cohen's definition of effect size.

On the SSBS- Scale B at posttest, the control group as compared to the treatment group showed a better response with an overall decrease in antisocial behaviors as reported by a therapist at the Center. This finding may indicate that participants in the treatment group did not show as much improvement in hostile/irritable, antisocial/aggressive, and defiant/disruptive behaviors, as compared to the control group. The obtained *ES* of .27 was indicative of a meaningful effect of small size, slightly more than a quarter of a standard deviation difference between the two posttests.

On the HCSBS- Scale A at posttest, the treatment group as compared to the control group showed a better response with an overall increase in social competence as reported by a parent or guardian. This finding may indicate that participants in the control group did not show as much improvement in peer relations, self-management/compliance skills, and academic behaviors, as compared to the treatment group. However, this

difference was not in a meaningful or clinically significant manner, based on Cohen's *d* definition of effect size.

On the HCSBS- Scale B at posttest, the control group as compared to the treatment group showed a better response with an overall decrease in antisocial behaviors as reported by a parent or guardian. This finding may indicate that participants in the treatment group did not show as much improvement in hostile/irritable, antisocial/aggressive, and defiant/disruptive behaviors, as compared to the control group. However, this difference was not in a meaningful or clinically significant manner, based on Cohen's *d* definition of effect size.

On the Strong Teen Symptom Test at posttest, the treatment group as compared to the control group showed a better response with a decrease in overall self-reported social, emotional, and behavioral symptoms. This finding may indicate that participants in the control group did not show as much improvement in the social, emotional, and behavioral aspects of their lives, as compared to the treatment group. However, this difference was not in a meaningful or clinically significant manner, based on Cohen's *d* definition of effect size.

On the Strong Teens Content Test at posttest, the treatment group as compared to the control group showed a better response with an overall increase in knowledge from the contents of the Strong Teens curriculum. This finding may indicate that participants in the control group did not show as much improvement in their ability to respond correctly to questions about content areas in the Strong Teens curriculum, as compared to the treatment group. The obtained *ES* of .45 was indicative of a meaningful effect of

small size, more than two-fifths of a standard deviation difference between the two posttests.

Table 11. Nonparametric test and effect size for posttests between groups.

Measures	Treatment Posttest		Control Posttest		Mean Difference	p-value	Effect Size
	Mean	SD	Mean	SD			
CDI	4.05	5.417	3.33	2.944	0.72	.769	0.17
YSR- Internalizing Scale	19.57	17.154	17.33	13.808	2.24	.872	0.14
YSR- Externalizing Scale	<b>25.33</b>	<b>13.581</b>	<b>20.07</b>	<b>11.329</b>	<b>5.26</b>	<b>.369</b>	<b>0.42* †</b>
YSR- Total Problems	73.90	43.870	61.60	36.604	12.3	.531	0.30* †
SSBS- Scale A	101.00	25.747	99.00	18.555	2	.736	0.09
SSBS- Scale B	84.90	30.817	77.53	22.671	7.37	.585	0.27* †
HCSBS- Scale A	109.38	18.071	105.87	18.818	3.51	.653	0.19
HCSBS- Scale B	76.71	21.357	74.47	19.853	2.24	.773	0.11
Symptoms Test	12.14	5.480	12.80	4.507	-0.66	.468	0.13
Content Test	11.90	3.477	10.27	3.751	1.63	.191	0.45*

\* Indicates significant effect or small effect size (d= .2)

\*\* Indicates very significant effect or medium effect size (d= .5)

\*\*\* Indicates highly significant effect or large effect size (d= .8)

† Indicates significant effect size in the direction not hypothesized

+ Indicates that the direction of the effect size (-/+ ) is reversed because of the function of the measure used

Bolded numbers indicates that at pretest, this measure was significant between the treatment and control groups

### Student and Instructor Survey

A week after the study was implemented, participants in both the treatment and control groups were asked to rank order 3 peers affiliations, based on 3 questions that attempted to identify their closest friends at the center. After this nomination was completed and in that same week, a therapist familiar with the participants from both groups was asked to respond to four questions about deviancy, delinquency, and resistance to therapy for each participant in both groups, as well as each participant's 3 ranked peers at the Center. This pretest version of both forms were completed a week after the implementation of the curriculum in order to give the participants some time to settle in and begin the process of getting to know other adolescents at the Center. This time period also gave the therapist and other staff members an opportunity to become

familiar with each adolescent. All the adolescents in either the treatment or control groups were at the Center no more than 3 weeks prior to the implementation of this study. A week after the completion of the study (a six week time lapse from pretest to posttest), the same form was completed by first the participants from both the treatment and control groups and then by the same therapist from pretest. Both of these posttest forms were then compared to the pretest forms.

Completion of the Student Survey Form was voluntary. Many of the participants from both groups declined to complete the Student Survey Form, reporting that they feared that it would single them out as being troublemakers or target them for discipline action. Therefore, from the pool of participants, there were only 16 completed forms for the treatment group and 13 completed forms of the control group. For both forms that were completed in their entirety, a visual review revealed that many of the participants and the therapist had only provided information about 2 ranked peers, and not 3 peers as requested in the forms. Many participants had completed the form with only 2 ranked peer affiliations because they believed that they could only honestly report 2 and not 3 other adolescents at the Center as their close friends. This explanation seemed reasonable for the completion of only 2 peers given the fact that the participants in both groups were separated from each other during many group activities in therapy and during school sessions. Because the Center only had a small number of adolescents at any one intake period (Approximately 25), it seemed plausible that there was not much opportunity for participants to become very close to many other peers, especially given a rigorous and lengthy schedule of therapy and academic instruction throughout the day.

The 4 questions on deviant behaviors as reported by the therapist were scored and analyzed separately at pretest and posttest. The first question asked the therapist to list and describe specific infractions that the participant and his ranked peers had committed while at the Center. A complete list of infractions was created based on all the responses provided by the therapist about each adolescent. A 6-point scale (ranking) was created from the list of all infractions, based on the severity or nature of the infraction. The scale was as follows: 6= Assault other or self-mutilation; 5= Vandalism; 4= Possess contraband items; 3= Truancy/run away; 2= Threaten/Bully Others; 1= Break Rules (tease/noncompliance/disrespect); 0= No infractions observed. Each infraction committed by an adolescent was given a ranking and then added up to obtain a cumulative deviancy behavior score. This was done for each participant and his 2 nominated peers. The second question asked whether each adolescent identified resisted therapy or class. A 3-point scale was created based on the responses from the therapist. Each adolescent was then given a score based on his degree of reported resistance to therapy/class work using the 3- point scale, where 2= Yes (always resisted); 1= Sometimes resisted; 0= Never resisted. The third question used a 2-point scale to measure suspicious activity where, 1= Yes; 0= None. For the fourth question, which asked if the identified adolescent was a troublemaker or hung around troublemakers, a 3-point scale was created where 2= Hangs around troublemakers and causes trouble himself; 1= Hangs around troublemakers but does not create trouble himself; 0= Does not hang around troublemakers nor does he cause trouble himself. For each question, each participant's score was combined with the scores from his nominated peers and a cumulative score for each question was obtained for both groups at pretest and posttest.

As a result of the small and unequal sample sizes obtained for the treatment (n=16) and control (n=13) groups, only descriptive statistics are reported for this data set. This avoided making invalid assumptions about the significance of the results by the use of inferential statistics. Refer to Table 12 for descriptive statistics on both groups on reported deviancy behaviors as reported by the therapist. For question 1, there was an overall decrease from pretest (M= 5.9, SD= 4.7) to posttest (M= 5.0, SD= 4.7) in reported infractions committed by participants and their nominated peers in the treatment group, as reported by the therapist. For question 1, there was an overall decrease from pretest (M= 5.3, SD= 4.4) to posttest (M= 4.0, SD= 3.4) in reported infractions committed by participants and their nominated peers in the control group, as reported by the therapist. The mean difference was greater for the control group (Mean difference= 1.3) at posttest than it was for the treatment group (Mean difference= 0.9).

For question 2, there was an overall increase from pretest (M= 0.7, SD= 0.5) to posttest (M= 0.8, SD= 0.4) in resistance to therapy and classes by participants and their nominated peers in the treatment group, as reported by the therapist. For question 2, there was an overall increase from pretest (M= 0.5, SD= 0.5) to posttest (M= 0.7, SD= 0.5) in resistance to therapy and classes by participants and their nominated peers in the control group, as reported by the therapist. The mean difference was greater for the control group (Mean difference= 0.2) at posttest than it was for the treatment group (Mean difference= 0.1).

For question 3, there was an overall increase from pretest (M= 0.7, SD= 0.5) to posttest (M= 0.9, SD= 0.2) in suspicious activities associated with the participants and their nominated peers in the treatment group, as reported by the therapist. For question 3,

there was an overall increase from pretest ( $M= 0.7$ ,  $SD= 0.4$ ) to posttest ( $M= 0.9$ ,  $SD= 0.3$ ) in suspicious activities associated with the participants and their nominated peers in the control group, as reported by the therapist. The mean difference was the same for both groups (Mean difference= 0.2).

For question 4, there was an overall decrease from pretest ( $M= 1.0$ ,  $SD= 1.0$ ) to posttest ( $M= 0.7$ ,  $SD= 1.0$ ) in adolescent associations with troublemakers and causing trouble themselves in the treatment group, as reported by the therapist. For question 4, there was an overall increase from pretest ( $M= 0.8$ ,  $SD= 1.0$ ) to posttest ( $M= 0.9$ ,  $SD= 1.0$ ) in adolescent associations with troublemakers and causing trouble themselves in the control group, as reported by the therapist. The mean difference was negative (-0.7) for the treatment group, in that adolescents associating with troublemakers or being troublemakers themselves decreased from pretest to posttest. Whereas, the mean difference was positive (0.1) for the control group, in that adolescents associating with troublemakers or being troublemakers themselves increased from pretest to posttest.

Table 12. Descriptive statistics for both groups on reported deviancy behaviors.

	Infractions committed		Resistance to Therapy		Suspicious Activity		Associated with Troublemakers	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Treatment Group								
Mean	5.9	5.0	0.7	0.8	0.7	0.9	1.0	0.7
SD	4.7	4.7	0.5	0.4	0.5	0.2	1.0	1.0
Control Group								
Mean	5.3	4.0	0.5	0.7	0.7	0.9	0.8	0.9
SD	4.4	3.4	0.5	0.5	0.4	0.3	1.0	1.0

### Participant Feedback

At the end of the study, participants in the treatment group were all asked to complete an anonymous Participant Evaluation Questionnaire on the Strong Teens curriculum based on their experiences over the last six weeks. From the 21 participants

that participated in the treatment group, 10 participants (42.6%) completed the questionnaire at posttest. Completion of this questionnaire was voluntary. The questionnaire consisted of two parts. The first part required participants to respond to 10 closed ended statements about their experiences with the Strong Teens curriculum. Participants were asked to respond to these 10 statement based on a 4-point likert scale, with a range of “Strongly Agree” to “Strongly Disagree” with each of the statements. Refer to table 13 for a breakdown of the percentage of responses made by all participants to each of the statements based on the likert scale.

In terms of the overall responses reported by the participants, they are reported as either favorable or confirmed positive statements towards Strong Teens if more than 50% of the responses were either in the range of “Strongly Agree” to “Agree”. Overall responses where more than 50% of the participants responded in the range of either “Disagree” to “Strongly Disagree” were considered unfavorable towards the Strong Teens curriculum. When the participants were asked if they found the contents of the lessons relevant to them, 90% of these participants responded with a favorable view towards this statement. When the participants were asked if they understood the lessons, 80% responded that they did understand the lesson. When the participants were asked if they participated in most of the activities and discussions, 80% of them responded favorably. When the participants were asked about completing their homework assignments, 70% confirmed that they had completed their homework. When the participants were asked if they could remember many of the skills taught, 80% confirmed that they did remember the skills. When the participants were asked if they believed the skills would be useful for them, 80% also confirmed that they believed that the skills

would be useful to them. When the participants were asked if they had already used some of the skills and information in their lives already, 80% confirmed that they had done so already. When the participants were asked if they believed that the Strong Teens curriculum could help them deal with tough things in their lives, 80% responded favorably. Finally, when the participants were asked if they enjoyed the Strong Teens curriculum, 80% responded favorably.

Table 13. Percentage of responses from participant feedback.

Statements	Percentage of Participants who Responded			
	Strongly Agree	Agree	Disagree	Strongly Disagree
1. The contents of each lesson were relevant to me.	60%	30%	-	10%
2. I understood the lessons presented.	50%	30%	20%	-
3. The length of time spent on each lesson was sufficient.	50%	20%	20%	10%
4. I participated in most activities and discussions.	40%	40%	20%	-
5. I completed most of the homework exercises.	60%	10%	20%	10%
6. I remember many of the skills taught.	40%	40%	10%	10%
7. The skills taught will be useful to me.	60%	20%	10%	10%
8. I have used some of the skills and information already.	50%	30%	10%	20%
9. Strong Teens will help me deal with tough things in my life.	70%	10%	10%	10%
10. I enjoyed the Strong Teens class.	40%	40%	10%	10%

The second part of the questionnaire was based on 3 open ended questions. The first two questions asked the participants to respond to what they liked “best” and “least” about the Strong teens and why they felt this way. The third question gave the participants an opportunity to add or suggest further information on the Strong Teens if they so desired. When the participants were asked what they liked best about the Strong Teens, they reported a range of favorable statements, such as the snacks were good and the instructor was nice. When the participants were then asked what they liked least about the Strong Teens, they reported a range of unfavorable statements, such as the length of the lessons and the amount of work. When the participants were asked to make additional statements about the Strong Teens, 2 of the 10 participants responded to this question.

One of the participants responded unfavorably stating that the Strong Teens should not be offered again and the other participant responded favorably by stating he enjoyed the Strong Teens.

#### Instructor Feedback

At the end of the study, both instructors for the Strong Teens were provided an anonymous questionnaire that contained items related to the overall quality, content, and delivery of the curriculum. The questionnaire form asked specific questions related to the presentation, sequencing, and instructional delivery of the lesson plans. Further, the form asked the instructors to provide feedback on the materials that consisted of the curriculum, as well as additional comments that may help enhance the content and delivery of Strong Teens. Both instructors completed this form in its' entirety.

The instructors indicated on the feedback forms that they believed all 12 lessons plans could be taught effectively within a six-week period by teaching 2 lessons a week, each for an hour. The instructors, when asked if they needed to amend or omit certain activities or components from the lesson plans, stated that they would modify some of the role-plays. That is, they would create more specific scenarios that are based on the experiences of a clinical population such as role-plays with themes as drug use, violence, incarceration, and abuse. The instructors were asked if they felt that the sequencing of the lessons plans were appropriate. The instructors agreed that the sequencing of the lesson plans allowed the development of specific skills such as empathy, anger management, and problem solving. The instructors also indicated that Lesson 1 and 2 should be combined as one lesson on emotions and that there should be an additional lesson that promotes self-esteem in adolescents.

In terms of instructional delivery, the instructors when asked about age appropriateness, procedures for delivery (i.e. scripted lines and subsections), and methods of instruction (e.g. defining key terms and use of role plays) indicated that there were no major problems with presenting the lessons as outlined in the curriculum. However, the instructors suggested that the concept of emotions throughout the lessons was repetitive and instead should be developed as more emotions and experiences were introduced throughout the lessons. The participants were asked if they felt the materials (e.g. handouts, overheads, and activities) provided were adequate and appropriate to teach the lesson objectives. Both instructors found that the materials were easy to administer and use for the participants. Finally, both instructors were asked to express their overall opinion on the curriculum. The instructors responded to this question by indicating that because of the nature of this population, that is, many had committed crimes or had behaved in a way to create problems for themselves (e.g. drug abuse, truancy), a lesson should focus on helping them control and take responsibility for their own actions and attitudes towards themselves and others.

## CHAPTER V

### DISCUSSION

This chapter begins with a synopsis of the results, followed by a discussion of the implications of these findings. Results are first placed into the context of the research questions and hypotheses and then referenced to the literature review. Finally, limitations of the investigation are addressed and directions for future evaluations are suggested.

#### Summary of Findings

The purpose of the study was to determine whether or not there were any effects from implementing a social-emotional learning curriculum, Strong Teens, as part of a treatment plan for a high risk adolescent sample in a 24 hour residential treatment center. The investigator was primarily interested in determining if the following 5 outcomes had been observed: 1) a significant increase in adolescent knowledge in areas associated with social-emotional resiliency, such as anger management, conflict resolution, emotional education, etc., 2) a significant increase in adolescent self reports and observer reports of positive social and emotional skills and affect, 3) a significant decrease in adolescent self-reports and observer reports of negative emotions, cognitions, and maladaptive behaviors, 4) any changes in reported adolescent deviancy behaviors from participating in a group versus not participating in a group, 5) the social validity and consumer satisfaction by both the instructors and participants in the study from using the Strong Teens. These questions were answered by analyzing differences (pretest - posttest) or degree of change

for treatment and control groups at posttest. Treatment group change scores (posttest) were also compared to control group change scores (posttest).

Table 14 summarizes the results of the nonparametric statistical analyses and calculation of effect sizes within pretest and posttest scores for both the treatment and control groups. A positive mean difference score indicates that an increase in scores occurred at posttest from pretest in the anticipated direction, whereas a negative mean difference score indicates a decrease in scores occurred at posttest from pretest in the anticipated direction. The direction of a score with a measure at posttest is reported as a negative or positive value depending on the function of the measure used. Refer to Table 10 for the clinical relevance of changes in reported scores. The means and standard deviations were reported for within group and between group comparisons, even if the differences did not have statistical power. As a result of the small sample size ( $n= 21$  for treatment and  $n= 15$  for control), mean scores are sensitive to the presence of outliers with individual participant scores within either the treatment or control group. Several of the measures (i.e. dependent variables) used did contain outlying scores. Thus, mean scores should be interpreted with caution when comparing mean differences within a group or between the two groups.

Table 14. Summary of within-group findings for both groups.

Measures	Treatment Pretest-Posttest			Control Pretest-Posttest		
	Mean Difference	Significance	Effect Size	Mean Difference	Significance	Effect Size
CDI	-0.09	No difference	None	-1.67	Significant decrease	Medium
YSR- Internalizing Scale	-1.33	No difference	None	-1.8	No difference	None
YSR- Externalizing Scale	-1.91	No difference	None	0.14*	No difference	None
YSR- Total Score	-5.43	Significant decrease	None	-5.13	No difference	None
SSBS- Scale A	16.62	Significant increase	Medium	9.67	Significant increase	Medium
SSBS- Scale B	-3.29	No difference	None	-7.8	No difference	Small
HCSBS- Scale A	11.52	Significant increase	Medium	11.2	No difference	Medium
HCSBS- Scale B	-12.91	Significant decrease	Medium	-5.33	No difference	Small
Symptoms Test	-1.57	No difference	Small	-1.8	No difference	Small
Content Test	1.66	No difference	Medium	0.54	No difference	None

\* Indicates a change in mean score in the direction not hypothesized, that is, problem symptoms increased or knowledge gains decreased at posttest for that specific group.

In the treatment group, all measures showed some change in means scores from pretest to posttest in the anticipated direction of change, according to the function of the specific measured used. However, only 4 of these measures were significant (i.e. YSR- Total Problems, SSBS, Scale A, HCSBS- Scale A, and HCSBS- Scale B). Three of these measures (i.e. SSBS, Scale A, HCSBS- Scale A, and HCSBS- Scale B) that had statistical significance also had a meaningful or clinically significant medium effect size. The Strong Teens Symptoms Test and Content Test change in mean scores from pretest to posttest were both not statistically significant but had a small and medium effect size, respectively. This change within the treatment group that produced an effect size indicated that there were some meaningful differences between pretest and posttest scores for the Symptom Test and Content Test.

In the control group, all measures showed some change in means scores from pretest to posttest in the anticipated direction of change, except for the YSR- Externalizing scale. According to the YSR- Externalizing scale, acting out behaviors for the control group had increased at posttest as compared to pretest, but this change was

small and not statistically significant. 2 of the 10 measures were both significant (i.e. CDI, SSBS- Scale A) and had a meaningful or clinically significant medium effect size. The SSBS- Scale B, HCSBS- Scale A, HCSBS- Scale B, and the Symptoms Test change in mean scores from pretest to posttest were all not statistically significant but an effect size was noted. These changes within the control group that produced an effect size indicated that there were some meaningful differences between pretest and posttest scores for the SSBS- Scale B, HCSBS- Scale A, HCSBS- Scale B, and the Symptoms Test.

Table 15 summarizes the results of the nonparametric statistical analyses and calculation of effect sizes between posttest for the treatment and control groups. When comparing the posttests, no statistical differences were found among any of the 10 measures. Small effect sizes were found between the posttest mean scores of the treatment and control groups for the YSR- Externalizing Scale, the YSR- Total Problems, SSBS- Scale B, and the Strong Teens Content Test. These changes between the treatment and control groups at posttest that produced an effect size indicated that the control group as compared to the treatment group did have some meaningful differences at posttest for the YSR- Externalizing Scale, the YSR- Total Problems, SSBS- Scale B, and the Strong Teens Content Test. However, the YSR- Externalizing Scale should be interpreted with caution as this finding does not consider pretest scores. The means and standard deviations between treatment and control groups for this measure differed significantly at pretest. Therefore, the effect size that show a small change but was not statistically significant may not be caused by the independent variable (i.e. curriculum) but by a continuation of the preexisting difference in scores from pretest.

Table 15. Summary of between findings for both groups.

Measures	Treatment-Control Posttest		
	Mean Difference	Significance	Effect Size
CDI	0.72	No difference	None
YSR- Internalizing Scale	2.24	No difference	None
YSR- Externalizing Scale	<b>5.26</b>	<b>No difference</b>	<b>Small</b>
YSR- Total Score	12.3	No difference	Small
SSBS- Scale A	2	No difference	None
SSBS- Scale B	7.37	No difference	Small
HCSBS- Scale A	3.51	No difference	None
HCSBS- Scale B	2.24	No difference	None
Symptoms Test	0.66	No difference	None
Content Test	1.63	No difference	Small

Bolded number indicates that at pretest, this measure was significant between the treatment and control groups

### Results in the Context of Research Questions

The research questions addressed and their methods of operationalizations were as follows:

1. What is the impact of participation in the *Strong Teens* curriculum for participants' knowledge in areas associated with social-emotional resiliency, such as anger management, conflict resolution, emotional education, etc.?
2. What is the impact of participation in the *Strong Teens* curriculum for participants self reports and observer reports of positive social and emotional skills and affect?
3. What is the impact of participation in the *Strong Teens* curriculum for participants' self-reports and observer reports of negative emotions, cognitions, and maladaptive behaviors?
4. Are any iatrogenic effects noted from participating in groups with other high-risk adolescents?
5. What is the perceived social validity and consumer satisfaction of the Strong Teens Curriculum by the instructors and participants in the study?

*Increase in content knowledge*

The difference in mean scores from the pretest to posttest for the treatment group was greater than for the control group, as anticipated. This finding may indicate that by participating in the Strong Teens curriculum, the treatment group exhibited greater knowledge gains in curriculum-related healthy social-emotional behavior than the control group. However, these higher scores from the treatment group were not statistically significant within pretest and posttest or between posttests of both groups. The difference between scores on the Content test for the treatment and control group did indicate a meaningful small effect size.

*Increase in social and emotional skills and affect*

Mixed results were found on the measures for increases in appropriate social and emotional skills and affect. The difference in mean scores within the pretest and posttest scores for the treatment group was greater than the control group for both measures of social competence (i.e. SSBS- Scale A and the HCSBS- Scale A) as anticipated. This finding may indicate that by participating in the Strong Teens curriculum, the treatment group when compared to the control group exhibited greater social competence, as reported by both a parent/guardian and a therapist. The differences within the pretest and posttest scores for these two measures with the treatment group were statistically significant. However, the difference within the pretest and posttest for the SSBS-Scale A with the control group was also statistically significant. Further, when posttest scores between the treatment and control groups were compared with these two measures, no significant differences were found.

*Decrease in maladaptive emotions, cognitions, and behaviors*

Mixed results were found on the measures for decreases in maladaptive emotions, cognitions, and behaviors. The difference in mean scores within the pretest and posttest scores for the treatment group was greater than the control group for the YSR- Externalizing Scale, YSR- Total score, and the HCSBS- Scale B as anticipated. Of these 3 measures, the YSR- Total Problems and the HCSBS- Scale B had statistically significant decreases from pretest to posttest in the treatment group but only produced an effect size for the HCSBS- Scale B. Contrary to anticipated results, the difference in mean scores within the pretest and posttest scores for the control group was greater than the treatment group for the CDI, YSR- Internalizing Scale, SSBS- Scale B, and the Symptoms Test. Of these 4 measures, only the CDI had statistically significant decreases from pretest to posttest in the control group with also a meaningful medium effect size. On the other 3 measures, the SSBS- Scale B and the Symptoms Tests each produced a small effect size but the YSR- Internalizing scale produced no meaningful effect size

There were no significant differences between the treatment and control groups posttest. The treatment group did outperform the control group by showing a small effect size for a difference between the posttest score on the Content Test. In turn, the control group outperformed the treatment group on the YSR- Total Problems and the SSBS- Scale B measures. The YSR- Externalizing scale also reported a small effect size between the treatment and control groups at posttest in favor of the control group. However, on closer examination, this was not the case because pretest scores between the groups were statistically significant and therefore any changes at posttest were not likely caused by the independent variable but rather a continuation of the preexisting differences in scores.

*Iatrogenic Effects*

Discussions of these data are limited to observations of the descriptive data and not any inferential calculations. Therefore, the reported differences observed within pretest and posttest for both groups and the mean differences also reported between the groups have not been subjected to statistical tests of significance, and may or may not be meaningful. Further, the means scores reported for the 4 questions included outlier scores. Mean scores are sensitive to outliers and therefore, these results should be interpreted with caution.

Preliminary observations made from the data indicate that the smaller decrease of infractions for the treatment group at posttest from pretest as compared to the control group does lend itself for discussion about what effects if any, may be a result of deviancy training among adolescents in the treatment group. The question that may be posed from such a finding is whether or not a treatment group within a residential care facility may inadvertently be a setting in which to promote an environment where antisocial values are reinforced, and increased social isolation, diminished sense of control, and resentment of authority figures develops.

*Participant Feedback*

Overall, the feedback from approximately half of the participants from the treatment group was very positive. This finding is especially true, given the fact that many adolescents that are mandated to residential treatment programs tend to be critical and cautious in responding to activities that require active participation, homework completion, and appropriate cooperation and trust building among peers. The majority of the participants that provided feedback had favorable comments or confirmed positive

statements about the Strong Teens curriculum. That is, the participants found that the lessons from Strong Teens were both enjoyable and useful, where the skills taught could be applied to their daily lives. The participants were also able to both understand and participate in the lessons, while also completing the homework assignments.

According to Salzer (1997), client participation in decision making when selecting and evaluating intervention goals and in planning and evaluating treatment is consistent with current models of client empowerment and personal responsibility. Obtaining feedback from high-risk adolescents not only empowers these individuals but also helps shape the way future implementations for other adolescents are designed in both lesson content and delivery. This serves to have important implications in both the success and continual compliance to treatment regimens by high-risk adolescents. Not only is it important that individuals, such as high risk adolescents, believe in their treatment program but so to, they must enjoy the daily implementations of the treatment in order for the outcomes to be both meaningful and satisfactory for them.

Elliot (1986) has found that children should be involved in decisions about treatment for their own misbehavior and that children can make valid judgments for treatment procedures. Obtaining compliance for treatment with high-risk populations is often one of the most difficult and ongoing challenges for therapists but also one of the most important factors for treatment success. The flexibility of Strong Teens in the role-plays or activities used by the therapists as teaching examples helps ensure that high-risk adolescents personal experiences are accounted for when presenting the lessons to them.

*Instructor Feedback*

Overall, the instructors' teachers found that the Strong Teens was a useful treatment tool for working with high-risk populations. As reported by the instructors, the Strong Teens curriculum was easy to implement given the lesson outlines, step by step lesson plans with scripted discussions, easy to implement activities, and homework assignments. The instructors had recommended that the curriculum be modified to address more specific concerns and issues associated with a high risk population, such as self-esteem issues, taking responsibilities for one's own actions, and role plays that were based on real life experiences of these adolescents (e.g. drug use, abuse, incarceration, and violent acts against others). This finding is important because it illustrates a well-known fact that treatment components that can be customized by a therapist and adapted to the unique needs of a particular individual(s) are more likely to be used repeatedly and implemented with integrity by a therapist. Foster and Mash (1997) maintains that at the broadest level, the concept of social validity is meaningful in helping design treatments. This issue is relevant to therapists who work with high-risk adolescents because interventions are applied within a socio-political, cultural, and historical context, and what clients and therapists think about procedures and outcomes are important because it can predict how they both respond to and implement interventions.

Strong Teens has the flexibility to accommodate different groups that uses the curriculum because activities and role-plays may be modified without compromising the overall objectives and components of each lesson. Further, the instructor may modify any lesson plan since this person has greater insight into the background and experiences of the adolescents they provide services to in treatment centers. Finally, the instructors had

indicated that they were confident in implementing the curriculum with integrity and fidelity, ensuring the objectives of each lesson plan had been met. This finding is important because instructors who feel confident in their ability to implement a curriculum effectively and consistently are more likely to continue to use the curriculum in the future, and in turn provide an additional structured and therapeutic intervention to high-risk adolescents. Overall, the instructors rated the curriculum as important, effective, helpful, and thus socially valid for treating high-risk adolescents in a residential center.

### Limitations

Although results from this study are promising and raise valid questions about interventions for high-risk populations, several limitations should be considered when drawing conclusions. These limitations can be categorized into 4 areas: 1) internal validity, 2) external validity, 3) measurement, and 4) treatment integrity.

#### *Internal validity*

The use of a control group helped ensure limited variances that may be associated with practice effects (Testing) and the passage of time (Maturation). These two threats to internal validity were considered by having the measures at pretest and posttest administered to participants in both groups at the same time and by comparing posttests scores between the two groups after implementation of the independent variable (i.e. Strong Teens curriculum). Selection biases were also limited by having the participants in each group randomly sampled into the two groups at the Center during initial intake.

Although some of the threats to internal validity were addressed, the limited sample size for both the treatment and control groups with an already small population size (i.e. high risk adolescents with severe or significant social, emotional, and/or

behavioral problems) may have served to undermine the integrity of the research design by limiting the statistical power of the tests that were used to determine treatment outcomes. Power is broadly defined as the ability of a test to detect an effect, given that the effect actually exists. The number of participants in a sample has a strong influence on first, the statistical test you may use for the analysis and second, whether the power you have from that particular test is sufficient to influence the conclusions you might reach from running the test. The negative results (i.e. no statistical significance) obtained from this study may have been in part because of the small sample size which resulted in the use of nonparametric tests that in themselves are not as powerful in detecting statistically significant differences as tests such as an ANOVA or MANOVA.

Finally, because both the treatment and control groups were also receiving other psychological treatments, the efficacy of the Strong Teens may have been underestimated when comparing the between groups scores. This concern is especially relevant to the control group, where participants may have received many if not all of the therapeutic and knowledge experiences from other components of their treatment plan (Diffusion of treatment) that matched those of the Strong Teens lessons.

#### *External validity*

Although some threats to external validity (e.g. Multiple-treatment interference) were in some ways “controlled” by the use of a control group, several threats to external validity limit the generalizability of this study. Several demographic variables were measured and accounted for in this study, but the limited sample did not reasonably represent the racial, ethnic, gender, and geographic characteristics of the population of interest (all high risk adolescents in the United States). The participants were mostly

Whites, classified under special education, and were restricted to one state (Kansas).

Further, pure random assignment was not established because only participants who had given written consent in one residential treatment center in the United States that “housed” high-risk adolescents were considered for this study. Therefore, adolescents participating in the study may not fully represent the population of interest.

### *Measurement*

Assessing participants in research settings using socio-emotional rating scales have several limitations in the area of measurement that include bias response, error variance, measurement reliability, and validity. The Strong Teens Symptoms Test and Content Test are relatively new tests as part of the Strong Teens curriculum package. They still have only limited backed parametric and psychometric data to support their reliability and validity. In addition, the use of therapist and parent /guardian rating scales (i.e. SSBS and HCSBS respectively) only assess the perception of problems and improvements and are not as objective as direct observations of actual behavior by trained professionals (Merrell & Isava, 2005). Finally, while such scales as the YSR, CDI, SSBS, and HCSBS all have adequate technical data to support their use, the use of self-report measures in general limit the power of meaningful or statistically significant findings in that self-report of changes does not necessarily mean that these changes truly happened.

An alternative to using the raw scores obtained from instruments when determining change in treatment outcomes would be to look at change in raw scores, expressed as a percentage. Pretest and posttest differences in raw scores within treatment or control groups when converted to a change in percentage may reflect a more

meaningful indicator of changes that occurred from pretest to posttest within a group.

The use of change expressed in percentages obtained from raw scores may be a consideration since raw scores in themselves may not necessarily reflect the same meaning between 2 scores from different participants at pretest to posttest (levels) or may not consider ceiling or floor effects from the same participant.

### *Treatment Integrity*

Although the delivery of the curriculum during the six weeks, two times a week, was maintained, Strong Teens was originally designed to be delivered over 12 weeks, once a week. The main reason for a 12-week delivery is to ensure adequate pacing of the instruction, as well as an opportunity for participants to assimilate the knowledge and practice the skills in real life situations from the curriculum. Until this study, there was no empirical data to support or dissuade the implementation of the curriculum as a 6-week, twice a week intervention. Thus, it is unknown at this point in time whether a 12-week (one lesson per week) or 6-week (two lessons per week) format is most optimal and effective, or whether differences in weekly instructional pacing in this manner are critical.

### Implications for Practitioners

The findings from this study increase our understanding of using structured curricula to teach social and emotional skills that promote resiliency in high-risk adolescent populations. It allows for mental health professionals and educators to consider incorporating into an overall mental health plan, a component that targets strength training by teaching social and emotional skills in an adolescent. The importance of strength training is to not only build self-confidence and esteem in the adolescent, but

to function as an option and buffer against future obstacles and challenges that high-risk adolescents may face in their rehabilitation.

The participants in this study represent the “top of the triangle” (refer to Figure 1) and hence are adolescents with severe social, emotional, and behavioral problems. A six week curriculum that meets in group format for two hours a week may thus only have limited effects on this high-risk population. This is the first study to look at the impact of Strong Teens with a very severe group of adolescents. With further research, Strong Teens may prove to be an effective component of a more comprehensive, multilevel treatment program, but this curriculum was never intended for use in lieu of a multilevel intervention program for high-risk adolescents such as those identified as having significant emotional and behavioral problems. Likewise, this study does suggest that a single, one time social-emotional learning curriculum can replace comprehensive intervention efforts when providing services for high-risk adolescents.

#### Directions for Future Research

This study was one of several upcoming studies that focus primarily on the Strong Teens curriculum as either a prevention or intervention program for adolescents in schools or treatment centers. The findings from this study contribute and expand upon current research in the field of adolescent mental health. Further studies that go beyond the scope of this study should address primarily the following five domains: 1) Generalization, 2) maintenance, 3) accountability, 4) scope, and 5) assessment.

#### *Generalizability*

This study did not assess the generalization of adolescent behaviors and social/emotional functioning beyond the context of the residential treatment center.

Future research should include a follow up study or tracking of these high-risk adolescents once they return to their regular lives in the custody of their parents or guardians and resume regular school, a vocation program, or employment. Further, as part of long term treatment planning and follow-ups, researchers should include lesson components or training modules that encourage and reinforce the application of the skills learnt across diverse settings and people.

### *Maintenance*

Previous research has demonstrated the lack of treatment maintenance over time (i.e., Sutherland & Wehby, 2001). Replications of this study should include follow-up assessment spread across months and even years to determine whether adolescents were able to maintain or improve their resiliency skills taught and the effects the skills had in their lives. Strong Teens may contain components that serve to increase adolescent resiliency in the face of continued struggles as these adolescents are once again mainstreamed into society. The contingencies that support the acquisition and use of resiliency skills over time need to be explored further. Researchers should include follow-up measures over different lengths of time to assess the utility and frequency by which social-emotional skills are used by adolescents in their daily lives. Also, it would be useful to incorporate “booster sessions” in order to promote skill durability as part of the continual treatment regiment of adolescents.

### *Accountability*

To ensure adequate learning and practice opportunities during the implementation of the curriculum, Strong Teens should be provided and taught like any other component of a treatment plan. Similar to other treatment components that have activities,

assignments, and participation, expectations must be set so that there is a high regard for attendance, participation in activities and discussions, and assignment completion.

### *Scope*

Future Strong Teens researchers may wish to include a parent training component that help support the role parents/guardians play in encouraging the use of social-emotional learning and skills by their adolescents. As part of the continuum of service delivery to high-risk adolescents and their families, parents/guardians can serve as an integral part of the support network for adolescents as they transition from either foster care, or residential treatment. Parents/guardians can support and facilitate the skills learnt in treatment by the adolescents, by providing an opportunity for the adolescents to generalize the skills to more naturalistic settings like home and school.

A more comprehensive and structured data collection on deviancy training (iatrogenic effects) should be attempted among high-risk adolescents when providing treatments in-group format. The presence or absence of variables or conditions that may produce iatrogenic effects needs to be explored further for such a high-risk population. The notion that delinquent adolescents who associate with anti-social peers are at an increased risk of continuing and escalating delinquent behaviors is possible. Therefore, continued investigations into how intervention programs like Strong Teens may control or stop iatrogenic effects is important in ensuring that the therapeutic effects from such interventions are maximized for all adolescents receiving services.

### *Assessment*

Education and therapeutic service plans that are based on the deficits, problems, or pathologies of adolescents direct attention primarily to what is wrong with that

adolescent. The assessment instruments used in this study, with the exception of 1 scale each from the SSBS-2 and HCSBS, were designed to mainly assess the emotional, social, and behavioral disorders of adolescents. While these instruments have strong psychometric properties and are useful in identifying an adolescent's situation, these instruments often tell us very little about the adolescent's strengths, competencies, preferences, and supports. Strength-based assessment helps identify social, emotional, and behavioral competencies and characteristics that create a sense of personal accomplishment, promote personal development, and contribute to meaningful relationships with others.

Resiliency training, such as Strong Teens, is a strengths-based approach to providing services to adolescents with severe or chronic problems. In future studies, it would be useful to include other instruments that help determine the efficacy of programs that promote skill acquisition and knowledge gains on social, emotional, and behavioral strengths. One such available instrument is called the Behavioral and Emotional Rating Scale: A Strength Based Approach to Assessment (BERS) by Epstein and Sharma, 1998. This instrument was designed to measure the emotional and behavioral strengths of children and adolescents and is based on 52 items that examine interpersonal/intrapersonal strengths, family involvement, school functioning, and affective strengths. The BERS is completed by an adult who is familiar with the adolescent.

### Conclusion

The prevalence of significant social, emotional, and behavioral problems in adolescents continues to tax and drain available resources in schools, juvenile justice

systems, and treatment centers across the United States. Mental health professionals are increasingly looking for effective interventions methods that help intervene with adolescents who present with severe and chronic social, emotional, and behavioral problems. The purpose of this study was to describe the efficacy of a brief social and emotional learning curricula delivered in a residential treatment center to high-risk adolescents. Social and emotional learning is increasingly being viewed as an important component for both educators and mental health professionals as part of either a prevention or intervention approach to treating adolescents with significant problems.

Although preliminary and not without limitations, the results of this study provide some support for using a curriculum that teaches and builds social-emotional skills, as part of a more comprehensive mental health plan for high-risk adolescents. The study focused on important changes in adolescent behavior that are linked to improved outcomes for adolescents. The findings reported in this study expand the literature on intervention programs and treatment options when providing services for high-risk adolescents. Group-based interventions have been generally recognized as an effective and acceptable means of service delivery. The Strong Teens is an innovative treatment option that serves to teach and build resiliency skills and other prosocial behaviors that increase the likelihood that adolescents will have the motivation, knowledge, and skills to overcome future challenges in their already turbulent life. Replication and expansion of study results would be beneficial to mental health professionals, educators, and the judicial system, as well as the adolescents they serve.

APPENDIX A  
DESCRIPTION OF ST FRANCIS PROGRAM

### Description of St. Francis Program

The treatment facility, The St. Francis Academy West, is a tertiary prevention, long term residential treatment program comprised of several buildings that cares for high-risk adolescents. The facility is licensed as a psychiatric treatment facility accredited by the Joint Commission on Accreditation of Health Care Organizations and is approved for payment by many insurance coverages. The facility serves a maximum of 26 boys, 12 to 17 years of age inclusive, who have been referred for adjudged delinquent misbehavior (currently 34% of the population) or have been referred for similar misbehavior not adjudicated. Adolescents entering treatment usually come with a history of neglect, abuse, sex offenses, conduct disorders, behavior problems, chronic runaway patterns, gang affiliations, criminal activities, and developmental disabilities.

The facility has 11 full-time treatment staff persons. Additionally, psychologists and psychiatrists are available for consultation and are involved in therapeutic decisions. The residents' days are structured, and they have no interaction with the community except for weekly visits by parents/guardians. All services, including education and therapies are provided at the facility. Treatment is eclectic and includes milieu, individual, group, and family therapy and may include reality therapy and psychodrama. Such treatment is structured, and progress on explicit goals is evaluated through the use of an individualized treatment plan" which is updated quarterly in a meeting of all staff persons involved in the therapy of the boy. Differential treatment is guided in part by conceptual level to allow maximum usable freedom and by integration level to match the adolescent with counselor and give some guidance in selecting the therapeutic approach used with each adolescent.

APPENDIX B  
ADOLESCENT CONSENT FORM

## Strong Teens

### *Adolescent Consent Form*

Dear Student:

My name is Duane Isava and I work at the University of Oregon. I have done research to investigate what helps adolescents to stay strong even when things are going wrong in life. The research I have done has uncovered some of the most effective things or strategies that adolescents can do to stay resilient, which means strong in the face of life-difficulties. The Saint Francis Academy has read through my research and agrees that these are some of the things that help adolescents to remain resilient, and an instructor of one of your classes has agreed to participate by presenting the lessons.

**Very little of the information presented to you should be disturbing. A few scenarios (for example scenarios related to anger-management) may present mild negative situations and ask you to work through them, but your instructor is trained to monitor these situations closely and to be ready to help you through any of the lessons that bring up any bad feelings.**

For the next six weeks, one of your activities in class will be participating in lessons that talk about some of these effective resiliency strategies. For example, what are some of the best things to do when you feel angry or just negative and some good ways to think positively and set goals for yourself? Don't worry; participating in this class will not interfere with your other scheduled classes or activities.

Before your instructor starts to teach these lessons, he or she is going to ask you to complete some information about yourself, specifically about how much you already know about resilience in your life and how you have been feeling and thinking within the last couple of weeks. Then, at the end of the six weeks, he or she will again give you the same questionnaires to find out if the lessons have been effective in teaching you about resilience and if the skills have helped you with how you feel and think. The tests only take about one hour to complete but there are no grades that are assigned to this class. There are no right or wrong answers; we only use the scores to see how effective the lessons are.

If you participate, all of the work that you do in this class will be kept confidential. We will use a number instead of your name and that code will only tell us your gender, age, grade, and maybe your race (if you decide to say so).

The Saint Francis Academy has already given permission for you to participate but we will still like to know if you would like to have these lessons. These lessons will happen during the regular school day. Remember, these lessons are voluntary, but, if you think you'd like to help us test them, just sign your name on the line on the next page.

If you sign but then change your mind later on, just let your instructor or parent know that you'd like to stop taking these lessons, and you won't get in any trouble for changing your mind. If you are thinking about signing but still don't feel sure what this is asking about, ask your instructor or counselor about it, or you can log onto <http://orp.uoregon.edu>, you can even call me, Duane Isava, at my office at the University of Oregon: (541) 554-9777.

You will get a copy of this letter to keep and take with you.

Sincerely,

Duane Isava.

I, \_\_\_\_\_, have decided to help you with this project.  
Print Name and grade

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

APPENDIX C  
PARENT/LEGAL GUARDIAN CONSENT FORM

## Strong Teens

### *Consent from Parent/Legal Guardian*

Your adolescent has volunteered to be a part of a research study on resiliency conducted by Duane Isava, a doctoral student in the School Psychology Program at the University of Oregon. Dr. Kenneth Merrell, Director of the School Psychology Program, supervises Mr. Isava. The study will evaluate twelve lessons designed to teach adolescents how to handle typical stress and social situations in a positive manner. Resiliency skills are the skills that students use everyday to overcome minor problems in their environment. Since resiliency is the ability to bounce back, some of the skills covered in the resiliency program will be skills like problem solving, positive thinking, goal- setting, and anger-management.

Participation in this project is completely voluntary. Your adolescent was selected as a possible volunteer because the staff at Saint Francis Academy felt that adolescents might benefit from the curriculum. Staff members from Saint Francis have been trained to instructor the lessons. Instruction on the lessons will begin at the end of April.

If you decide you want your adolescent to participate, the lessons will be presented in approximately 50-minute sessions twice a week for six weeks. The lesson will be incorporated as part of the overall intervention plan for the adolescent, and therefore no other important activities will be missed.

**All information presented as a part of the curriculum is of minimal psychological risk. A few scenarios (for example scenarios related to anger-management) may present mild negative situations and ask adolescents to work through them. The instructor is trained to monitor these situations closely and to anticipate concerns that may be unique to his or her adolescents.**

To check on the effectiveness of the resiliency lessons, your adolescent will be given five short questionnaires to complete before the lessons are presented and then the same questionnaires at the end of the six weeks. The questionnaires will take approximately one hour to complete. The questionnaires are straightforward and inquire about adolescents' feelings, thoughts, and behaviors about themselves, feelings about their relationships, their feelings about their abilities, and relationship with other peers. The adolescents are given these questionnaires at the end of the six weeks to see if the lessons were effective in teaching resiliency. There is no grade attached to your adolescent's performance on these questionnaires or for their performance throughout the twelve lessons.

To respect your adolescent's privacy, any written information will be given a code and will not be attached to his or her name. All of the coded information will be kept at the University of Oregon, and only general information like age, grade, gender, and ethnicity

(if provided) will be attached to the code. The information will be pooled with similar information gathered from other sites to further protect your adolescent's privacy.

Your decision whether or not to participate will not affect your relationship with Saint Francis Academy, the instructor, or with the University of Oregon. If you decide that your adolescent will not participate, a structured activity will be provided for him or her in replace of the lessons. If you decide to participate, you may still withdraw your consent and discontinue your adolescent's participation at any time without penalty.

If you have any questions, please feel free to contact Duane Isava at (541) 554-9777. If you have questions regarding your or your adolescent's rights as a research participant, contact the Office of Human Subjects Compliance, University of Oregon, Eugene OR 97403, (541) 346-2510. You will be given a copy of this form to keep.

Your signature indicates that you have read and understood the information provided above, that you willingly agree that your adolescent may participate, that you know that you may withdraw your consent at any time and discontinue participation without penalty, that you will receive a copy of this form, and that you are not waiving any legal claims, rights or remedies.

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Print name of Parent/Legal Guardian and relationship to adolescent

I agree to allow \_\_\_\_\_ to participate in the Oregon Resiliency Project.

Print name of adolescent

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Signature and date

APPENDIX D  
INSTRUCTOR CONSENT FORM

## Strong Teens

### Instructor Consent Form

Saint Francis Academy has agreed to participate in a voluntary research study on a resiliency curriculum conducted by Duane Isava, a doctoral student in School Psychology. Dr. Kenneth Merrell, Director of the School Psychology Program at the University of Oregon, supervises him. Resiliency is the capacity to bounce back when presented with life-stressors, and a child's possession of resiliency characteristics is related to positive life-outcomes.

The study will investigate how a six-week resiliency curriculum, the Strong Teens curriculum, can be incorporated into a treatment center's overall intervention plan, and how adolescents respond to an intervention curriculum that teaches skills such as problem-solving, positive-thinking, goal-setting, and anger-management. We would like to assess whether or not adolescents feel that they learn new skills or knowledge after six weeks of instruction in this curriculum. You were selected as a possible participant in this study because the director of Saint Francis Academy suggested that you would be willing to learn more about this type of curriculum and be a part of this study.

If you decide to participate, I will conduct a half-day of in-service instructor training that has already been approved by Saint Francis Academy. The training is intended for teachers, social workers, and therapists who will be involved in instruction regarding the curriculum and the age and grade specific requirements for its presentation. Once you are trained, class-time will be established, and consent forms will be provided to parents/legal guardians to obtain permission for their adolescents to participate in this research study.

The impact of the curriculum will be 45-50 minutes twice a week for 6 weeks. At the discretion of the director of Saint Francis Academy or other decision makers, the curriculum will be presented in lieu of an activity, but not in lieu of any treatment plans that are already in place for the adolescents. For the purposes of the research, you will be asked to assess adolescents at the beginning of the curriculum and at the end of the six-week course. The assessment will consist of four measures, which are questionnaires that inquire about adolescents' feelings, thoughts, and behaviors about themselves, feelings about their relationships, their feelings about their abilities, and relationship with other peers. There is no grade attached to your adolescent's performance on these questionnaires or for their performance throughout the twelve lessons. You will also be

asked to complete one measure before and after the curriculum is implemented about your attitudes and perceptions about the adolescent's behaviors and emotions.

**All information presented as a part of the curriculum is of minimal psychological risk. A few scenarios (for example scenarios related to anger-management) may present mild negative situations and ask students to work through them. You will have access to the psychologist or therapist if any issues or concerns arise.**

To maintain the anonymity of participants, any written information that is obtained in connection with this study will be securely coded and only demographic information, **such as age, gender, ethnicity, and grade** will be attached to the codes.

Participation of treatment centers, staff, instructors, and adolescents is voluntary. Your decision whether or not to participate will not affect your relationship with the University of Oregon or with the Department of School Psychology. If you decide to participate, you are free to withdraw your consent and discontinue participation at any time without penalty.

If you have any questions, please feel free to contact Dr. Ken Merrell or Duane Isava at (541) 346-2414. If you have questions regarding your rights as a research participant, contact the Office of Human Subjects Compliance, University of Oregon, Eugene OR 97403, (541) 346-2510. You will be given a copy of this form to keep.

Your signature indicates that you have read and understand the information provided above, that you willingly agree to participate, that you may withdraw your consent at any time and discontinue participation without penalty, that you will receive a copy of this form, and that you are not waiving any legal claims, rights or remedies.

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Print Name and Title

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Treatment Center)

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Signature and date

APPENDIX E

SAMPLE LESSON (Unit 4) FROM THE STRONG TEENS CURRICULUM

## Strong Teens Lesson 4

# Dealing with Anger

### **Purpose:**

Teach students to understand anger and manage aggression.

### **Objectives**

- Students will accurately list and describe the steps of the Anger Model.
- Students will be able to name and describe the anger control skills taught.
- Students will apply the Anger Model and anger control skills to scenarios.
- Students will generalize, or apply this lesson to real life situations.

### **I. Review (5 minutes)**

**Activate prior knowledge:** Review/discuss previous assignments and main ideas. Obtain 3-5 adequate ideas.

**Sample Script:** *During our last meeting we discussed identifying and expressing our emotions. Raise your hand if you can tell me an important idea we learned in our last class. Earlier in the term we learned about comfortable and uncomfortable emotions. Can anyone give me an example of a comfortable and uncomfortable emotion?*

Provide feedback.

## Instruction

### **II. Introduction (5 minutes)**

Communicate objectives clearly

**Sample Script:** *Today we will talk some more about anger. Anger is a normal emotion that everyone experiences. We will discuss what anger looks like and what causes it. We will also learn several skills to help us cope with our anger so that we don't need to behave aggressively.*

### **III. Name and Define Anger and aggression (5 minutes)**

Using Attachment 4.1 as an overhead discuss the following important terms:

Attachment 4.1 can also be used as a reference handout for your students.

- **Emotion:** A feeling that comes from something happening to you that is meant to tell you something about your situation. You can identify emotions by the thoughts in your mind or the feelings in your body.
- **Anger:** A powerful emotion of extreme unhappiness and dislike toward someone or something when you feel threatened or harmed.
- **Aggression:** Forceful or oppositional behavior or words that cause physical or emotional harm to others, yourself, or property.
- **Aggression Management:** Choosing appropriate behaviors when you are angry.

Convey the following main ideas to your students using your own words or use the suggested script below.

- **All people have emotions.** Emotions are tools that help us understand and cope with a person or situation (just as our eyes and ears help us perceive the world).
- **Anger is a natural and necessary emotional reaction.** Anger provokes us to take notice or stimulates us to respond. Without anger, we would be limited in our ability to understand and cope (i.e. protect ourselves) with people and situations (just as without our eyes and ears we would be limited in our ability to understand the world).
- **Aggression is one of many behaviors we can choose from to cope** with situations and people when we are angry.
- **Aggression is not the best way to deal with your anger** and often leads to harmful results. There are usually better ways to deal with your anger.

**Sample script:** *Just as we all have eyes and ears that help us navigate the road when we are driving, we also have emotions that help us understand and deal with situations and people. Emotions are like tools that help us understand our situations and deal with people and relationships. Anger is a powerful emotion that helps us protect ourselves when we feel something is going wrong. For example, it is natural to become angry when someone spreads vicious gossip about you or blames you for something that you didn't do.*

Ask students for examples of when they have become angry and what it was that made them angry.

**Sample Script:** *If you did not become angry you would not be motivated to protect yourself. However, anger does not have to lead to aggression to defend ourselves or to right a wrong. In fact, rather than solving the problem, aggression often leads to many problems. Aggression is only one way that we*

*can react to our anger. More effective ways of reacting to our anger include: talking about your anger, problem solving, or walking away.*

Ask students for strategies they use to handle their anger.

**Sample Script:** *The ability to understand our anger and manage our aggression is a very important skill that we all need throughout our lives. Anger is a normal, healthy emotion that all of us will feel many times in our lives. Being angry with someone or over something is not wrong. However, dealing with anger through aggressive behaviors usually can lead to many problems.*

Ask students for examples of when they use aggressive behaviors in response to feeling angry.

**Sample Script:** *Although aggression can get you what you want in the moment, over the long term it can cause you many more problems. Research has shown many short- and long-term problems for angry and aggressive people including cardiovascular disease, poor friendships and romantic relationships, difficulty holding jobs and lowered income.*

#### IV. Introduce Anger Model and Definitions (5 minutes)

Use Attachment 4.2 as an overhead.

- **Trigger:** Anything that someone does to you that results in you feeling angry.
- **Interpretation:** The process of thinking about what has happened to you and deciding what it means.
- **Emotional Reaction (Anger):** A response to an event that influences your mood.
- **Decision:** Making a choice, based on your interpretation, about what action you will take.
- **Behavior:** Acting out the decision that you made.
- **Consequence:** The direct results of your behavior.

#### V. Integrate and illustrate anger model

**Example:**

Steps of Anger Model:	Script for Scenario:
1. Trigger	<i><u>Two days ago you were really struggling with some personal issues that you felt you could not talk to anybody about because you were afraid others might find out. Your best friend convinced you to talk about it and promised to keep it secret. You just overheard two people talking about your problem.</u></i>
2. Interpretation	<i><u>You begin wondering how they found out and who told</u></i>

	<i>them. As you think about it, you realize that the only person you told was your best friend.</i>
<b>3. Emotional Reaction</b>	<i>As you realize that your best friend must have told others a sickening feeling comes over you. You feel betrayed by your best friend. As you think about what will happen to your reputation now that your secret is known, you become furious.</i>
<b>4. Decision</b>	<i>In the heat of the moment you decide you have to do something about this now. You are so angry that you decide to beat your friend up.</i>
<b>5. Behavior</b>	<i>You see your best friend in the hall. You run toward your friend and slam him/her into the locker. Then you take a swing at your friend and a fight begins.</i>
<b>6. Consequence</b>	<i>You and your friend are both suspended from school for fighting and your best friend becomes your mortal enemy.</i>

**Discuss the above example with the class and emphasize the following points:**

- **Interpretation** is an automatic and active process that is based on a number of factors including past experiences, situational circumstances, and mood. When the ball hit the student he or she automatically began to think about the meaning of it. The student could have interpreted the event in one of two ways: (1) it was an accident or (2) it was intentionally thrown.
- The student's interpretation will determine his or her **emotional reaction** (i.e. anger, indifference, fear, etc.), which will in turn influence the student's decision-making process in selecting a behavioral response.
- A student's behavioral response to his anger is the product of a **decision**. This decision often occurs so quickly that students are unaware that they are making a decision. However, it is important that students recognize that they do make a decision in how to respond to their anger.
- A student's **behavior** produces both short- and long-term consequences. Many of these consequences are obvious (e.g. disciplinary referral or getting what you want) but many are less obvious (e.g. peer rejection, poor student-teacher relationships). It is important that students be aware of the **consequences** of their behaviors.

## VI. Present Anger Control Skills (5 minutes)

**Sample Script:** *Here are several examples of things that you can do to help you cope with your anger. Although you can use all of these skills any time you are angry, they work best when you use them in the right stage of the Anger Model. First we will describe each skill and when it is best to use, then we will apply the skills to an example.*

Use Attachment 4.3 as an overhead for the following discussion

- **Counting Backwards** means that you count backwards from 10. You can either do this quietly or do it in your head. It is best used when you first notice that you are angry (Emotional Reaction stage). It gives you time to think about the situation and what you are going to do and calms you down.
- **If-Then Statements** means that you ask yourself what might happen if you do something. It is best used when you are deciding what to do about a situation or problem (Decision stage). If-then statements help you make better choices by helping you understand the consequences of your actions.
- **Self Talk** means that you say to yourself the things that a good friend would say to calm you down such as: “Calm down”, “Take it easy”, or “Let it go”. It is best used when you first notice that you are angry (Emotional Reaction stage). Its purpose is to help calm you down.
- **Self Evaluation** means that you think about what you want to get out of the situation and how best to get it. It is best used when you are deciding what to do about a situation or problem (Decision stage). Its purpose is to help you get what you want out of a situation.

## VII. Application of anger control skills (10 minutes)

Use Attachment 4.4 as a student handout.

Using your own example, or the suggested example, illustrate the appropriate use of the anger model.

Negative Example:

Scenario- “You have been standing in long line for about an hour waiting to buy tickets. Someone walks up to the person in front of you and begins talking to him. As the line moves forward, the person slips into the line ahead of you and continues to talk (**trigger**). You wonder if the person is just talking to a friend and will leave, or if he is being sneaky and deliberately cutting in line so he doesn’t have to go all the way to the end of the line. You believe that he is cutting in line (**interpretation**) and become angry. You say to yourself, “I have been waiting for an hour and he thinks he can just cut in?” (**Emotional reaction**). You think about what to do and decide to yell at him (**decision**). You tap the guy on his shoulder and tell him, “No cuts idiot! Go to the end of the line!” (**Behavior**). He yells back and heated words are exchanged. You shove him and the two of you get into a fight. Security is called and both of you are removed from the line and told to leave the premises. You waited in line over an hour and never got a ticket (**consequences**).”

**Discussion questions:**

- How did this turn out?
- What went wrong?

**Sample Script:** *Now we will repeat the scenario and this time include the anger control skills that we learned. I will model the appropriate use of the anger control skills for you.*

**Positive Example:**

Scenario- “You have been standing in long line for about an hour waiting to buy tickets. Someone walks up to the person in front of you and begins talking to him. As the line moves forward, the person slips into the line ahead of you and continues to talk (**trigger**). You wonder if the person is just talking to a friend and will leave, or if he is being sneaky and deliberately cutting in line so he doesn’t have to go all the way to the end of the line. You believe that he is cutting in line (**interpretation**) and become angry. You say to yourself, “I have been waiting for an hour and he thinks he can just cut in?” (**Emotional reaction**). To calm down, you count quietly backwards from 10 (Count Backwards). After counting backwards you tell yourself, “Play it cool, take it easy. Maybe he’s just talking to his friend and not cutting into the line” (Self Talk). You think about what you should do. You come up with several options such as telling him to get out of the line, or asking him whether he realizes that he has cut into the line. You ask yourself what might happen if you took each approach (Self Evaluation).

Next you ask yourself what you want to get out of the situation (you want to buy a ticket but you don't want someone cutting in line) and pick the option that will get you what you want (Self Evaluation). You decide to say something but want to avoid a fight. (**Decision**). You calmly approach the guy and ask, "Are you in line or just talking to your friend?" He responds, "I am doing both." You say, "That's not fair for those of us who have been waiting in line, I think that you should go to the back the line." (**Behavior**). He sneers at you but goes to the back of the line. You got what you wanted-you bought a ticket, avoided a confrontation, and no one cut in front of you (**consequences**).

**Discussion questions:**

- What if the student had refused?
- How did this turn out?
- Why did it turn out this way?
- What was different?

**VIII. Practice or Application (10 minutes)**

**Student role-plays:** Present students with one or two scenarios you have developed or have students develop their own. Instruct students to label their scenarios using the Anger Model. Then, grouping the students into pairs or groups of three, ask them to role-play a positive example using the anger control skills.

**Discussion:**

After students have completed the role-plays, select one of the groups' examples for discussion. Have the students present their example labeled with the steps of the anger model.

**Discussion questions:**

- How did this turn out?
- Why did it turn out this way?
- What skills did you use?

**IX. Closure (5 minutes)**

Gather your students together and review the steps and objectives.

**Sample Script:** *Today we learned about an emotion called anger. We learned about a five-step anger model, which included the steps: (1) trigger, (2) interpretation, (3) emotional reaction, (4) decision, (5) behavior, (6) consequence. We also learned four simple but effective skills for dealing with our anger. The skills included: (1) counting backwards, (2) using "if-then" statements, (3) self-talk, and (4) self evaluation.*

**X. Testing or Post-Assessment (5 minutes)**

If conducting a post assessment, read instructions and handout the tests.

### **XI. Homework:**

Pass out the homework worksheet: Attachment 4.5: Anger Control worksheet.

### **Tips for Transfer Training**

- **Precorrect:** Tell your students to use their anger control skills (count backwards, “If-then” statements, self-talk, and self-evaluation) if they feel as if they are getting angry. Recess, lunch, and physical education periods are particularly good for this lesson’s precorrection.
- **Remind:** If you find a student that is not dealing with their anger properly, ask them whether or not they *interpreted* their *emotional reaction* and made the best *decision*. Remind them of the *consequences* for their reactions and prompt them to use the anger control skills.
- **Reinforce:** If you happen to see your students using any anger control skills or providing evidence that they used the steps of the anger model appropriately, give them praise or reinforcement. For example, students could be rewarded for talking out their conflicts or reacting calmly to an aversive situation (an anger trigger).

APPENDIX F  
DEMOGRAPHIC FORM

**DEMOGRAPHIC FORM**

*This form may only be reviewed by authorized Saint Francis Academy staff and University of Oregon Research Team Members.*

Site: _____ Date Completed: _____ Completed by: _____
---

***Please either circle or print information for the following questions/statements.***

1. Student Name/Research Code: \_\_\_\_\_

2. DOB: \_\_\_\_\_ (Mo/Dy/Yr)

3. Ethnicity:    White            Black            Hispanic            Native American  
                          Asian            Other

4. Current grade placement: 4 5 6 7 8 9 10 11 12 GED

5. Primary DSM IV diagnosis:  
 \_\_\_\_\_

6. Reason for placement at Saint Francis Academy:  
 \_\_\_\_\_

7. Special Education Eligibility: YES    NO

Is the Student on a Current IEP?: YES    NO            If "Yes" then for: Learning  
 Disability

Problems

Behavior

Retardation

Mental

8. Was an IQ administered within the last 4 years?: YES    NO

Test Used:    WISC            WAIS            Stanford-Binet  
                          K-Bit            Other: \_\_\_\_\_

Full Scale IQ: \_\_\_\_\_

Verbal IQ: \_\_\_\_\_

Performance IQ: \_\_\_\_\_

9. Has the student ever been placed in foster care?: YES NO
10. Has the student ever been convicted of a crime?: YES NO If "Yes" then specify:  
 (a) Crime(s) against a person:  
 \_\_\_\_\_  
 (b) Victimless crime(s):  
 \_\_\_\_\_  
 (c) Drug related:  
 \_\_\_\_\_  
 (d) Other crime(s):  
 \_\_\_\_\_
11. Does the student have a prior history of institutionalization?: YES NO  
 If "Yes", the number of times:  
 \_\_\_\_\_
12. Does the student have a prior history of correctional involvement/arrest?: YES NO  
 If "Yes", the number of times:  
 \_\_\_\_\_
13. Is the student receiving treatment for alcohol or drug abuse?: YES NO
14. Is the student receiving treatment for sexual offenses?: YES NO
15. Was the student a victim of sexual abuse?: YES NO DON'T KNOW
16. Has the student ever attempted suicide?: YES NO DON'T KNOW
17. Does the student have a history of self-abuse?: YES NO DON'T KNOW

APPENDIX G

STRONG TEENS SYMPTOMS AND KNOWLEDGE TESTS

## **STRONG TEENS UNIT TESTS**

### **INSTRUCTIONS FOR TEACHERS/GROUP LEADERS**

The Strong Teens Unit Tests include a 10-item Symptoms Test and a 20-item Knowledge Test. The symptoms test is designed to be used to measure students' feelings, self-concept, and thinking patterns related to emotional distress. The Knowledge Test is designed to measure students' knowledge of healthy social and emotional behavior, based on content from the curriculum. The unit tests may be used to measure how effective the Strong Teens curriculum is in increasing student's knowledge of healthy social-emotional behavior, and decreasing their symptoms of emotional distress.

If you choose to use the Unit Tests, you should administer them during or prior to the first lesson (Lesson 1), and during or after the last lesson (Lesson 12). Most students can complete the entire Unit Tests in 15 to 20 minutes.

**HOW TO SCORE THE SYMPTOMS TEST:** For the Symptoms Test, the 10 items include boxes in which the students place their answer (X) regarding how they feel. These boxes have lightly shaded number values in them, ranging from 0 to 3, with the higher number indicating more emotional distress. This test is scored by summing the values selected in the student's ratings for the 10 items, and entering the total score on the line indicated at the bottom of the form.

**HOW TO SCORE THE KNOWLEDGE TEST:** A scoring key is included for the Knowledge Test, containing the correct answers for each of the 20 items, along with an indication of which lesson the question was drawn from. To score students' tests, compare the scoring key answers to the student's actual answers, and place an "X" or other mark by every answer that is incorrect. Each item that has a correct answer should be given one point, and the final tally of correct answers can be converted into a percentage of correct responses. For example, if a student correctly answered 17 of the 20 questions, his or her raw score would be 17, and the percentage correct would be 85%.

**HOW TO USE THE UNIT TEST SCORES:** To compare post-test scores to pre-test scores, subtract the pre-test total score from the post-test total score for each of the two tests. The difference reflects how much change occurred from the beginning to the end of the curriculum. Remember that higher scores on the Symptoms Test indicate more emotional distress or upset, whereas higher scores on the Knowledge Test indicate more knowledge of healthy social and emotional behavior. Ideally, participation in the Strong Teens curriculum will result in an increase from pre-test to post in knowledge (the post-test scores will be greater than the pre-test scores), and a decrease from pretest to post-test in symptoms (the post-test scores will be lower than the pre-test scores).

## Strong Teens Unit Tests

*For Students in Grades 9-12*

Name \_\_\_\_\_ Grade \_\_\_\_\_ Age \_\_\_\_\_

School \_\_\_\_\_ Today's Date \_\_\_\_\_

I am a: male female

On the next few pages, you will be asked to answer questions about how you have been feeling over the past month. Think about how you have been feeling overall and answer the questions as well as you can. After answering those questions, you will then be asked to answer more questions to see how much you know about healthy and unhealthy ways to express emotions, thoughts, and behavior. Read each question carefully and choose what you think is the best answer. You will not be graded on your answers. Your answers will be kept confidential. If you have any questions, please ask your teacher or group leader.

### Part One: Strong Teens Symptoms Test

**Directions:** The following statements tell some ways that teens might sometimes feel and things they might sometimes do. Read each of these statements and decide how often they are true for you *for the past month*. Ask yourself, is this *Never True, Hardly Ever True, Sometimes True, or Often True* for me?" After you have decided how often the statement is true for you, make an **X** in the box that goes with that answer. There are no right or wrong answers, just choose the answer that tells how you feel.

- |  |   |   |   |   |
|--|---|---|---|---|
| 1. There is very little that I like to do.....     | 0 | 1 | 2 | 3 |
| 2. I can't deal with my problems .....             | 0 | 1 | 2 | 3 |
| 3. I argue with other people.....                  | 0 | 1 | 2 | 3 |
| 4. I get so mad that I break or throw things ..... | 0 | 1 | 2 | 3 |
| 5. I worry about things .....                      | 0 | 1 | 2 | 3 |
| 6. I feel depressed or sad.....                    | 0 | 1 | 2 | 3 |
| 7. Things don't work out for me .....              | 0 | 1 | 2 | 3 |
| 8. I get headaches.....                            | 0 | 1 | 2 | 3 |
| 9. I feel sick to my stomach .....                 | 0 | 1 | 2 | 3 |
| 10. I argue with my parents .....                  | 0 | 1 | 2 | 3 |

**TOTAL SCORE** \_\_\_\_\_

**Part Two: Strong Teens Knowledge Test**

**Directions:** This test has 20 questions about healthy and unhealthy ways to express feelings, thoughts, and behavior. Read each question carefully and pick what you think is the best answer.

**TRUE-FALSE. Read each sentence. If you think it is true or mostly true, circle the T, which means “true.” If you think it is false or mostly false, circle the F, which means “false.”**

1. T F When most people feel embarrassed, they are likely to stand tall, smile, and talk to others.
2. T F When identifying a problem, it is important to describe how you feel and then listen to how the other person says they feel.
3. T F Each situation you experience needs to be reframed.
4. T F Anger is a natural emotional reaction.
5. T F The thinking error “black and white thinking” is when you blame yourself for things that are not your fault.
6. T F Clenched fists and trembling hands are often signs of stress.

**MULTIPLE CHOICE. Circle the letter that goes along with the best answer for each question.**

7. Thinking errors occur when
  - a. You see things differently than what really happened or what might happen
  - b. You see both the good and bad of a situation
  - c. You think something different than your friend
  - d. Someone tells you that you are going to fail
8. An example of an emotion that is uncomfortable for most people is
  - a. Excited
  - b. Frustrated
  - c. Curious
  - d. Content
9. Self-talk is a way to calm down after you get angry. Self-talk includes telling yourself
  - a. I don't deserve this
  - b. I should get angry when something like this happens
  - c. I can work through this
  - d. I need to stop getting angry so often
10. Which of the following statements best describes empathy?

- a. Knowing how you are feeling
  - b. Wondering why another person is feeling sad
  - c. Understanding another person's feelings
  - d. Thinking about another person
11. What is the meaning of the thinking error dark glasses?
- a. Looking at the whole picture
  - b. Seeing only the part that makes you sad
  - c. Trying to see things in a different way
  - d. Thinking about only the negative or bad parts of things
12. Reframing is a way to
- a. See the whole picture
  - b. Think about the things that make you smile
  - c. Think about the situation more realistically
  - d. Think about what you will do next
13. Which of the following is not a step for dealing with your feelings?
- a. Determine if you feel comfortable or uncomfortable
  - b. Identify how you feel
  - c. Tell your friend how you feel
  - d. Choose three positive or appropriate ways to express that feeling
14. What does the ABCDE plan for optimism help you to do?
- a. Look at both sides of a situation
  - b. View situations more positively
  - c. Control your positive and negative thoughts
  - d. Realize that you sometimes have no control over things
15. Conflict resolution is best described as
- a. Discussing a problem until there is a winner and a loser
  - b. Arguing with another person until they see your point and give in
  - c. Finding some way to reach an agreement
  - d. Talking about the problem until something changes their mind
16. Which of the following is a positive way to express how scared you are to tell your parents that you got a detention at school?
- a. Tell them why you are scared
  - b. Hide your report card
  - c. Tell your parents they are expecting too much from you
  - d. Say that it happened because other kids at school distracted you
17. Why is it important to make an agreement when you are trying to solve a problem?
- a. To understand what the other person is feeling
  - b. To let the other person know what you think about the problem

- c. To make sure both people accept the solution to the problem
- d. To solve the problem more quickly

18. Which of the following is an okay or appropriate way of dealing with your anger when the person next to you in class keeps talking and annoying you?

- a. Yell at them and tell them to stop
- b. Take their backpack or books
- c. Stop, count to ten, and try to relax
- d. Tell the teacher about the other student

19. Carla's gym teacher wants her to try out for the basketball team, but Carla does not try out, because she thinks she is too short to make the team. What thinking error is described here?

- a. Binocular vision
- b. Black and white thinking
- c. Making it personal
- d. Fortune telling

20. Why is it important to evaluate a goal you have set for yourself?

- a. To determine if it meets other peoples' expectations of you
- b. To decide if it is practical and realistic
- c. To be able to compare your goals to those of others
- d. To think about what you are doing well in your life

APPENDIX H  
COPYRIGHT PERMISSION LETTER



APPENDIX I  
SCHOOL SOCIAL BEHAVIOR SCALES









APPENDIX J

HOME AND COMMUNITY SOCIAL BEHAVIOR SCALES









APPENDIX K  
STUDENT AND INSTRUCTOR SURVEY FORM

## Student Survey Form

**All Information given will be held in Strict Confidential.  
No information will be shared with any other students  
at Saint Francis Academy**

Student Name: \_\_\_\_\_

Student Code: \_\_\_\_\_

There are often a number of other people who are important to teens as they are growing up. Please think of up to *three students* at Saint Francis Academy who you consider friends. Next, *rank* only these three friends from Saint Francis Academy, by first and last names based on the following three questions:

**1. *Who do you like most?***

	First Name	Last Name
Student #1:		
Student #2:		
Student #3:		

**2. *Who do you talk to the most?***

	First Name	Last Name
Student #1:		
Student #2:		
Student #3:		

**3. *Who is part of your group?***

	First Name	Last Name
Student #1:		
Student #2:		
Student #3:		

## Instructor Survey Form

Student Name: \_\_\_\_\_

Student Code: \_\_\_\_\_

For the student that completed the Student Survey Form and also for each of the three students ranked by this participating student, please answer the following questions about the student and his three friends:

	<b>What specific infractions/incidents have this student done while at Saint Francis Academy. (e.g. abuse, fights, curfew violation, etc)</b>	<b>Does this student avoid/resist therapy or class?</b>	<b>Do you believe this student is involved in any suspicious activity? (e.g. drugs, abuse, bullying)</b>	<b>Does he hang around troublemakers? If so, what kind of trouble does his peer get involved with?</b>
<b>Student</b>				
<b>Friend #1:</b>				
<b>Friend #2:</b>				
<b>Friend #3:</b>				

APPENDIX L  
PARTICIPANT FEEDBACK FORM

Date \_\_\_\_\_

## Strong Teens Self-Evaluation Questionnaire

### For Students in Grades 9-12

Name \_\_\_\_\_

Grade \_\_\_\_\_

School \_\_\_\_\_

Age \_\_\_\_\_

**Directions:** The following statements describe some ways that teenagers might feel and think about the *Strong Teens* Curriculum. Read each of these statements and decide how often they are true for you. Ask yourself, do you *strongly agree*, *agree*, *disagree*, or *strongly disagree* with these statements? After you have decided about how you feel for each statement, make an X over the number that goes with that answer. There are no right or wrong answers, just choose the answer that describes *best* how you feel or think about Strong Teens.

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
1. The contents of each lesson were relevant to me.	3	2	1	0
2. I understood the lessons presented.	3	2	1	0
3. The length of time spent on each lesson was sufficient.	3	2	1	0
4. I participated in most activities and discussions.	3	2	1	0
5. I completed most of the homework exercises.	3	2	1	0
6. I remember many of the skills taught.	3	2	1	0
7. The skills taught will be useful to me.	3	2	1	0
8. I have used some of the skills and information already.	3	2	1	0
9. Strong Teens will help me deal with tough things in my life.	3	2	1	0
10. I enjoyed the Strong Teens class.	3	2	1	0

11. What did you like *best* about Strong Teens and why?

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12. What did you like *least* about Strong Teens and why?

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13. Additional comments/suggestions:

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APPENDIX M  
INSTRUCTOR FEEDBACK FORM

# Strong Teens Feedback

## Identifying Information

School/Site: \_\_\_\_\_

Age range instructed: 12 13 14 15 16 17 18

Other \_\_\_\_\_

Your name: \_\_\_\_\_

Size of group: \_\_\_\_\_

## Strong Teens Lessons

Strong Teens lessons taught (1-12):

\_\_\_\_\_

Time allotted for each lesson: \_\_\_\_\_

Were you able to complete all lessons as planned? YES NO

If not, what did you do to you wrap-up the lesson?

\_\_\_\_\_

\_\_\_\_\_

Did you complete all activities included in the lesson? YES NO

If not, what portions of the lesson did you omit and why?

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<b>Sequencing</b>
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Feedback regarding the order/sequence of each lesson plan:

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Feedback regarding order/sequence of instruction and activities:

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---

Additional feedback regarding order/sequencing in curriculum:

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<b>Instruction</b>
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Feedback regarding instructional methods (defining key terms, examples,

role-play, etc.):

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---

Feedback regarding age appropriateness:

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Feedback regarding instructional procedures:

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<p><b>Materials</b></p>
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Feedback regarding supplemental materials (handouts/overheads):

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Feedback regarding homework activities (e.g. content, time, etc.):

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**Additional Comments**

What additional comments would you like to share about Strong Teens that may help others like yourself use the curriculum successfully?

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**Thank you for taking the time in sharing your experiences about  
the Strong Teens Curriculum.**

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