5-1997

An Investigation of Social Skills and Antisocial Behaviors of At-Risk Youth: Construct Validation of the Home and Community Social Behavior Scales

Paul Caldarella
Utah State University

AN INVESTIGATION OF SOCIAL SKILLS AND ANTISOCIAL BEHAVIORS OF AT-RISK YOUTH: CONSTRUCT VALIDATION OF THE HOME AND COMMUNITY SOCIAL BEHAVIOR SCALES

by

Paul Caldarella

A dissertation submitted in partial fulfillment of the
requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

1997

ABSTRACT

An Investigation of Social Skills and Antisocial Behaviors of At-Risk Youth: Construct Validation of the Home and Community Social Behavior Scales

by

Paul Caldarella, Doctor of Philosophy

Utah State University, 1997

Major Professor: Dr. Kenneth W. Merrell
Department: Psychology

The major purpose of this dissertation was to investigate the construct validity of a new parent rating scale, the Home and Community Social Behavior Scales (HCSBS), that was used to measure the social skills and antisocial behaviors of at-risk youth in Northern Utah. The results indicate that the HCSBS possesses strong internal consistency with high alphas. Convergent validity with both teacher ratings and student self-ratings of social competence and antisocial behavior appeared slight. Discriminant validity was indicated by the near zero correlations between the HCSBS and the KTEA. The instrument appeared able to detect group differences as indicated by the large and clinically significant effect size differences between at-risk and non-at-risk sample mean scores, as well as a 92.37 correct classification percentage. Finally, the factor analysis of the HCSBS suggested four social competency factors and three antisocial behavior factors, which were extremely similar to the results obtained for the teacher version of the instrument. Directions for future research, as well as implications and limitations of the current study, are noted.

(121 pages)

ACKNOWLEDGMENTS

First and foremost, I would like to express my sincere appreciation to Dr. Kenneth W. Merrell, who has served as my major professor for the past three years. Ken's unique blend of patience, practicality, intelligence, and sensitivity has made him a singular committee chair, as well as an important person in my life.

To Drs. K. Richard Young and Richard P. West, with whom I have worked for the past two and one half years, I want to express my sincere thanks for helping with the logistics of this project. Their kindness and generosity, as well as their experience in the field, have made them both very important mentors in my life.

I would like to thank Dr. Xitao Fan for sharing his time and expertise in statistics. After taking his multivariate statistics class this past spring, I felt much better prepared to tackle this project.

To Dr. David W. Bush, who urged for the addition of a comparison non-at-risk group of students as part of this study, I want to express my indebtedness. While I must admit I was not looking forward to the addition of 100 more subjects, in retrospect the addition of the comparison group added significantly to the results and conclusions of this project, more than making up for the additional work.

Finally, to Dr. Gretchen A. Gimpel I would like to express my gratitude for her willingness to share her experience and expertise in test validation, as well as her gentle encouragement to keep pushing forward on this project. Having been in the department for just over one year, she has nevertheless become an important contributor to my professional development.

Paul Caldarella

CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Problem

The importance of adequate identification and intervention with youth at risk for drug and alcohol abuse cannot be overstated. Alcohol is estimated to be associated with 50% of all spousal abuse cases, 49% of homicides, 38% of child abuse cases, and 52% of rapes (Center for Substance Abuse Prevention, 1995). Unfortunately, the United States has the highest rate of teenage drug use of all the industrialized nations (CSAP, 1995). Early intervention and prevention programs have been increasingly emphasized as the best practice model for serving at-risk youth.

Several risk factors have been associated with youth who abuse alcohol and drugs, including: (a) absent or poorly developed social skills; (b) inadequate academic-related skills; (c) problems of dysfunctional families; (d) inadequate motivation and self-management skills; (e) insufficient drug knowledge; and (f) having peers who use drugs and alcohol (Young, 1992). Several resiliency/protective factors have also been identified that appear to help youth avoid alcohol, tobacco, and other drugs. These include: (a) schools that promote learning, participation, and responsibility; (b) parents who have clear behavior guidelines, promote learning, and pay attention to their children; and (c) youth who are adaptable, have a strong sense of self, use appropriate problem-solving skills, and are socially skilled (CSAP, 1995). Of these risk and resiliency factors, this study focuses on an examination of the social skills and antisocial behaviors of at-risk youth.

The importance of social skills has been noted by many researchers in the field. Social skills have been identified as specific positive interpersonal behaviors that lead to desirable social outcomes (Young & West, 1984). These skills are particularly important with children and adolescents where skill development has been shown to be associated

with positive peer relationships (Asher & Taylor, 1981) and academic success (Walker & Hops, 1976).

At the other end of the behavioral spectrum are children's antisocial behaviors, which include lying, cheating, not following instructions, withdrawing, and being aggressive. Such antisocial behavior patterns have been found to put youth at risk for a variety of negative outcomes, including conduct disorder, juvenile delinquency, gang involvement, school dropout, drug and alcohol abuse, and vocational adjustment problems later in life (Walker, Colvin, & Ramsey, 1995). The importance of obtaining an accurate understanding of at-risk children's social skills and antisocial behavior is becoming well recognized in the literature.

West (1991) noted that objective, accurate data from a variety of sources should be used when performing assessments of at-risk youth. The Center for Substance Abuse and Prevention (CSAP, 1995) echoes this concern and recommends that prevention efforts begin early with the active involvement of parents in all aspects of prevention, including assessments.

One might expect that with the importance of early identification of at-risk children's social skills and problem behaviors, and the significance of involving parents in the process, a number of well validated assessment instruments that assess both positive and negative aspects of these children's behaviors from a parent's perspective would be available. Such is not the case. In a recent review of the literature, Caldarella (1995) found that the vast majority of social skill rating instruments use data from only a teacher's perspective. Of those instruments that used data from both parents and teachers, only one, the Social Skills Rating System (Gresham & Elliot, 1990), obtained any estimate of children's problem behaviors, and the problem behavior section on this instrument is only a brief 10-item screen.

The importance of developing an accurate assessment of at-risk youth should not be

underestimated. A recent joint study conducted by the Commission on Behavioral and Social Sciences and Education and the National Research Council (1993) estimates that at least 7 million young Americans are at risk of failing to achieve productive lives due to the use of drugs, engaging in unprotected sex, dropping out of school, and committing crimes, effectively closing the doors to their future. Walker et al. (1995) echo this concern, reporting that antisocial behavior early in life is the single best predictor of delinquency in adolescence.

Behavior rating scales are commonly used to assess children from a variety of rater sources and represent a major source of information concerning behaviors exhibited by at-risk youth. Merrell (1994) noted the following advantages of behavior ratings scales that have made them increasing popular in recent years: (a) They are less expensive than other methods of data collection; (b) they are capable of providing data on low frequency behaviors; (c) they provide more reliable data than other collection methods; (d) they can be used to obtain information about subjects who are incapable of providing reliable information about themselves; (e) they include observations obtained over a long period of time; and (f) they capitalize from information obtained via persons who are very familiar with the child or adolescent.

Given the apparent lack of home-based and community-based assessment instruments that adequately assess both social skills and antisocial behaviors of at-risk youth, there appears to remain a need for the development of a new parent rating scale that adequately measures these constructs. This dissertation was conducted to help meet this need.

Purpose and Objectives

The major purpose of this dissertation was to investigate the construct validity of a new behavior rating scale, The Home and Community Social Behavior Scales (HCSBS), that was used to measure the social skills and antisocial behaviors of at-risk youth from a

parent's perspective. The specific objectives were:

1. To use the HCSBS to assess an at-risk population in Northern Utah.

2. To determine the factor structure of the HCSBS with this population.

3. To investigate the correlation between the HCSBS with other well normed and validated measures of social skills, antisocial behaviors, and academic achievement.

4. To investigate the relationship between parent and teacher behavior ratings of at-risk youth.

5. To determine how well the HCSBS could detect differences between an at-risk and a non-at-risk population.

CHAPTER II

LITERATURE REVIEW

The topic area of this study involved four major areas: (a) the definition of at-risk youth and the importance of prevention; (b) the definition and importance of social skills; (c) antisocial behavior; and (d) the assessment of behaviors which place youth at risk. The significant literature of each of these areas, as they apply to this study, is reviewed briefly. A discussion of construct validity and a set of specific research questions will conclude this review.

At-Risk Youth

Definition

The term at-risk youth is used in various ways in the literature depending upon the area of risk factors (e.g., biological, psychological, family, behavioral, etc.) and the particular disorder or syndrome that is targeted (e.g., suicide, school dropout, alcohol and/or drug abuse, etc.). The process of defining who is at risk is a controversial one that reveals the ideological differences of those involved (e.g., educators, policymakers, psychologists, the general public, etc.), and upon which federal, state, and local funding often hinges (Hixson & Tinzmann, 1990).

Hixson and Tinzmann (1990) noted that at-risk youth have historically been those (most often minorities, the poor, and immigrants) who were considered culturally and educationally disadvantaged and thus at heightened risk for low academic achievement and school dropout. These authors noted the following five approaches to defining the term at risk:

1. Predictive Approach--students who have certain conditions that have statistically been linked to low achievement or school dropout, such as living with only one parent, being a member of a minority group, or having limited English proficiency, are identified

as at risk.

2. Descriptive Approach--students who are already performing poorly or failing in school are identified as at risk after a pattern of poor performance has been exhibited.

3. Unilateral/Egalitarian Approach--all students are viewed as potentially at risk in one domain or another (e.g., school failure, drop out, drug or alcohol use, teen pregnancy, etc.) at one time or another.

4. School Factors--at-risk school characteristics (e.g., inflexible schedules, narrow curricula, and teacher/administrator attitudes towards students and parents) that have been viewed as contributing to the poor performance of many students are identified.

5. Ecological Approach--at-risk status is based on a combination of individual (student and family characteristics), school, and community factors, as well as the interaction of these factors. The degree of risk is a function of inadequacies in one or more of these areas, and is not necessarily a label applied to the student. Hixson and Tinzmann (1990) prefer this approach because it provides "a more meaningful data base and perspective for planning new, holistic, integrated, and systematic alterations in the norms of schooling" (p. 4).

Tidwell and Garrett (1994) noted that while in some cases there may be no better term than "youth at risk" to describe certain populations, researchers and practitioners need to provide a clearer picture of risk factors and their relation to separately defined negative outcomes for youth. They argue that the global term "at-risk youth" has no meaning unless it is defined in terms of a particular disorder or syndrome.

At risk as it is used in this study refers to youth at increased risk for the use and abuse of drugs (including tobacco) and alcohol. Though we recognize and agree with Hixson and Tinzmann (1990) that an ecological approach makes the most sense, this study focused primarily on the assessment of child and adolescent behaviors commonly associated with drug and alcohol use/abuse. Hawkins, Catalano, and Miller (1992) have

noted that precursors of problems such as drug and alcohol abuse, school failure, and suicide are described as "risk factors." It should be noted that many of the risk factors for youth drug and alcohol use/abuse have also been linked to academic underachievement, school failure, and early sexual activity (Alan Guttmacher Institute, 1994; Rossi & Montgomery, 1994).

Catalano (1992) noted several broad categories of risk factors commonly associated with youth problems such as substance abuse, delinquency, school dropout, and pregnancy. These categories are (a) community risk factors (availability of drugs, poverty, violence); (b) family risk factors (family history of risky behaviors, parent-child problems); (c) school risk factors (lack of academic commitment); and (d) individual and peer risk factors (early antisocial behaviors, alienation, friends who engage in problem behaviors). The more risk factors present, the greater the likelihood of youth problems.

Several specific risk factors associated with the use and abuse of alcohol and drugs include: (a) absent or poorly developed social skills; (b) inadequate academic-related skills; (c) problems of dysfunctional families; (d) inadequate motivation and self-management skills; (e) insufficient drug knowledge; and (f) having peers who use drugs and alcohol (Young, 1992). The Center for Substance Abuse Prevention (CSAP) in 1995 echoed these findings and noted several other risk factors, including: (a) early behavior problems such as aggressiveness, decreased social inhibition, problems with relationships, low self-esteem; (b) adolescent problems, including school failure and dropout, delinquency, violent acts, underemployment; and (c) negative adolescent behaviors, including lack of social bonding, rebelliousness and nonconformity, inability to form positive close relationships, and vulnerability to negative peer pressure.

Several resiliency/protective factors have also been identified that appear to help youth avoid alcohol, tobacco, and other drugs. These include: (a) schools that promote learning, participation, and responsibility; (b) parents who have clear behavior guidelines,

promote learning, and pay attention; and (c) youth who are adaptable, have a strong sense of self, use appropriate problem-solving skills, and are socially adept (CSAP, 1995).

Prevention and Intervention

The importance of adequately serving youth at risk for drug and alcohol abuse cannot be overstated. Alcohol is estimated to be associated with 50% of all spousal abuse cases, 49% of homicides, 38% of child abuse cases, and 52% of rapes (CSAP, 1995). Nicholson (1995) reported that a 1991 survey of 15,000 high school seniors found that 54% had used alcohol within the last 30 days, 18.5% had used cigarettes daily over the past month, while only 2% had used marijuana daily in the last 30 days. Based on these and other recent findings, it appears that tobacco and alcohol have become the drugs of choice for many youth (Nicholson, 1995; Young, 1992).

Unfortunately, the United States has the highest rate of teenage drug use of all the industrialized nations (CSAP, 1995). A recent study conducted by the Commission on Behavioral and Social Sciences and Education and the National Research Council (1993) estimated that at least 7 million young Americans are at risk of failing to achieve productive lives due to the use of drugs, engaging in unprotected sex, dropping out of school, and committing crimes.

Early intervention and prevention programs have been increasingly emphasized as the best practice model for serving at-risk youth. CSAP (1995) lists five guidelines to follow when considering best practice programs serving at-risk youth: (a) Programs should be started as early in a person's life as possible to increase the chances of success; (b) programs should be knowledge-based, incorporating findings and practices drawn from empirical research; (c) programs should be comprehensive, including family, school, and community components; (d) programs should include both process and outcome evaluation data; and (e) programs should be initiated and conducted within communities.

Social Skills

Early intervention and prevention efforts with at-risk youth frequently involve the assessment, teaching, and reinforcement of positive social skills (Young, 1992). The following section examines the definition and importance of social skills and social competency for children and adolescents as reported in the literature.

Definition

As noted previously, social skills have been identified as resiliency/protective factors for at-risk youth. However, despite countless studies done in the area of child and adolescent social skills over the past quarter century, a concise, agreed-upon definition does not appear to exist. McFall (1982), in an important review of the topic, identified two general approaches that have been taken concerning the definition and conceptualization of social skills: a trait and a molecular approach.

The trait model views social skills as underlying personality characteristics or response predispositions which are exhibited in behavior. Here social skills are treated as psychological constructs, with a person's behavior being indicative of more or less of the underlying trait. For example, in developing a social skills measure based on the trait model, a researcher will attempt to

> obtain a representative sample of a subject's responses to a pool of items supposedly selected from a common domain of interpersonal situations. Invariably, a single score is derived from the measure....based on the sum of a subject's scored responses across all items....The investigator assumes that the subject's responses to all items are influenced by a common factor--the person's general level of social skillfulness--and that the most reliable and valid estimate of the person's *true* skill level is the mean level of skill evidenced across all items. (McFall, 1982, p. 4)

The second approach, known as the molecular model, defines social skills as observable behaviors learned and exhibited in specific situations. This approach makes no reference to any underlying personality trait or characteristic. It simply posits that the best predictor of an individual's future behavior is past behavior in a similar situation. When

developing an assessment instrument based on the molecular model, researchers will obtain measures of a subject's discrete observable behaviors (e.g., amount of eye contact, type of facial expressions, rate of talking, etc.) to determine a situation specific rating of social skills. This rating does not indicate that the subject has any particular amount of social skills; rather it is simply a rating of how skillfully the subject behaved in a particular situation, at a particular time.

Gresham and Elliot (1984) noted three general types of social skill definitions: a peer acceptance definition that suggests social skills are those behaviors which result in children and adolescents who are accepted by, or popular with, their peers; a behavioral definition that states social skills are situation specific responses which increase the probability of positive reinforcement and decrease the probability of negative reinforcement or punishment; and a social validity definition stating that social skills are situation-specific behaviors which predict and/or correlate with important social outcomes such as peer acceptance, popularity, and the judgment of behavior by significant others.

It is this last definition, the social validity approach, that appears to have held sway over much of subsequent social skills assessment development. Gresham (1986) noted that methods which examine situation specific behaviors correlated with important social outcomes have received strong empirical support in the literature. More recently, Caldarella (1995) also found the social validity approach to be the one most often used by social skill researchers.

The term social competence, though often used interchangeably with social skills, is viewed by some authors as being something quite different. McFall (1982) defined social competence as an *evaluative* term based upon someone's judgment that, according to some criteria, an individual has performed adequately on a task. To be considered competent, behavior only needs to be adequate, not exceptional. Merrell (1993) has defined social competence as a multidimensional construct, consisting of several behavioral and cognitive

components, including aspects of emotional development, needed to establish adequate social relations and obtain desirable social outcomes.

Gresham (1986) has conceptualized social competence as a tripartite structure composed of three subdomains: adaptive behavior, social skills, and peer acceptance. In this model, as well as those previously cited, social skills exhibited by an individual are viewed as a necessary but not sufficient condition of social competence. For instance, an individual might have a repertoire of social skills but might suffer from some physical or emotional condition that makes expression of those skills difficult, or unlikely to be judged favorably by others.

Thus social competence can refer not just to an individual's social skills, but also to how effectively the individual is able to employ these skills in the environment. In this dissertation the term will be used interchangeably with social skills, reflecting the more common practice of authors using these terms in an analogous fashion.

Importance of Social Skills

Gilbert and Gilbert (1991) have noted that social skills are correlated with many important social, emotional, and behavioral outcomes, though the relationship to personality and psychopathology is a complex and multifaceted one. While pointing out that social skills training has proven highly effective in treating a number of psychopathologies and behavior problems, they note that there is still disagreement concerning the question of causality. To put it simply, "Do social skill deficits cause one to develop pathological behavior or does the pathology lead to the social skill deficit?" This is an important theoretical and practical question that is currently being debated.

By using the social validity approach outlined earlier, some important social outcomes that have been found to be correlated with social skills will now be reviewed. Hokanson and Rubert (1991) have noted that a negative relationship between depression and social skills is well documented, with the question of causality remaining open.

Lewinsohn (1974) has noted that deficiencies in an individual's social skills can result in a low rate of response-contingent positive reinforcement from the social environment. Such low rates of positive reinforcement have been associated with a variety of depressive symptoms, including pessimism, reduced rate of verbal behavior, and decreased activity level. Depressed individuals, when compared to control subjects, have been found to display fewer desirable social skills such as friendship, warmth, and reasonableness (Lewinsohn, Mischel, Chaplin, & Barton, 1980), as well as decreased levels of important nonverbal behaviors such as eye contact, facial pleasantness, and adaptive gestures (Youngren & Lewinsohn, 1980).

McColloch and Gilbert (1991) have noted that deficits in social skills covary with the development and maintenance of aggressive behavior patterns. This relationship has found unsettling support in studies of families. Robins (1979) found that the presence of antisocial behavior in parents is associated with an increased probability of antisocial and delinquent behavior in children: with probabilities increasing from 13% in White families without an antisocial parent (0% for Black families) to 28% in White families with an antisocial parent (43% for Black families). Ramsey, Patterson, and Walker (1990) found a high correlation ($\underline{R}$ = .72) between children's antisocial behavior displayed in the home and that displayed in school. These results suggest the importance of intervening early with such children (and their families) if we are to break the cycle of perpetuation of antisocial behaviors.

Walker et al. (1995) noted that social skill deficits, particularly those relating to teacher and peer acceptance, have been found to correlate with many factors that place children and adolescents at risk for developing antisocial and violent behavior patterns. Children who fail in both teacher and peer adjustment are more likely to experience a host of academic, social, and emotional problems leading to delinquency and aggression later in life.

McColloch and Gilbert (1991) noted that aggressive children have been shown to be deficient in important social skills, including academic, interpersonal, and self-control skills. These researchers also noted three theoretical models that have been proposed to explain this relationship: (a) Aggressive characteristics occur first, leading to the development of social skill deficits; (b) there is a parallel unfolding of social skill deficits and aggressive behavior; and (c) social skill deficiencies precede aggression.

Chiauzzi (1991) noted that social skill deficits have also been implicated in the development and maintenance of alcoholism, with a person's beliefs about alcohol and its relationship to social behavior being a powerful determining factor. Social skills treatment of alcoholism has been shown to offer much promise, particularly when combined with a cognitive approach.

It has been recognized that lack of children's social competence can lead to peer rejection and unpopularity. Rubin and Rose-Krasnor (1991) noted that children who are aggressive or withdrawn have been shown to differ considerably from their peers on a number of social competency variables and that these children are also much more likely to be rejected by their peers. Denham and McKinley (1993) found that preschool children who exhibit socially incompetent behaviors, such as an inability to be friendly, nurturing, cooperative, and altruistic, and who in contrast are aggressive, or hyperactive, are at increased risk of being disliked and rejected by their peers.

Hartup (1979) has indicated that positive peer relationships during childhood have been associated with a number of important social outcomes. These include the development of moral reasoning, mastering of aggressive impulses, appropriate sexual socialization, and remaining in school versus dropping out. Hartup (1992) has also noted that maladjusted adults are more likely to have had peer difficulties in childhood than better adjusted individuals.

Antisocial Behavior

Definition

At-risk youth have been found to engage in a variety of antisocial behaviors that are associated with an increased likelihood of early drug and alcohol use (Walker et al., 1995). Antisocial behavior has been defined as the repeated violation of socially proscribed patterns of behavior (as cited in Walker et al., 1995). Such behaviors can be viewed as being at the opposite end of a behavioral continuum with positive social behaviors and social skills at the other. Walker et al. (1995) note:

> *Antisocial* is the opposite of *prosocial*, which is composed of cooperative, positive, and mutually reciprocal social behavior. Antisocial behavior suggests hostility to others, aggression, a willingness to commit rule infractions, defiance of adult authority, and violation of the social norms and mores of society. (p. 2, emphasis in original)

Caldarella (1995), in a review of over 20 years of factor analytic research on child and adolescent social skills, found that a social skill dimension labeled "Self-Management" occurred in more than half the studies reviewed. This dimension appeared to discriminate effectively a pattern of positive behaviors from a well established pattern of antisocial behaviors labeled by Quay (1986) as "Undersocialized Aggressive Conduct Disorder" (see Table 1). This notion that the constructs of social competence and antisocial behavior are somehow linked has been echoed by Merrell (1993), who noted that while there appears to be a relationship, the nature of the association is not entirely clear. For example, children who exhibit high levels of social withdrawal are likely to be rated as low in both social skills and antisocial behaviors (Merrell, 1993). Thus just because a child is lacking in social skills does not necessarily mean he/she will be high on measures of antisocial behavior.

Importance of Antisocial Behavior

Ramsey et al. (1990) noted that antisocial behavior evidenced in the home at an early age increases the likelihood that such behavior will be displayed at school. These

Table 1

Contrast Between "Self-Management" and "Undersocialized Aggressive Conduct Disorder"

"Self-Management" Social Skills as Derived from Multivariate Statistical Studies (Caldarella, 1995)	Behaviors Associated with "Undersocialized Aggressive Conduct Disorder" (Quay, 1986)
1. Remains calm when problems arise, controls temper when angry	1. Temper Tantrums
2. Follows rules, accepts imposed limits	2. Negative, refuses directions
3. Will compromise with others when appropriate, will compromise in conflicts	3. Dominates, bullies, threatens
4. Receives criticism well, accepts criticism from others (e.g., peers, parents, teacher)	4. Impertinent, "smart", impudent
5. Responds to teasing by ignoring peers, responds appropriately to teasing	5. Fighting, hitting, assaultive
6. Cooperates with others in a variety of situations (e.g., at school, home, etc.,)	6. Uncooperative, resistant, inconsiderate, stubborn
7. Is personally well organized (e.g., brings required materials to school, arrives to school on time)	7. Sluggish, lazy
8. Appropriately asks for assistance as needed, asks questions	8. Fidgety, restless
9. Ignores peer distractions while working, functions well despite distractions	9. Hyperactive/impulsive

authors reported results for the presence of an antisocial trait that is consistent across time and settings (Ramsey et al., 1990). If this is genuine early identification of the trait, then interventions designed to alter this pattern of negative behavior are critically important since such behavior increases the chances of a host of negative outcomes for youth, including school dropout, future arrest, drug and alcohol abuse, vocational adjustment problems, relationship difficulties, and higher hospitalization and mortality rates (Walker et al., 1995).

Walker et al. (1995) also reported that antisocial behavior is one of the most prevalent forms of problem behavior among children and adolescents, and is the most common reason cited for referral to mental health services. Antisocial behavior early in life may be the single best predictor of delinquency in adolescence.

McColloch and Gilbert (1991) noted several variables that are associated with the maintenance of aggressive behavior patterns, including: (a) parent and family variables--such as parental deficits in disciplining, low levels of positive interactions between child and parents, lack of clarity in behavioral standards, and poor family problem solving; (b) peer variables--including rejection by peers, and peers who reinforce, model, and/or elicit aggression; (c) system variables--such as negative interactions between parents and the child's school or community; and (d) social skills--aggressive children are widely reported to have deficits in social skills, especially self-control skills.

Assessment of At-Risk Youth

The assessment of at-risk youth may focus on any or all of the risk and resiliency factors noted above. Frymier and Gansneder (cited in West, 1991) noted that if we think of human existence as a continuum ranging from health to sickness, then "at-riskness" would make up the bad half of the continuum, tending in the direction of illness, maladjustment, low achievement, and antisocial behavior; the good end of the continuum would tend towards health, adjustment, high achievement, and prosocial behavior. The current study

attempted to gauge both ends of this continuum by measuring the prosocial and antisocial behaviors exhibited by at-risk youth.

Multiple Gating Procedures

Merrell (1994) noted that a multiple gating model of assessment is being increasingly used to identify youth at risk for a variety of behavioral, social, and emotional problems. Multiple gating is "a model for sequentially obtaining multiple sources of behavioral, social, and emotional assessment data and then systematically using this information to make screening and classification decisions" (p. 37).

Merrell (1994) also indicated that the first step in multiple gating assessments of youth often involves a brief teacher rating on a screening instrument or ranking of students according to a preestablished set of risk and/or resiliency factors. The second gate is often another low-cost data collection procedure, but this time attempting to obtain a more detailed rating across situations, raters, or instruments. Parents are often targeted at this stage to obtain information on how the child is behaving in the home and community. The third gate often consists of a more time-intensive and expensive assessment procedure such as structured interviews, direct behavioral observations, and/or other individually administered instruments. Few students are expected to make it to through this final gate, and those who do are believed to exhibit the syndrome of interest to a significant degree (e.g., few false positive errors should be manifest).

Broad-Based Assessment

A multimethod, multisource, multisetting approach is currently viewed as the best practice model for social-emotional assessments (Merrell, 1994; see Figure 1). The reason for this preferred approach is both to decrease possible method, source, and/or setting error variance as well as to provide a more detailed examination of where and with whom the child is experiencing difficulty. It is this approach, though it may be called by different

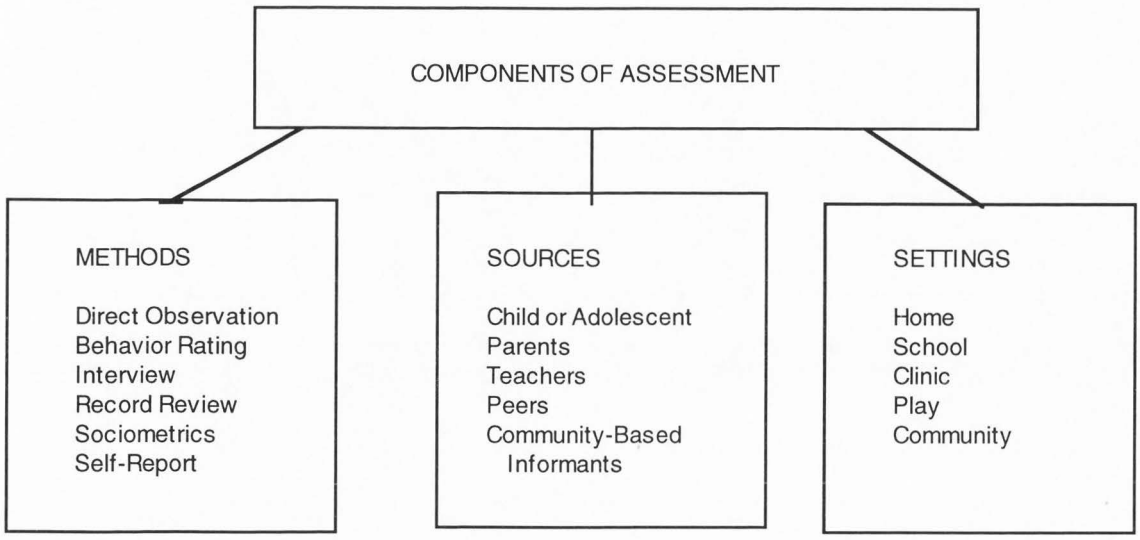

Figure 1. Potential components of a multiple method, source, and setting assessment (adapted from Merrell, 1994).

names by different authors (e.g., comprehensive, broad-based, multifactored), to assessment that appears to hold sway in research and practice being used by an increasing numbers of researchers and clinicians (Merrell, 1994; Overton, 1992).

Behavior Rating Scales

Advantages. Behavior ratings scales are commonly used to assess children from a variety of rater sources and represent a major source of information concerning behaviors exhibited by youth. Merrell (1994) noted the following advantages of behavior ratings scales that have made them increasingly popular in recent years: (a) They are less expensive in terms of professional time and the amount of training required to use them, when compared to direct behavioral observation; (b) they are capable of providing data on low frequency behaviors which might be missed in a limited number of observations; (c) they provide more reliable data than either unstructured interviews or projective tests; (d) they can be used to obtain information about subjects who are incapable of providing information about themselves; (e) they benefit from observations obtained over a long

period of time in a child's natural environment; and (f) they capitalize from information obtained via persons who are very familiar with the child or adolescent.

Disadvantages. Martin, Hooper, and Snow (1986) noted two measurement problems of behavior rating scales: bias of response, and error variance. Bias of response specifically refers to the potential for raters to misuse the rating scale, resulting in inaccurate results. Three main types of response bias noted by these authors include the following: (a) halo effect--rating a subject more favorably on the item(s) of interest based on some other positive quality the subject has; (b) severity or leniency bias--tendency for some raters to use overly harsh or lenient criteria when rating subjects; and (c) central tendency effect--tendency of raters to use midpoints on the scale (e.g., "sometimes") rather than endpoints such as "always" or "never."

Error variance is a term referring to more general problems in using behavior rating scales. Martin et al. (1986) listed the following four types of error variance: (a) source variance--the subjectivity of raters, or any idiosyncratic ways they may complete the rating scale (e.g., response biases) may result in inaccurate results; (b) setting variance --the situational specificity of behaviors may lead to different ratings based on different settings; (c) temporal variance--the tendency for subject's and rater's behaviors to change over time may result in inconsistency over time; (d) instrument variance--differences between instruments (e.g., items, normative populations, etc.) may result in incomparable scores on instruments designed to measure the same construct(s). Despite these disadvantages, behavior rating scales remain one of the most popular assessment methods used to measure behaviors exhibited by youth due to their relative advantages over other methods (Merrell, 1994).

Need for a Parent Rating Scale

With the advances noted in the definition and assessment of social skills and antisocial behavior (both linked to a variety of critical social and emotional outcomes for

youth) as well as the advantages of rating scales in gathering information, one might expect that a valid, established behavior rating scale for measuring both constructs from a parent's perspective would be available. Such does not appear to be the case. Although many measures have been developed and marketed to obtain parent ratings of problem behaviors, few also provide an adequate measure of social competence. An example is the well validated and well researched Child Behavior Checklist (CBCL) developed by Achenbach (1991). The CBCL, while providing a thorough 118-item Problem (behavior) section, has only seven items in the Competence section.

On the other hand, there are some well validated parent ratings of social competence, few of which seem to provide adequate measures of problem behaviors. An example is the Social Skills Rating System (SSRS) developed by Gresham and Elliot (1990). The parent version of this nationally normed instrument has a thorough and well validated 40-item Social Skills Scale, but only a brief 10- to-12-item Problem Behavior Scale. In a recent review of social skill assessment instruments, the SSRS parent form was criticized for its relatively weak Problem Behavior Scale while the School Social Behavior Scales (Merrell, 1993), the teacher version of the HCSBS, was praised for both its Social Competence and Antisocial Behavior Scales (Demaray et al., 1995). The need for a validated parent rating scale that measures both social skills and antisocial behaviors appears to remain.

Behavioral Dimensions Approach

A solution to this assessment problem may lie in developing a parent rating instrument that uses a behavioral dimensions approach to assessment and classification. Merrell (1994) noted that such an approach involves the use of factor analysis and/or cluster analysis to arrive at empirically derived clusters of highly intercorrelated behaviors. These clusters are then labeled by the researcher, based on the types of specific behaviors in the cluster, to identify the underlying behavioral dimension. While a relatively large body

of research has been conducted using a dimensional approach to classify childhood problem behaviors, relatively few studies have used such an approach to classify social skills (Merrell, 1994; Caldarella, 1995).

Quay (1986) noted that a behavioral dimensions approach has some distinct advantages over other methods of classification.

> First, empirical evidence is obtained showing that the dimension in fact exists as an observable constellation of behavior. Second, . . . the relatively objective nature of most of the constituent behaviors utilized in the statistical analyses permits reliable measurement of the degree to which a child manifests the dimension. (Quay, 1986, p. 10)

Garfield (1994) suggested that applying factor analysis to behavior rating scale scores may result in more reliable and refined categories of behavior. "Such measures allow for dimensional studies of psychopathology that potentially can provide more information than a categorical system like the one used in psychiatric diagnosis" (Garfield, 1994, p. 30).

Multiple Informants

As indicated by Merrell (1994), obtaining information from multiple sources across multiple settings is viewed as the best practice approach to assessing child and adolescent behavior. However, this approach is not without its challenges.

Achenbach and McConaughy (1987) pointed out several issues that arise when obtaining behavior ratings across informants, including variations in the assessment data and disagreement between raters. In a meta-analysis investigating cross informant ratings these investigators found a mean correlation between parent and teacher behavior ratings of just .27. This low correlation is not necessarily undesirable, as it may reflect differences in the varied behavioral expectations in school and home settings (Achenbach, McConaughy, and Howell 1987). Thus obtaining data across a variety of sources and settings is a worthy goal yielding important (though likely different) information regarding a child's behavior in distinct settings.

Merrell (1993) developed a teacher rating instrument, the School Social Behavior Scales (SSBS), that incorporates a behavioral dimensions approach to measure both social competence and antisocial behavior of children and adolescents. The instrument appears to possess excellent psychometric characteristics. However, there are no data currently available on an experimental parent version of the SSBS, the Home and Community Social Behavior Scales (HCSBS).

Merrell (personal communication, November 8, 1995) reported that after the SSBS was published, numerous inquires were received from researchers and practitioners requesting a parent/community form of the instrument. The HCSBS was developed as an experimental research instrument by modifying the existing SSBS items to fit a parent/community format. An example of the modification of items is illustrated in Table 2.

The HCSBS is unique in that it seeks to obtain thorough measures of both social competence and antisocial behaviors from a parent's perspective. Indeed the HCSBS is actually two separate instruments: a 32-item Social Competence Scale, and a 33-item Antisocial Behavior Scale. This dual assessment is based, in part, on the notion that problem behaviors may interfere with learning or exhibiting social skills (Gresham & Elliot, 1990), as well as the importance of both these separate constructs to the variety of positive and negative outcomes noted in the literature earlier.

The current dissertation was conducted as an attempt to study and validate the HCSBS on an at-risk population. The Center for Substance Abuse and Prevention (CSAP, 1995) recommends that prevention and intervention with at-risk youth begin early, with the active involvement of parents in all aspects of prevention, including assessments. A valid parent rating scale for measuring social skills and antisocial behaviors of at-risk youth would complement the SSBS teacher rating scale, and could make an important contribution not only in the area of assessment, but potentially in classification and intervention efforts as well. Given that this dissertation focused in great measure on the

Table 2

Comparison of Original SSBS Items and Modified HCSBS Items

SSBS Items	HCSBS Items
Cooperates with other students in a variety of situations.	Cooperates with peers in a variety of situations.
Completes individual seatwork without being prompted.	Completes chores or other assigned tasks without being reminded.
Responds appropriately when corrected by teacher.	Responds appropriately when corrected by parents or supervisors.
Blames other students for problems.	Blames others for his/her problems.
Teases and makes fun of other students.	Teases and makes fun of others.
Ignores teacher or other school personnel.	Ignores parents or supervisors.

construct validity of the HCSBS, a brief theoretical discussion of this concept will follow.

Construct Validity

Construct validity refers to the degree to which a test can be shown to measure a theoretical construct or trait (Anastasi, 1988). A construct is an abstract quality or trait that is inferred from observable behavior (Gregory, 1992). It is important to ensure that a rating scale adequately and reliably measures the construct it is purported to measure.

Gregory (1992) has noted that studies of construct validity generally fall into one of the following seven categories: test homogeneity, appropriate developmental changes, theory-consistent group differences, theory-consistent intervention effects, convergent validation, discriminant validation, and factor analysis. Five of these construct validation methods will be employed in the present study.

Test Homogeneity/Internal Consistency

If a test measures a single construct, then its component items will likely be homogeneous or internally consistent (Anastasi, 1988). Internally consistent and reliable test items are viewed as a necessary, though not sufficient, first step in establishing the construct validity of assessment instruments (Gregory, 1992).

Convergent and Discriminant Construct Validity

Convergent and discriminant validity may be viewed as two sides of the same coin. Convergent validity is shown when a test correlates highly with other variables or tests that measure the same (or very similar) constructs (Gregory, 1992). Two reliable and valid measures of social competence, for instance, are expected to have a higher correlation than a measure of social competence and a measure of academic achievement.

Discriminant validity is demonstrated when a test does not correlate with variables or other tests from which it should theoretically differ (Anastasi, 1988). In the above example, the low correlation between the academic achievement measure and the measure of social competence would be an example of discriminant validity.

A potential confound with convergent and discriminant validity studies is the reliability of the assessment instruments used. As noted earlier, internally consistent and reliable tests are viewed as a necessary first step in establishing construct validity. If test scores cannot be trusted as being reliable, the question of convergent and discriminant validity cannot be answered. Evidence of test reliability is thus an important prior step in the construct validity process.

Group Differences

A well validated instrument should be able to detect differences between populations known to differ on the construct of interest (Gregory, 1992; Merrell, 1993). Individuals judged to be high on the construct of interest should obtain higher scores than

other individuals thought to be low on the construct. A group of behavior-disordered adolescents, for instance, would be expected to score significantly higher on a valid measure of problem behaviors than a normal comparison group of adolescents. This is viewed as another important form of construct validity.

Factor Analysis

Factor analysis is often used to identify the minimum number of factors required to account for the intercorrelation of test items (Gregory, 1992). For instance, on a test designed to measure a single construct such as social competence, the test items should cluster together on one or two broad factors with some additional smaller factors.

Gorsuch (1983) has noted that by using factor analysis the number of variables for future research can be minimized, while maximizing the amount of information obtained. It can also be useful in searching data for qualitative and quantitative differences, and is particularly helpful when the amount of available data is large (Gorsuch, 1983). This procedure is viewed as a particularly important demonstration of construct validity, as it provides empirical and statistical evidence of the underlying construct(s) of interest (Gregory, 1992).

Research Questions

The major purpose of this dissertation was to investigate the construct validity of the HCSBS. The specific research questions addressed in the present study included the following:

1. What is the internal consistency of the HCSBS items and its two component subtests (test homogeneity)?

2. How do the individual subset scores of the HCSBS correlate with the SSBS subset scores and the other measures of social skills and antisocial behavior used in this study (convergent validation)?

3. How do scores on the HCSBS correlate with scores on an academic achievement test used to assess this at-risk population (discriminant validation)?

4. How well do scores on the HCSBS distinguish between at-risk and non-at-risk youth (theory-consistent group differences)?

5. What is the factor structure of the HCSBS with an at-risk population (factor analysis)?

CHAPTER III

METHOD

Subjects

The at-risk subjects for this research were 160 youth (grades 6 through 9) who participated in the Prevention Plus Program implemented in Northern Utah. Descriptive data on these subjects are presented in Table 3. The non-at-risk comparison group consisted of 107 youth (grades 6 through 9) referred by school principals at two schools in Ogden, Utah. Descriptive data on these subjects are presented in Table 4.

Setting

Prevention Plus is a demonstration prevention project funded by the U.S. Department Education (Safe and Drug Free Schools Program). All at-risk youth who participated in the project were identified as being particularly vulnerable for the development of drug and alcohol use/abuse. As part of the assessment process for Prevention Plus interventions, parents, teachers, and youth were all required to participate in the assessment process.

One high school (Ben Lomond) and one middle school (Mound Fort), both located in Ogden, Utah, participated in the Prevention Plus Program. According to Young and West (1995), the Ogden City School District was selected as the site for Prevention Plus because of several reasons: (a) Youth in Ogden are at as high or higher risk for the use of alcohol and tobacco as any youth in any city in Utah; (b) Ogden City School District has the third highest dropout rate of any school district in Utah, with some Ogden schools having a 50% dropout rate; (c) Ogden City has the second largest proportion of low-income students in Utah (a state that ranks third in the nation as having the lowest per capita income); (d) referrals for serious youth offenses are much higher in Ogden as compared to

Table 3

Descriptive Data on the At-Risk Subjects (N = 160)

Variable	Frequency	Percent	Valid Percent	Cum Percent
Age				
11	13	8.10	8.60	8.60
12	43	26.90	28.30	36.80
13	22	13.80	14.50	51.30
14	45	28.10	29.60	80.90
15	27	16.90	17.80	98.70
16	2	1.30	1.30	100.00
Missing	8	5.00		
Sex				
Male	105	65.60	66.50	66.50
Female	53	33.10	33.50	100.00
Missing	2	1.30		
Ethnicity				
African	6	3.80	4.20	4.20
American	98	61.30	68.10	72.20
Caucasian	28	17.50	19.40	91.70]
Hispanic	5	3.10	3.50	95.10
American Indian	7	4.40	4.90	100.00
Other	16	10.00		
Missing				
Grade				
6	25	15.60	15.90	15.90
7	43	26.90	27.40	43.30
8	23	14.40	14.60	58.00
9	66	41.30	42.00	100.00
Missing	3	1.90		
School				
Mound Fort	57	35.60	35.60	35.60
Ben Lomond	66	41.30	41.30	76.90
Comparison	23	14.40	14.40	91.30
Summer Prog.	4	8.80	8.80	100.00
Missing	0			

Table 4

Descriptive Data on the Non-At-Risk Subjects (N = 107)

Variable	Frequency	Percent	Valid Percent	Cum Percent
Age				
11	13	12.10	12.10	12.10
12	15	14.00	14.00	26.20
13	22	20.60	20.60	46.70
14	27	25.20	25.20	72.00
15	29	27.10	27.10	99.10
16	1	.90	.90	100.00
Missing	0			
Sex				
Male	53	49.50	49.50	49.50
Female	54	50.50	50.50	100.00
Missing	0			
Ethnicity				
Caucasian	71	66.40	79.80	79.80
Hispanic	13	12.10	14.60	94.40
American Indian	3	2.80	3.40	97.80
Asian	1	.90	1.10	98.90
Other	1	.90	1.10	100.00
Missing	18	16.90		
Grade				
6	21	19.60	19.60	19.60
7	20	18.70	18.70	38.30
8	20	18.70	18.70	57.00
9	46	43.00	43.00	100.00
Missing	0			
School				
Mound Fort	61	57.00	57.00	57.00
Ben Lomond	46	43.00	43.00	100.00
Missing	0			

other cities in Utah; (e) Ogden has the second most ethnically/racially diverse student population in the state; (f) a recent survey of families living in Ogden named alcoholism, substance abuse, violence, and school failure/dropout among the most critical problems they face as families. All of the non-at-risk students were sampled from the two Ogden sites.

Additionally, one after-school program serving at-risk youth, Pathways, located in Logan, Utah, participated in the Prevention Plus Program. Three middle schools in Logan referred their most at-risk students to the Pathways program, a group home and outreach center. Seventy-one students were referred, 16 of whom were subsequently contacted, assessed, and accepted into the Prevention Plus Summer Program in Logan.

Instruments

Five major instruments were administered to at-risk youth as part of the Prevention Plus Program assessment. These instruments include: (a) an at-risk screening instrument completed by teachers; (b) a normed teacher rating of social competence and antisocial behaviors; (c) a parent behavior rating of social competence and antisocial behavior; (d) a youth self-rating of social skills; and (e) a standardized individual assessment of academic achievement.

Student Screening and Referral Instrument (SSRI)

The SSRI is a 93-item teacher rating scale developed by staff of the Prevention Plus Program to obtain a face valid estimate of at-risk youth who would be appropriate for the intervention. The SSRI assesses students in seven areas: (a) academic behaviors; (b) physical symptoms; (c) motivation; (d) school/community involvement; (e) social interaction; (f) family relations; and (g) drug behaviors. Each item of the SSRI is rated by the teacher on a 4-point scale: 0 = not a problem, 1 = mild problem, 2 = severe problem,

N/A = not applicable (insufficient information to rate student). A Total Risk score is obtained and used to help determine the student's appropriateness for the prevention program. A copy of the SSRI is located in Appendix A. There is currently no psychometric information available on the instrument.

School Social Behavior Scales (SSBS)

The SSBS was developed by Merrell (1993) as a teacher rating of student's social competence and antisocial behaviors. The instrument was validated on a fairly large (N = 1,858) and representative sample of students from grades K to 12. The Social Competence Scale consists of 32 items that have been empirically separated into three separate factors (Interpersonal, Self-Management, and Academic Skills). The Antisocial Scale consists of 33 items similarly separated into three factors (Hostile-Irritable, Antisocial-Aggressive, and Demanding-Disruptive). Each item of the SSBS is rated on a 5-point scale on which the anchor points range from 1 = Never to 5 = Frequently. Several forms of reliability have been shown for the SSBS, including subscale Internal Consistency (alphas ranging from .96 to .98), Test-Retest (coefficients ranging from .60 to .82), and Interrater (coefficients of between .53 and .83). The Social Competence and Antisocial Scales have also been shown to possess several forms of validity, including content (item-total correlations ranging from .58 to .86), criterion-related (Social Competence Scale correlation coefficients ranging from -.61 to -.87, and Antisocial Behavior Scale coefficients ranging from .42 to .87 with the Conners Rating Scale), and construct (subscale intercorrelations ranging from .76 to .96) validity (Merrell, 1993).

The Home and Community Social Behavior Scales (HCSBS)

The HCSBS is a parent version of the SSBS with items slightly reworded to reflect a parent's interaction with youth. Like the SSBS, the HCSBS consists of two main scales: Social Competence and Antisocial Behavior. The Social Competence Scale consists of 32

items, while the Antisocial Behavior Scale consists of 33 items. Each item of the HCSBS is also rated on a 5-point scale with anchor points ranging from 1 = Never to 5 = Frequently. A copy of the HCSBS is located in Appendix B. There was no psychometric information available on the HCSBS at the time this study was conducted, but it was assumed that psychometric properties would be quite similar to those of the SSBS given the near identical nature of items on both scales. The purpose of the current dissertation was to obtain such information with the at-risk subjects participating in the Prevention Plus Program. Only the HCSBS was administered to the non-at-risk sample used in this study.

Social Skills Rating System (SSRS)

This set of instruments (SSRS) was developed by Gresham and Elliot (1990) as a system for measuring child and adolescent social competence. The SSRS was validated using a large (N = 6,960) representative sample of students from grades K to 12. There are separate forms for teachers, parents, and student's self-rating, of which only the youth self-report version is used as part of Prevention Plus. Separate rating forms are also used depending on the child's grade level (i.e., preschool, elementary, or secondary). Each form consists of between 30 to 40 items measuring four social skill factors (e.g., cooperation, assertion, self-control, and responsibility) yielding a total Social Skills Scale score. Alpha reliability coefficients have been found to range from .73 to .95. Test-retest reliability coefficients have been found to range from .68 to .87. The SSRS has been shown to possess several forms of validity, including content, criterion-related, social, and construct (Gresham & Elliot, 1990).

Kaufman Test of Educational Achievement
(KTEA)--Brief Form

The KTEA developed by Kaufman and Kaufman (1985) is an individually administered measure of school achievement of youth grades 1 through 12. The instrument provides standard (mean = 100, standard deviation = 15), norm referenced scores in the

global areas of mathematics, reading, and spelling. The instrument also provides a composite score derived by adding scores in the three global areas. The brief form of the KTEA was validated on a medium-sized (N = 580) representative sample of students grades 1 through 12. Split-half mean reliability coefficients range from .85 to .95. Test-retest mean reliability coefficients were reported from .84 to .94. The KTEA--Brief Form has been shown to possess several forms of validity, including content, concurrent, and construct (Kaufman & Kaufman, 1985).

Procedure

At-Risk Assessment

The Prevention Plus Program used both a multiple gating procedure and a multimethod, source, and setting approach to assessment. Figure 2 illustrates the five assessment gates youth had to pass through to get into the Prevention Plus Program. At the first gate a student was identified as a potential candidate for the Prevention Plus program via referral by his/her school teacher. This first gate was passed if the youth obtained a minimum criterion cut-off of 25 on the SSRI.

Next, parents were contacted to obtain consent for formal assessment (see Appendix C for a copy of consent form). Once consent was obtained, the referring teacher filled out the SSBS, the parent filled out the HCSBS, and the youth was assessed using both the SSRS and the KTEA. At the completion of testing, a determination was made as to whether the youth met the Prevention Plus requirements of being in a prevention rather than treatment mode. Youth determined to be actively involved in a gang, and already using drugs and/or alcohol were referred to a more appropriate school or community treatment program. The following is a summary of the 10 Prevention Plus Placement Guidelines:

1. There was a limit of 40 students active in each of the two participating school programs.

2. To be admitted to the program, the student must have had a composite score of 25 or higher on the SSRI.

3. A student was excluded from the program if he/she had a confirmed drug/alcohol or gang problem (as reported by teachers, parents, youth, and/or school administrators) that warranted treatment rather than prevention.

4. A student might be included in the program with a score below 25 on the SSRI if the majority of the placement committee felt there was sufficient justification.

5. Qualifying based on the above guidelines placed the student tentatively in the program pending parental approval and consent.

6. The parents of students were contacted by the Prevention Plus staff to: (a) discuss the program; (b) obtain parental consent for testing and student participation; and (c) rate their child using the HCSBS.

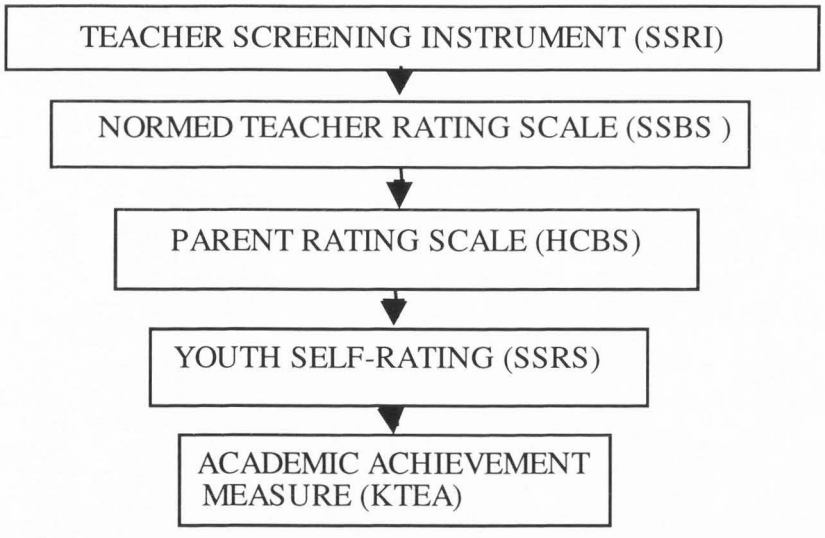

Figure 2. The five assessment gates of the Prevention Plus Program.

7. The Prevention Plus assessment team (comprised of graduate students and upper level undergraduates in psychology and/or special education at Utah State University, and Prevention Plus teachers, all of whom have been trained and supervised in administering the KTEA) completed the individual assessment battery.

8. The youth was interviewed by the Prevention Plus teacher at his/her school or by a staff member from the Weber County Drug and Alcohol Division.

9. All data were reviewed by the placement team (which consisted of the school principal, assistant principal, counselor, and Prevention Plus teacher).

10. Following approval by the placement team, the students' full classroom participation in the program began.

In the first year (1994-95) of the program, approximately 80 students were assessed and placed. In year two (1995-96), an additional 70 students were assessed and placed in the program. This resulted in data being available on approximately 150 subjects. Only pre-test data were used in this study, in order to avoid the possible effects of the Prevention Plus interventions on these at-risk students' subsequent behaviors and test scores.

Non-At-Risk Assessment

School principals at both the high school and middle school sites in Ogden were contacted and asked to provide a list of students in grades 6 through 9, who had not had any extensive academic or discipline problems as reflected by a "C" or better grade point average, and few if any office referrals. From an initial list of 350 students, 213 were randomly selected. Once identified as being appropriate for the non-at-risk sample, a copy of the HCSBS and a consent form (see Appendix D) were mailed to parents. Only HCSBS data were gathered on these non-at-risk youth. Of the 213 mailings, 107 were returned, resulting in a return rate of 50.23%.

CHAPTER IV

RESULTS

This chapter is divided into six sections. The first section covers data on the at-risk sample used in this study, including descriptive data on the results of the various assessment instruments administered. The subsequent five sections address specific psychometric results of the HCSBS data, beginning with internal consistency, followed by convergent construct validity, discriminant validity, sensitivity to group differences, and factor analysis. Additional correlational data calculated on the other measures administered as part of this study, but not included as research questions, may be found in Appendix E.

Descriptive Data

As an initial step in the data analysis procedure descriptive data on standard scores of the various assessment instruments used by the Prevention Plus Program were calculated. These data are presented in Table 5 and presented in Figures 3 through 9.

Table 5

At-Risk Sample Standard Score Descriptive Statistics

Instrument	Subscale	M	SD	N
KTEA	Composite	87.13	14.33	145
	Math	90.04	17.41	145
	Reading	92.30	13.93	145
	Spelling	86.40	15.83	145
SSBS	Social Comp	84.01	12.44	127
	Antisocial	116.09	17.47	126
SSRI[a]	Total Risk	32.95	17.43	111
SSRS	Social Comp	95.58	6.56	140
HCSBS[a]	Social Comp	97.98	20.41	140
	Antisocial	87.17	27.38	152

[a] Only raw scores available on these instruments.

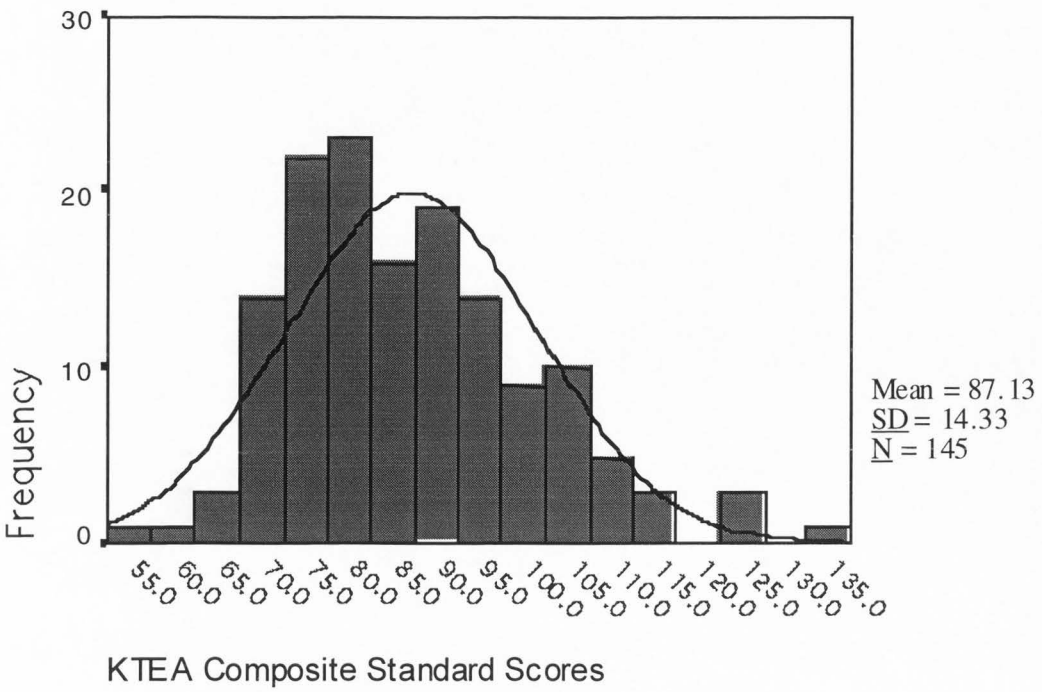

Figure 3. At-risk sample KTEA composite score results.

Academic Achievement Scores

As can be seen in Figure 3 and in Table 5, the at-risk sample scored just less than one standard deviation (SD) below the national norm sample on academic achievement. The KTEA composite mean standard score of 87.13 placed this sample solidly in the "below average" range, with a percentile rank of just 19. The KTEA math, reading, and spelling mean standard scores of 90, 92, and 86, respectively, similarly reflected "low average" to "below average" performance in these areas.

Teacher Ratings of Social Competence

Figure 4 and Table 5 show that this at-risk sample also scored approximately one standard deviation below the national norm on teacher ratings of social competence. The

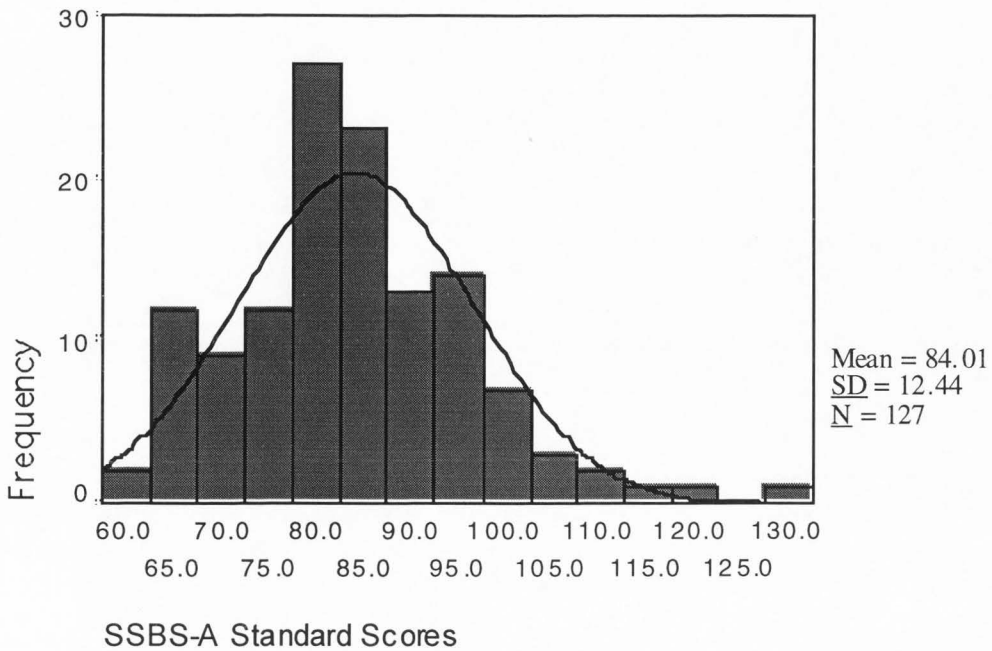

Figure 4. SSBS Social Competency Scale results.

mean social competence standard score of 84.01 placed this sample in the "moderate deficit" range on the SSBS, with a percentile rank of just 18.

Teacher Ratings of Antisocial Behavior

Figure 5 and Table 5 show that this at-risk sample scored just over one standard deviation above the national norm on teacher ratings of antisocial behaviors. The mean antisocial behavior standard score of 116.09 placed this sample in the "significant problem" range on the SSBS, with a percentile rank of 83.

At-Risk Screening Instrument

Figure 6 and Table 5 show that the SSRI sample mean raw score was more than seven points higher than the minimum criterion cut-off of 25 for entry into the Prevention Plus Program. This suggests that, on average, these students were notably at risk in the

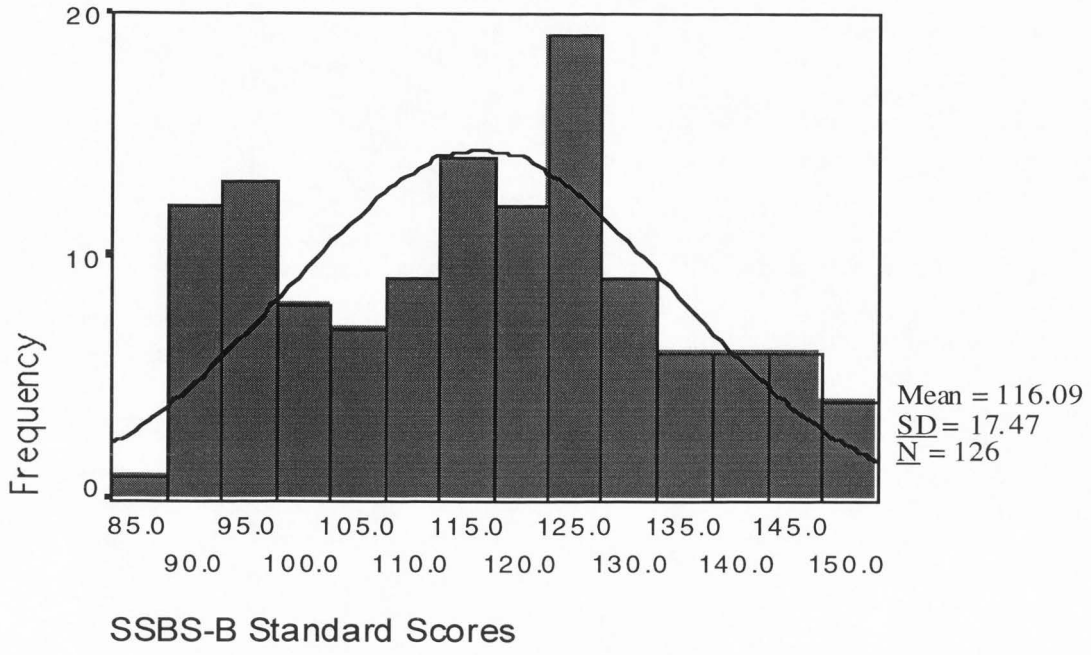

Figure 5. SSBS Antisocial Behavior Scale results.

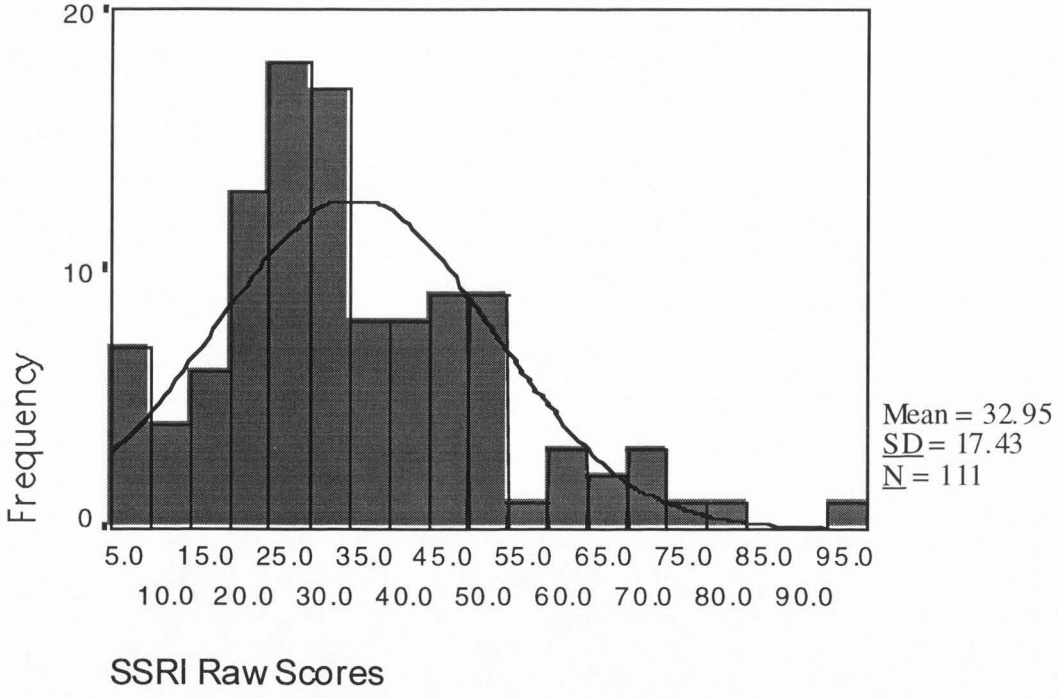

Figure 6. SSRI at-risk score results.

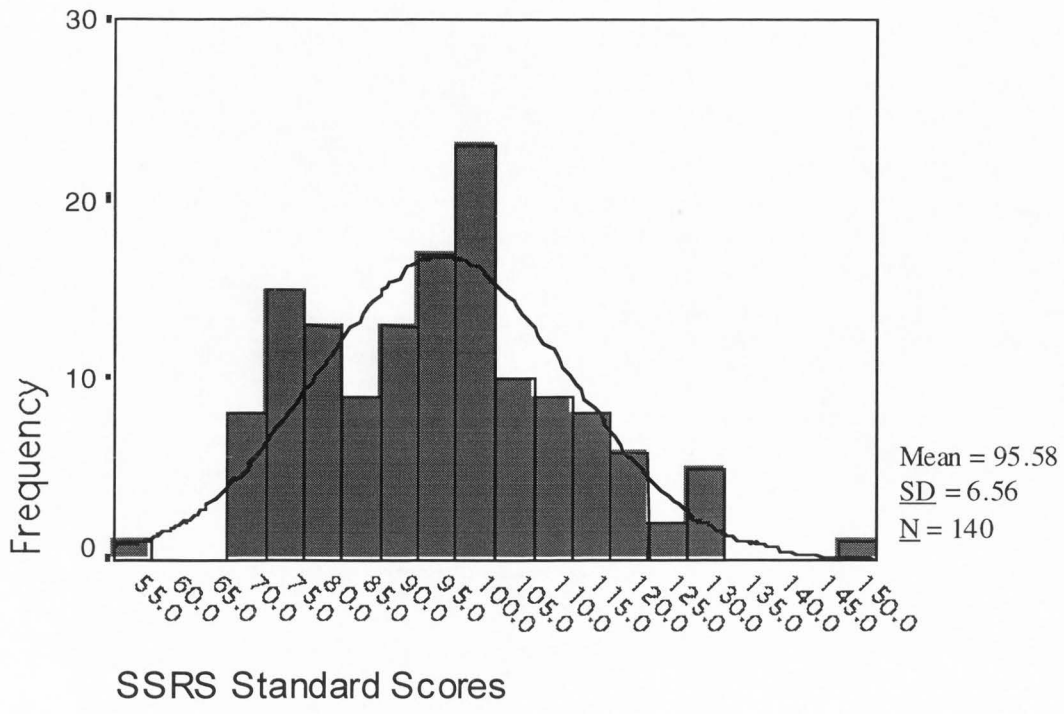

Figure 7. SSRS Social Competence Scale results.

areas measured by the SSRI. Unfortunately, as no normative data are available on this instrument, a comparison with a national sample was not possible.

Student Self Ratings of Social Competence

Figure 7 and Table 5 indicate that this at-risk sample rated themselves close to the national norm mean of 100 on the self-rating of social competence. The social competence mean standard score of 95.58 placed this sample in the "average" range on the SSBS, with a percentile rank of 37.

Parent Ratings of Social Competence

As shown in Figure 8 and Table 5, this at-risk sample was rated by their parents with a raw score mean of 95.58 and a standard deviation equal to 20.41. Unfortunately, as no national normative data are yet available on the HCSBS, a comparison with a national

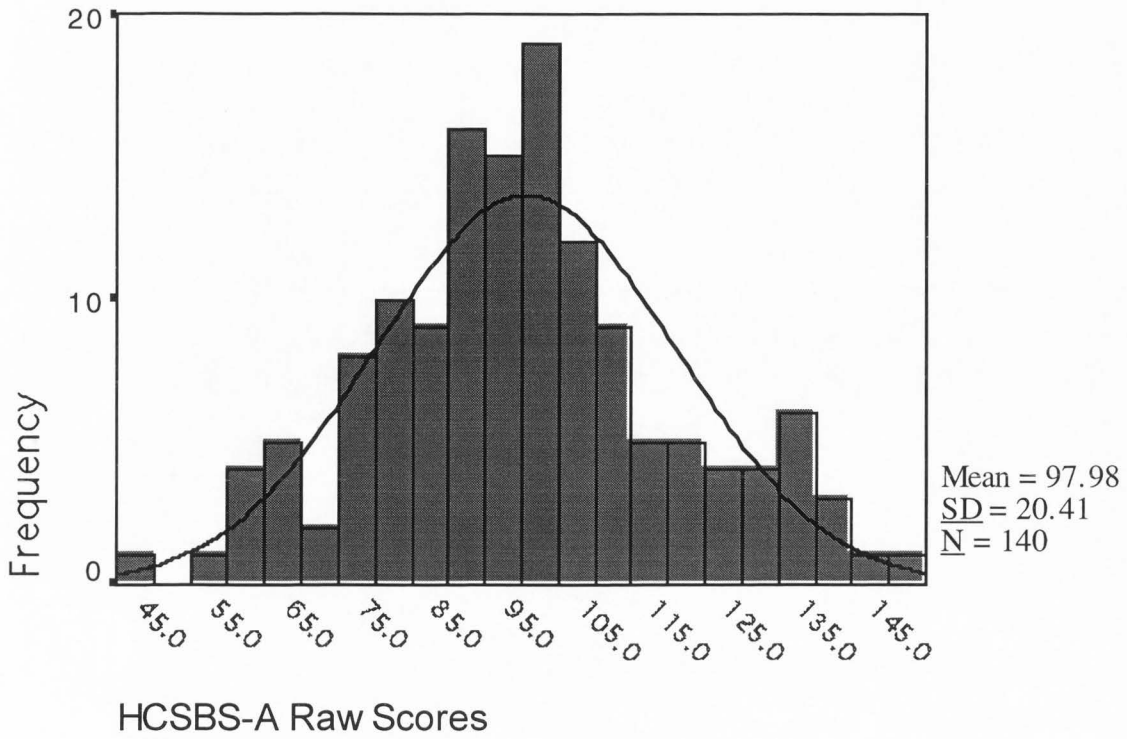

Figure 8. HCSBS Social Competence Scale results.

sample was not available. However, as will be shown later, this at-risk sample scored significantly lower on the HCSBS-A than a non-at-risk comparison group also used in this study.

Parent Ratings of Antisocial Behavior

As shown in Figure 9 and Table 5, this at-risk sample was rated by their parents with a mean of 87.17 and a standard deviation equal to 27.38. Because no national normative data are yet available on the HCSBS, a comparison with a national sample was not possible. However, as will be shown later, this at-risk sample scored significantly higher on the HCSBS-A than a non-at-risk comparison group also used in this study.

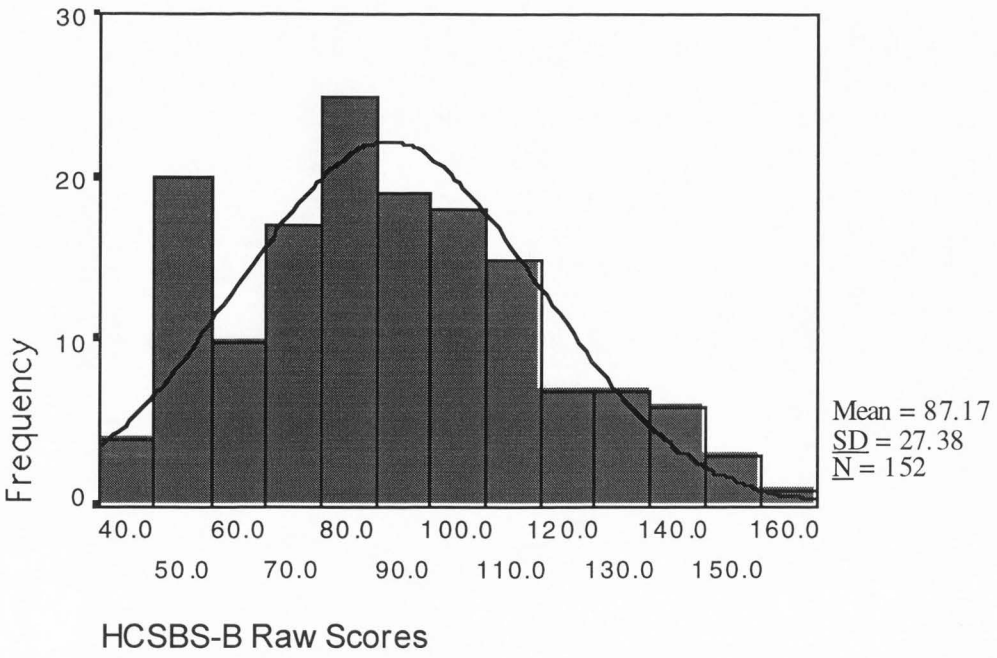

Figure 9. HCSBS Antisocial Behavior Scale results.

Internal Consistency

The first research question investigated by this study is, "What is the internal consistency of the HCSBS items and its two component scales?" This question was addressed by calculating internal consistency coefficients (alphas) on both scales of the HCSBS as shown in Table 6. The Social Competence scale of the HCSBS produced a high internal consistency reliability coefficient (alpha = .94), with the value for the Antisocial Behavior Scale similarly high (alpha = .95).

Convergent Construct Validity

The second major research question was, " How do the scores of the HCSBS correlate with the SSBS scores and the other measures of social skills and antisocial

Table 6

HCSBS Reliability Analysis (N = 140)

	Social Competence Scale	Antisocial Behavior Scale
N	140	152
Reliability coefficients	32 items	33 items
Alpha	.94	.95
Standardized item alpha	.94	.96

behavior used in this study?" This question was investigated by calculating Pearson product-moment correlation coefficients between the Social Competence and Antisocial Behavior Scale total scores on the HCSBS and (a) the Composite at-risk score on the SSRI, (b) the Social Competence and Antisocial Behavior Scale standard scores on the SSBS, and (c) the total Social Skills standard score on the self-report SSRS. Additionally, setting/source differences were investigated by examining the resulting correlation coefficients between parent (HCSBS) and teacher (SSBS) ratings of students' social skills and antisocial behaviors. These correlations are shown in the matrix in Table 7.

Resulting correlations between the HCSBS-A (Social Competence Scale) and both the SSBS teacher rating of social competence ($r = .12$, $p = .19$) and the SSRS student self-rating of social competence ($r = .04$, $p = .62$) were small and failed to reach statistical significance.

Correlations between the HCSBS-B (Antisocial Behavior Scale) and ratings from these two other sources were also small, although one was statistically significant: HCSBS-B and the SSBS teacher rating of antisocial behavior ($r = .21$, $p = .02$) and the SSRS self rating of social competence ($r = -.12$, $p = .15$). The SSBS teacher rating of social competence correlated modestly with the HCSBS-B and was not statistically

Table 7

HCSBS Convergent Validity Matrix

	SSBS-A	SSBS-B	SSRI	SSRS	HCSBS-B
HCSBS-A	.12 (112) p= .19	-.06 (111) p= .48	-.07 (99) p= .46	.04 (124) p= .62	-.61 (137) p= .00
SSBS-A		-.39 (126) p= .00	-.37 (100) p= .00	.01 (122) p= .91	-.14 (120) p= .13
SSBS-B			.18 (100) p= .07	-.02 (121) p= .82	.21 (119) p= .02
SSRI				-.19 (103) p= .06	.10 (106) p= .32
SSRS					-.12 (134) p= .15

significant (r = -.14, p = .13).

Finally, the two scales of the HCSBS (Social Competence and Antisocial Behaviors) were significantly negatively correlated (r = -.61, p < .001).

Discriminant Validity

The third research question addressed by the present study was, "How do scores on the HCSBS correlate with scores on an academic achievement test used to assess this at-risk population?" This question was investigated by calculating Pearson correlation coefficients between the Social Competence and Antisocial Behavior Scale scores on the HCSBS and the KTEA subscale and composite standard scores. Table 8 shows these correlations in a matrix. All of the resulting correlation coefficients on both subscales of the HCSBS with the various subscales of the KTEA were near zero, providing evidence that

Table 8

HCSBS Discriminant Validity Matrix

	KTEASPEL	KTEAREAD	KTEAMATH	KTEACOMP
HCSBS-A	-.03 (127) p= .76	-.01 (127) p= .89	-.06 (127) p= .49	-.06 (127) p= .50
HCSBS-B	-.04 (137) p= .60	-.01 (137) p= .91	.07 (137) p= .39	.04 (137) p= .62

the HCSBS is measuring a different construct than that measured by the KTEA.

Group Differences

The fourth research question addressed by the current study was, "How well do scores on the HCSBS distinguish between at-risk and non-at-risk youth?" Group means and standard deviations for the non-at-risk sample on the two scales of the HCSBS were calculated and are presented in Table 9 and Figure 10. On the HCSBS Social Competence Scale, the non-at-risk group mean was higher on social competence ($M_{\text{non-at-risk}} = 131.88$; $M_{\text{at-risk}} = 97.98$) and lower on antisocial behaviors ($M_{\text{non-at-risk}} = 51.50$; $M_{\text{at-risk}} = 87.17$).

ANOVA

A one-way analysis of variance (ANOVA) was then conducted to determine the degree, if any, of statistically significant difference between the at-risk and non-at-risk group on the two scales of the HCSBS. The resulting F-values ($F_{\text{scaleA}} = 172.37$; $F_{\text{scaleB}} = 137.79$) were highly significant ($p < .0001$). The results of this analysis are presented in Table 9.

Table 9

HCSBS Scores of At-Risk and Comparison Non-At-Risk Youth: Descriptive Statistics, ANOVA Results, and Effect Size Estimates

	At-Risk		Non-At-Risk			
HCSBS Subscale	M	SD	M	SD	F(1,254)	ES
Scale A: Social Competence	97.98	20.41	131.88	18.88	172.37*	1.72
Scale B: Antisocial Behavior	87.17	27.38	51.50	17.64	137.39*	1.58

* $p < .0001$

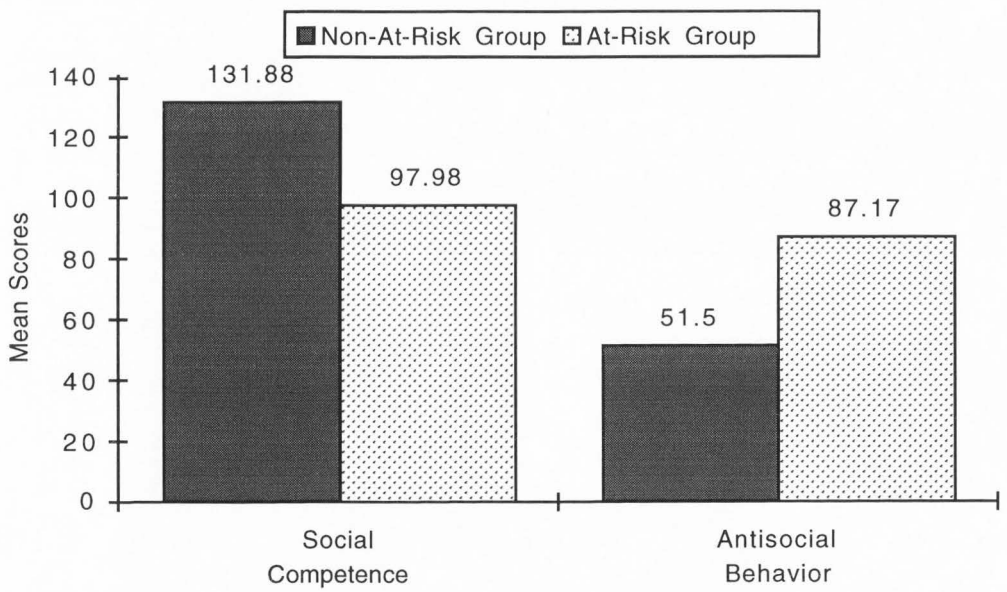

Figure 10. HCSBS mean scores of at-risk and comparison non-at-risk youth.

Effect Sizes

Effect size estimates were then calculated between the non-at-risk and at-risk samples on the two scales of the HCSBS to help determine the practical meaning of the

score differences. This procedure was done by using the standard procedure of dividing the difference in group means by the pooled standard deviation. Results are shown in Table 9.

On the HCSBS Social Competence Scale, the non-at-risk group scored more than one-and-one-half standard deviations higher on social competence (ES = 1.72). On the Antisocial Behavior Scale, the non-at-risk group was also rated as approximately one-and-one-half standard deviation units lower on antisocial behaviors (ES = 1.58). According to Cohen's (1988) paradigm for power analysis in contrasting group means, these effect size differences are considered to be of a large magnitude.

Discriminant Analysis

Finally, discriminant analyses were conducted to determine how well HCSBS subscale scores, separately and together, predicted group membership. As can be seen in Table 10, both subscales of the HCSBS yielded low Wilks Lambda values (.47 to .48), which were statistically significant beyond the .00 level. As indicated in Tables 11 and 12, separately both subscales correctly predicted roughly the same percentage of grouped cases (86.31% for Scale A, and 87.50% for scale B). However, as shown in Tables 10 and 13, combining both subscales resulted in a lower Wilks Lambda of .33 ($p < .00$) and a concomitant higher correct classification ratio of 92.37%.

Table 10

HCSBS Discriminant Function Results

HCSBS Subscale	Group Size	Wilks Lambda	Chi-square	df	p
Social Competence	241	.48	163.90	32	<.01
Antisocial Behavior	256	.47	178.06	33	<.01
Combined	236	.33	220.12	65	<.01

Table 11

HCSBS-A Classification Results

		Predicted Group Membership	
Actual Group	Group Size	Non-at-risk	At-risk
Non-at-risk	101	87	14
		86.10%	13.90%
At-risk	140	19	126
		13.60%	86.40%

Total percent of "grouped" cases correctly classified: 86.31

Table 12

HCSBS-B Classification Results

		Predicted Group Membership	
Actual Group	Group Size	Non-at-risk	At-risk
Non-at-risk	104	95	9
		91.30%	8.70%
At-risk	152	23	129
		15.10%	84.90%

Total percent of "grouped" cases correctly classified: 87.50

To help better understand which individual HCSBS items were dominating the discriminant functions, the resulting structure matrices were examined. Tables 14 through 16 present the top ten individual test items dominating the discriminant functions along with their respective structure coefficients.

As can be seen in Table 14, skills associated with the self-management of behavior

Table 13

HCSBS Combined Classification Results

		Predicted Group Membership	
Actual Group	Group Size	Non-at-risk	At-risk
Non-at-risk	99	92	7
		92.9%	7.1%
At-risk	137	11	126
		8.0%	92.0%

Total percent of "grouped" cases correctly classified: 92.37

dominated the social competence function. The antisocial behavior function was dominated by behaviors that could be labeled aggressive or hostile (see Table 15). Finally, 7 of the top 10 behaviors dominating the combined function were self-management type skills (see Table 16).

Factor Analysis

The final research question addressed in this study was, "What is the factor structure of the HCSBS with an at-risk population?" An exploratory factor analysis of the HCSBS was conducted, using both oblique and orthogonal rotations. The minimum of 150 subjects proposed in this study is in accordance with the 4:1 or 5:1 (subjects to variables) ratio commonly used for exploratory factor analysis (Floyd & Widaman, 1995). The HCSBS contains 32 to 33 items per subscale, thus a sample size of between 130 and 160 subjects is adequate for an exploratory factor analysis.

Social Competence Scale

A principal component analysis was conducted on the HCSBS Social Competence

Table 14

HCSBS-A Discriminant Analysis Structure Matrix (abbreviated)

	Item	Structure Coefficient
17	Behaves appropriately in a variety of settings	.72
27	Adjusts to different behavioral expectations across settings	.65
20	Produces work of acceptable quality for his/her ability level	.63
10	Asks for clarification of instructions in an appropriate manner	.63
18	Asks for assistance in an appropriate manner	.62
23	Responds appropriately when corrected by parents or supervisors	.62
16	Follows home and community rules	.60
31	Shows self-restraint	.60
2	Makes appropriate transitions between activities	.59
5	Effectively participates in group discussions or activities	.56

Scale, resulting in seven factors with eigenvalues greater than 1 as shown in Table 17, and a scree plot with a break point at 2 as shown in Figure 11. A decision was made to rotate using four factors accounting for 55.70% of the total variance. The reasons for this decision were the following:

1. A seven-factor solution based on eigenvalues greater than one failed to converge into interpretable factors using both Varimax and Oblimin rotations.

2. A two-factor solution based on the scree plot accounted for less than 50% of the variance in scores and yielded two global factors that were largely uninterpretable.

3. The literature suggests five social skill factors that occur frequently in studies of child and adolescent social skills (Caldarella & Merrell, in press).

4. Previous factor analytic study using the SSBS resulted in three social skill factors.

Table 15

HCSBS-B Discriminant Analysis Structure Matrix (abbreviated)

	Item	Structure Coefficient
25	Gets into trouble at school or in community	.72
31	Unproductive; achieves very little	.66
23	Is difficult to control	.59
5	Gets into fights	.58
3	Defies parents or supervisors	.58
26	Disrupts ongoing activities	.56
32	Is easily irritated	.54
18	Swears or uses obscene language	.54
24	Bothers and annoys others	.53
6	Lies	.52

Rotation

After carrying out both Orthogonal (Varimax) and Oblique (Oblimin) rotations, an Oblique rotation was used (see Tables 18 and 19) since the four factors appeared to be at least moderately correlated as shown in Table 20. However, both Varimax and Oblimin rotations yielded factors comprised of essentially the same test items. Oblimin converged in 16 iterations.

Social Competence Factors

Table 21 lists the four social competence factors that were extracted and labeled based on the social skills comprising each dimension, along with the percentage of variance accounted for by each factor. The first factor, labeled Self-Management, accounted for

Table 16

HCSBS Combined Discriminant Analysis Structure Matrix (abbreviated)

	Item	Structure Coefficient
B25	Gets into trouble at school or in community	-.53
A17	Behaves appropriately in a variety of settings	.53
B31	Unproductive; achieves very little	-.48
A27	Adjusts to different behavioral expectations across settings	.48
A18	Asks for assistance in an appropriate manner	.47
A20	Produces work of acceptable quality for his/her ability level	.47
A10	Asks for clarification of instructions in an appropriate manner	.46
A23	Responds appropriately when corrected by parents or supervisors	.46
A16	Follows home and community rules	.45
B23	Is difficult to control	-.44

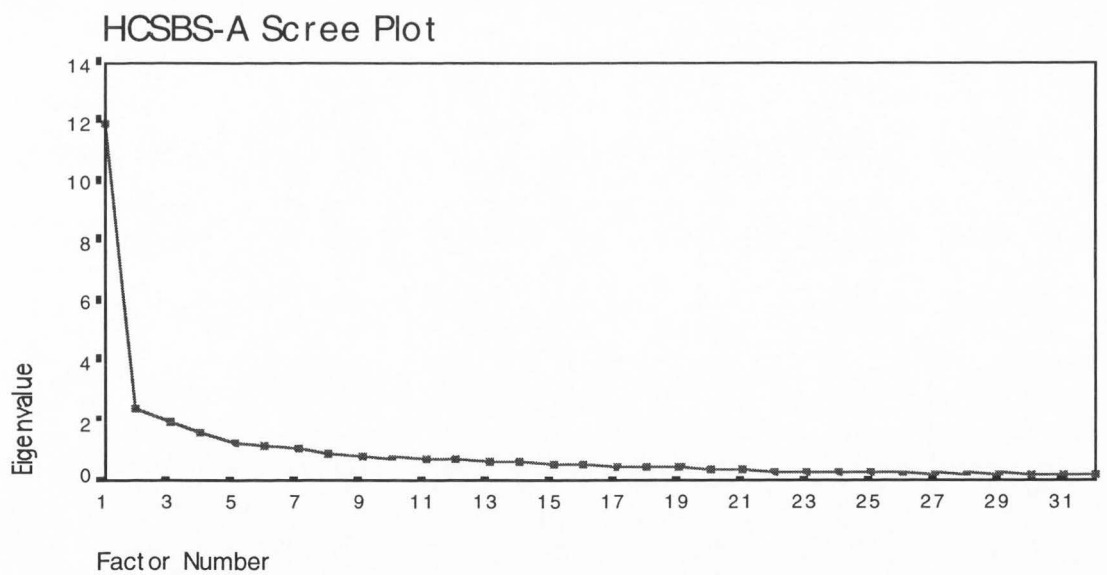

Figure 11. HCSBS Social Competence scale scree plot.

Table 17

Principal Components Factor Analysis of HCSBS Social Competence Scale

Item	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
A1	.62	1	11.89	37.10	37.10
A10	.71	2	2.44	7.60	44.80
A11	.70	3	1.93	6.00	50.80
A12	.59	4	1.57	4.90	55.70
A13	.83	5	1.29	4.00	59.70
A14	.84	6	1.12	3.50	63.20
A15	.58	7	1.07	3.40	66.60
A16	.69				
A17	.66				
A18	.72				
A19	.52				
A2	.57				
A20	.54				
A21	.71				
A22	.58				
A23	.68				
A24	.67				
A25	.67				
A26	.66				
A27	.54				
A28	.64				
A29	.70				
A3	.73				
A30	.74				
A31	.58				
A32	.74				
A4	.66				
A5	.62				
A6	.60				
A7	.72				
A8	.70				
A9	.77				

Table 18

HCSBS Social Competence Scale-Oblimin Rotation-Pattern Matrix

Item	Factor 1	Factor 2	Factor 3	Factor 4
A24	.76			
A17	.75			
A23	.73			
A31	.69			
A22	.61			
A27	.60			
A18	.59			
A7	.59			
A16	.52	-.31		
A2	.40		.36	
A25	.37			.35
A10	.37		.35	
A28	.30			
A13		-.93		
A14		-.91		
A3		-.80		
A8		-.75		
A20		-.46	.31	
A11			.81	
A32			.78	
A26			.70	
A21			.69	
A29	.31		.49	
A30			.48	
A9				.73
A5				.67
A1				.59
A15				.52
A4				.51
A12			.41	.45
A19			.38	.42
A6				.40

Note. Values less than .30 have been left blank.

Table 19

HCSBS Social Competence Scale-Oblimin Rotation-Structure Matrix

Item	Factor 1	Factor 2	Factor 3	Factor 4
A17	.79	-.34	.33	.40
A23	.77	-.51		
A24	.76	-.38		.30
A31	.70		.37	
A27	.69	-.32	.43	.36
A22	.68		.33	.45
A18	.68	-.40	.50	
A16	.66	-.53		.43
A7	.65	-.32		.41
A10	.60	-.44	.57	.35
A25	.58		.51	.56
A2	.56	-.40	.52	
A28	.55	-.49	.46	.40
A14	.42	-.91		
A13	.33	-.89		
A3	.38	-.83	.33	
A8	.42	-.81	.36	
A20	.43	-.60	.49	
A11	.33		.81	.30
A32	.33		.79	.30
A26	.43	-.39	.78	
A21			.74	.49
A29	.51	-.34	.62	
A30	.38	-.34	.60	.36
A9			.37	.76
A5		-.41	.33	.71
A1	.42			.66
A4	.41		.44	.64
A15	.45			.60
A12	.33		.55	.59
A19	.30	-.33	.55	.57
A6	.43	-.32	.47	.55

Note. Values less than .30 have been left blank.

Table 20

HCSBS Social Competence Scale-Factor Correlation Matrix

	Factor 1	Factor 2	Factor 3
Factor 2	-.43		
Factor 3	.40	-.33	
Factor 4	.36	-.23	.35

Table 21

Social Competence Factors Derived From Factor Analysis

Factor	Percent of Variance Accounted
Self-Management	37.10
Compliance	7.60
Leadership/Popularity	6.00
Peer Relationship	4.90

37.10% of the total variance in test scores. The remaining three factors cumulatively accounted for an additional 18.50% (7.60, 6.00, and 4.90, respectively), yielding a grand total of 55.60% of the total variance accounted for.

Self-Management

The Self-Management factor appeared to reflect a child or youth who might be labeled "emotionally well adjusted" by others. Behaviors such as controlling one's temper, responding appropriately to corrections, and showing self-restraint appeared to describe this factor well. Table 22 lists the 14 specific skills that loaded highly on this factor, along with the item factor loadings.

Table 22

Individual Items and Factor Loadings for the Self-Management Factor

	Item	Factor Loading
17	Behaves appropriately in a variety of settings	.79
23	Responds appropriately when corrected by parents or supervisors	.77
24	Controls temper when angry	.76
31	Shows self-restraint	.70
27	Adjusts to different behavioral expectations across settings	.69
22	Is sensitive to feelings of others	.68
18	Asks for assistance in an appropriate manner	.68
16	Follows home and community rules	.66
7	Remains calm when problems arise	.65
10	Asks for clarification of instructions in an appropriate manner	.60
25	Appropriately enters into ongoing activities with peers	.58
2	Makes appropriate transitions between activities	.56
28	Notices and compliments other attributes	.55

Compliance

The Compliance factor appeared to reflect a child or youth who essentially complies with requests from others. Behaviors such as completing chores or assignments, as well as listening to and carrying out directions, appeared to describe this factor well. Table 23 lists the five specific social skills that loaded highly on this factor, along with the item factor loadings.

Table 23

Individual Items and Factor Loadings for the Compliance Factor

	Item	Factor Loading
14	Completes chores or other assigned tasks on time	.91
13	Completes chores or other assigned tasks independently	.89
3	Completes chores or other assigned tasks without being reminded	.83
8	Listens to and carries out directions from parents or supervisors	.81
20	Produces work of acceptable quality for his/her ability level	.60

Leadership-Popularity

The third social competence factor appeared to reflect skills important for popularity and leadership among peers. Attributes such as being looked up to or respected by peers, and having good leadership skills appeared to describe this factor well. Table 24 lists the six specific skills that loaded highly on this factor, along with the individual item factor loadings.

Peer Relationship

The Peer Relationship dimension seemed to reflect a child or youth who might be called "outgoing or extroverted" by peers. Behaviors such as inviting peers to interact, participating in group discussions, and cooperating with peers in a variety of settings appeared to describe this factor well. Table 25 lists the eight specific skills that loaded highly on this factor, along with the item factor loadings.

Table 24

Individual Items and Factor Loadings for the Leadership/Popularity Factor

	Item	Factor Loading
11	Has skills or abilities that are admired by peers	.81
32	Is looked up to or respected by peers	.79
26	Possesses good leadership skills	.78
21	Is skillful at initiating or joining conversations	.74
29	Is appropriately assertive when he/she needs to be	.62
30	Is sought out by peers to join activities	.60

HCSBS Antisocial Behavior Scale

A principal component analysis was also conducted on the HCSBS Antisocial Behavior Scale resulting in six factors with eigenvalues greater than 1 (see Table 26), and a scree plot with a break point at 2 (see Figure 12). A decision was made to rotate using three factors accounting for 54.30% of the total variance. The reasons for this decision were the following:

1. A six-factor solution based on greater than one failed to converge into interpretable factors using both Varimax and Oblimin rotations.

2. A two-factor solution based on the scree plot accounted for less than 50% of the variance in scores and yielded two global factors that were largely uninterpretable.

3. Previous factor analytic study using the SSBS resulted in three antisocial behavior factors.

Table 25

Individual Items and Factor Loadings for the Peer Relationship Factor

	Item	Factor Loading
9	Invites peers to participate in activities	.76
5	Effectively participates in group discussions and activities	.71
1	Cooperates with peers in a variety of settings	.66
4	Offers help to peers when needed	.64
15	Will give in or compromise with peers when appropriate	.60
12	Is accepting of peers	.59
19	Interacts with a variety of peers	.57
6	Understands problems and needs of peers	.55

Rotation

After carrying out both Varimax (orthogonal) and Oblimin (oblique) rotations, an Oblique rotation was used (Tables 27 and 28) since the three factors appeared to be at least moderately correlated as shown in Table 29. However, both Varimax and Oblimin rotations yielded factors comprised of essentially the same test items. Oblimin converged in 31 iterations.

Antisocial Behavior Factors

Table 30 lists the three antisocial behavior factors that were extracted and labeled based on the behaviors comprising each dimension, along with the percentage of variance accounted for by each factor. The first factor, labeled Antisocial-Aggressive, accounted for 44.90% of the total variance in test scores. The remaining two factors cumulatively

Table 26

Principal Components Factor Analysis of HCSBS Antisocial Behavior Scale

Item	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
B1	.67	1	14.82	44.90	44.90
B10	.18	2	1.62	4.90	49.80
B11	.60	3	1.47	4.50	54.30
B12	.66	4	1.40	4.20	58.50
B13	.52	5	1.18	3.60	62.10
B14	.70	6	1.09	3.30	65.40
B15	.64				
B16	.72				
B17	.73				
B18	.56				
B19	.79				
B2	.68				
B20	.71				
B21	.61				
B22	.70				
B23	.71				
B24	.69				
B25	.64				
B26	.60				
B27	.69				
B28	.58				
B29	.69				
B3	.68				
B30	.64				
B31	.69				
B32	.72				
B33	.70				
B4	.70				
B5	.67				
B6	.67				
B7	.64				
B8	.62				
B9	.78				

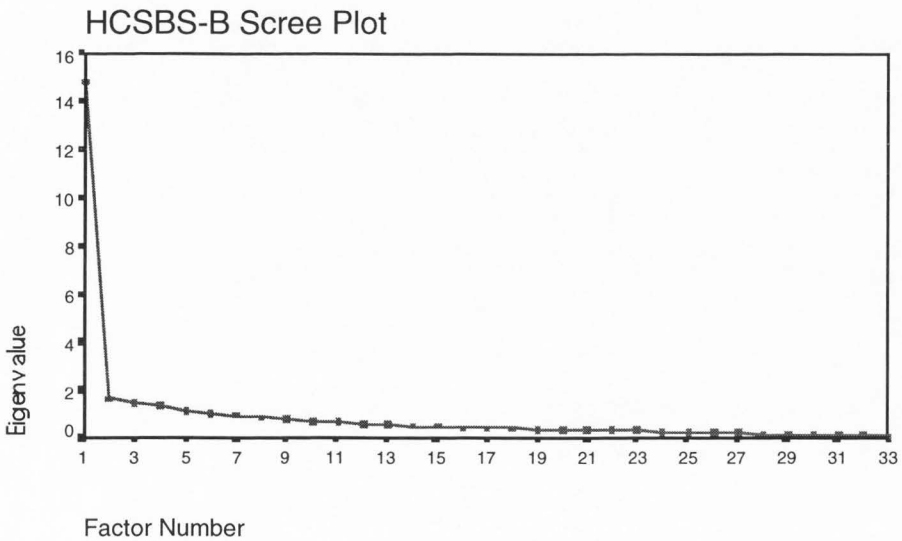

Figure 12. HCSBS Antisocial Behavior Scale scree plot.

accounted for an additional 9.40% (4.90 and 4.50, respectively), yielding a grand total of 54.30% of the total variance accounted for.

Antisocial-Aggressive

The Antisocial-Aggressive factor reflected a child who might be labeled "conduct disordered" or "acting out" by others. Behaviors such as threatening peers, fighting, and insulting appeared to describe this factor well. Table 31 lists the 11 behaviors that loaded on this factor, along with the individual factor loadings.

Hostile-Irritable

The Hostile-Irritable factor was reflected by a youth who might be called "sensitive and insolent" or "oppositional-defiant" by others. Behaviors such as defying parents or supervisors, acting impulsively, having temper tantrums or outbursts appeared to describe this factor well. Table 32 lists the 16 behaviors that loaded on this factor, along with the individual factor loadings.

Table 27

HCSBS Antisocial Behavior Scale-Oblimin Rotation-Pattern Matrix

Item	Factor 1	Factor 2	Factor 3
B5	.75		
B4	.72		
B17	.71		
B19	.66		
B7	.64		
B18	.62		
B27	.56	.48	
B12	.53		
B29	.53		
B20	.52	.37	
B22	.47		
B26	.36	-.31	
B31		-.78	
B3		-.70	
B30		-.62	
B14		-.60	
B23	.30	-.60	
B28		-.59	
B15		-.55	
B1		-.52	
B6	.32	-.49	
B2	.34	-.48	
B32		-.48	
B8	.41	-.48	
B25	.42	-.46	
B24	.37	-.45	
B10		-.44	
B9	.35	-.43	
B33			.69
B16		-.43	.58
B11	.30		.56
B21		-.48	.51
B13			.41

Note. Values less than .30 have been left blank.

Table 28

HCSBS Antisocial Behavior Scale-Oblimin Rotation-Structure Matrix

Item	Factor 1	Factor 2	Factor 3
B17	.82	-.53	.42
B5	.77	-.41	.34
B19	.76	-.53	.34
B20	.74	-.54	.61
B7	.72	-.48	.33
B18	.69	-.46	
B22	.69	-.58	.48
B29	.68	-.49	.45
B12	.68	-.54	.31
B4	.64		
B26	.62	-.59	.49
B3	.58	-.79	
B23	.65	-.78	.38
B30	.53	-.75	.39
B14	.53	-.74	.49
B24	.69	-.71	.48
B31		-.71	.32
B32	.62	-.70	.50
B15	.54	-.70	.39
B25	.66	-.68	
B9	.64	-.67	.42
B8	.62	-.66	
B28	.39	-.65	.34
B6	.55	-.63	
B1	.45	-.62	
B2	.51	-.59	
B10		-.40	
B16	.43	-.61	.71
B33			.69
B11	.48		.65
B21	.34	-.59	.63
B27	.58		.59
B13	.35	-.41	.51

Note. Values less than .30 have been left blank

Table 29

HCSBS Antisocial Behavior Scale-Factor Correlation Matrix

	Factor 1	Factor 2
Factor 2	-.54	
Factor 3	.37	-.32

Table 30

Antisocial Behavior Factors Derived From Factor Analysis

Factor	Percent of Variance Accounted
Antisocial-Aggressive	44.90
Hostile-Irritable	4.90
Disruptive-Demanding	4.50

Disruptive-Demanding

The third antisocial behavior factor seemed to reflect a youth who might be labeled disruptive or "immature and needy" by others. This factor was dominated by such behaviors as being overly demanding of attention, demanding help, and whining or complaining. Table 33 lists the six behaviors that loaded highly on this factor, along with the item factor loadings.

Summary

The results of the HCSBS analysis suggest that the instrument possesses adequate internal consistency with high alphas. Convergent validity with both teacher ratings and student self-ratings of social competence and antisocial behavior appeared slight.

Table 31

Individual Items and Factor Loadings for the Antisocial-Aggressive Factor

	Item	Factor Loading
17	Threatens peers; is verbally aggressive	.82
5	Gets into fights	.77
19	Is physically aggressive	.76
20	Insults peers	.74
7	Teases and makes fun of others	.72
18	Swears or uses obscene language	.69
22	Argues and quarrels with peers	.69
29	Is cruel to others	.68
12	Destroys or damages others property	.68
4	Cheats on schoolwork or in games	.64
26	Disrupts ongoing activities	.62

Discriminant validity was indicated by the near zero correlations between the HCSBS and the KTEA. The instrument appeared able to detect group differences as indicated by the clinically significant effect size differences between the at-risk and non-at-risk sample mean scores, as well as the 92.37 correct classification percentage. Finally, the factor analysis of the HCSBS suggested that four social competency factors and three antisocial behavior factors were quite similar to the results obtained for the teacher version of the instrument (Merrell, 1993).

Table 32

Individual Items and Factor Loadings for the Hostile-Irritable Factor

	Item	Factor Loading
3	Defies parents or supervisors	.79
23	Is difficult to control	.78
30	Acts impulsively without thinking	.75
14	Has temper outbursts or tantrums	.74
24	Bothers and annoys others	.71
31	Unproductive; achieves very little	.71
32	Is easily irritated	.70
15	Disregards feelings and needs of others	.70
25	Gets in trouble at school or in community	.68
9	Is easily provoked; has a short fuse	.67
8	Is impertinent or sassy	.66
28	Cannot be depended upon	.65
6	Lies	.63
1	Blames others for his/her problems	.62
2	Takes things that are not his/hers	.59
10	Ignores parents or supervisors	.40

Table 33

Individual Items and Factor Loadings for the Disruptive-Demanding Factor

	Item	Factor Loading
16	Is overly demanding of attention from adults	.71
33	Demands help from peers	.69
11	Acts as if he/she is better than others	.65
21	Whines and complains	.63
27	Is boastful; brags	.59
13	Will not share	.51

CHAPTER V

DISCUSSION

The major purpose of this dissertation was to investigate the construct validity of a new behavior rating scale for use by parents, the HCSBS. The specific objectives were the following: (a) to use the HCSBS to assess an at-risk population in Northern Utah; (b) to determine the factor structure of the HCSBS with this population; (c) to investigate the correlation between the HCSBS with other well normed and validated measures of social skills, antisocial behaviors, and academic achievement; (d) to investigate the relationship between parent and teacher behavior ratings of at-risk youth; and (e) to determine how well the HCSBS can detect differences between an at-risk and a non-at-risk population.

The five specific research questions addressed in this study were the following: (a) What is the internal consistency of the HCSBS items and its two component subtests (test homogeneity)? (b) How do the individual subset scores of the HCSBS correlate with the SSBS subset scores and the other measures of social skills and antisocial behavior used in this study (convergent validation)? (c) How do scores on the HCSBS correlate with scores on an academic achievement test used to assess this at-risk population (discriminant validation)? (d) How well do scores on the HCSBS distinguish between at-risk and non-at-risk youth (theory-consistent group differences)? and (e) What is the factor structure of the HCSBS with an at-risk population (factor analysis)?

The study objectives and research questions, along with their respective findings and implications, are discussed in this chapter. Limitations of the current study, as well as recommendations for future research, are also discussed.

The At-Risk Sample

Gender

Demographic information indicated that approximately two thirds of the at-risk

sample was male (65.60%), while only 50% of the non-at-risk sample was male. It is unclear whether these gender differences played a role in the significant HCSBS and SSBS effect size differences found between the two samples. There is some evidence that males score higher on measures of social-emotional disturbance (Kazdin, 1989), and particularly on "externalizing" and antisocial behaviors (Walker et al., 1995). Future studies specifically examining the effects of gender on HCSBS scores would help answer this question.

Ethnicity

Given the relatively homogenous ethnic and cultural context of Northern Utah, it was surprising to find such a high degree of diversity in the at-risk sample. As shown in Table 34, the comparison with data from the 1990 U.S. Census indicated that the at-risk sample had a very comparable percentage of White students, less than one third the percentage of African American students, more than double the percentage of Hispanic and Native American students, and no Asian students. These results are in accordance with estimates provided by Young (1992), that Ogden City School District is among the most diverse of any school district in the Intermountain West, with the highest percentage of minority youth being Hispanic. Future studies with the HCSBS could benefit from including more African American and Asian students in their samples.

Assessment Scores

The descriptive data on standard scores of the various assessment instruments used by the Prevention Plus Program suggest that the procedures used to select and identify at-risk youth in the current study were appropriate. The at-risk sample scored approximately one standard deviation below the national norm sample on academic achievement, placing this sample solidly in the "below average" range. Such low academic achievement is a commonly identified characteristic of at-risk youth (CSAP, 1995; Hixson & Tinzmann,

Table 34

Ethnic/Racial Comparison of the HCSBS At-Risk Sample and Comparative 1990 Census Information

Ethnic /Racial Group	Percent in At-Risk Sample	Percent in U.S. Population[a]
White (Non Hispanic)	68.10	71.30
African American	4.20	12.10
Hispanic	19.40	9.00
American Indian, Eskimo, or Aleut	3.50	.80
Asian or Pacific Islander	-	2.90
Other	4.90	3.90

[a]Source: Decennial Census Summary, 1990 Population Profile for the United States. Washington, DC: U.S. Bureau of the Census.

1990; Young, 1992).

The at-risk sample scored more than one standard deviation below the national norm on teacher ratings of social competence, placing this sample in the "moderate deficit" range. Similarly, the SSRI sample mean raw score was more than seven points higher than the minimum criterion cut-off, suggesting that, on average, these students were notably at risk in the areas measured by the SSRI.

The sample also scored approximately one standard deviation above the national norm on teacher ratings of antisocial behaviors, placing the sample in the "significant problem" range. Lack of adequate social competence, and the presence of antisocial behaviors in the school and community have consistently been associated with at-risk youth (CSAP, 1995; Young, 1992). Walker et al. (1995) noted that even trivial antisocial

behaviors in youth (e.g., lying, stealing) tend to progress to more serious forms, including drug/alcohol involvement and school problems, later in life.

Interestingly, these at-risk youth rated themselves close to the national norm mean on a self-rating of social competence, scoring in the "average" range. This finding was in contrast to both teacher and parent ratings, which tended to indicate deficits in social skills relative to other non-at-risk youth. These results suggest that the at-risk sample tended to overestimate their degree of social competence. Such results are in agreement with observations by Prevention Plus staff members, who noted that these youth tended to do a relatively poor job of self-monitoring their behaviors, often needing prompts and tracking sheets to get a more accurate view of the incidence and impact of their prosocial and antisocial behaviors. It may be that at-risk youth lack a basic awareness of their behavior, and particularly the way their behavior is both perceived by and affects others. It may also be that a "social desirability bias," or a "faking good response set" was at work, with youth rating themselves in a socially acceptable manner (while parents and teachers could be more objective). Merrell (1994) has noted that such biases are often a problem in self-report inventories. Whatever the cause, this finding is an important area worthy of further study, for if the basic deficit is one of self-awareness, interventions focusing on feedback, self-monitoring, and prompts could be more beneficial than simple skill instruction and modeling. Related support for this proposition will be shown later when discussing the Self-Management factor of the SSBS. Perhaps future studies could add a student self-rating form of the HCSBS to help answer this question and further increase the number of rating sources.

Internal Consistency

Internal consistency coefficients (alphas) on both scales of the HCSBS were high, providing support for the construct validity of the HCSBS. These results were comparable

with those obtained using the teacher version of the instrument on a normative sample (Merrell, 1993). Unfortunately, given the limitations of the current study, no other forms of reliability could be calculated (e.g., test-retest, interrater, alternate form, etc.). It would seem particularly important to know how consistent HCSBS ratings are over a short period of time, as well as the differences between raters (e.g., mothers versus fathers). Future studies focusing on the reliability of the HCSBS may help answer such questions.

Convergent Validity and Rater Differences

Social Competence Scale

Resulting correlations between the HCSBS-A (Social Competence Scale) and both the teacher and student self-ratings of social competence were positive but small, and failed to reach statistical significance. However, the low values may reflect rater differences noted by other researchers rather than lack of HCSBS validity per se. Indeed, Achenbach et. al (1987) found similar small correlations between parent and teacher rating using essentially the same measure, and hypothesized that source and setting variance tend to lead to small associations between different raters across settings.

When effect size differences were calculated, both parents and teachers of the at-risk youth rated them as, on average, at least one standard deviation lower on social competence when compared to a normative sample (SSBS) and a comparison sample of non-at-risk youth (HCSBS). Thus it appears that both the HCSBS-A and the SSBS-A are detecting similar levels of social skill deficits in the at-risk sample, though doing so in a slightly different manner.

Antisocial Behavior Scale

The correlation between the HCSBS-B and teacher ratings of antisocial behavior was small, positive, and statistically significant. This finding indicates that the HCSBS and SSBS ratings, while not perfectly congruent, have a tendency to move in the same

direction. This higher interrater correlation for different ratings of "externalizing" behaviors is similar to findings noted by Achenbach et al. (1987).

Scale Correlations

Finally, the HCSBS-A and the HCSBS-B were moderately, negatively correlated at a statistically significant level, suggesting that most students who were rated by their parents as high on social competence, were also rated as low on antisocial behavior, though this was not a perfect relationship. That is, there were clearly some students for whom a low parental rating on social competence did not necessarily correspond to a high rating on antisocial behaviors.

These results are in agreement with other writing in this area, suggesting that the nature of the relationship between social competence and antisocial behaviors is not perfect (Merrell, 1993). For example, children who exhibit high levels of social withdrawal are likely to be rated as low in both social skills and antisocial behaviors. Thus just because a child is lacking in social skills does not necessarily mean he/she will be high on measures of antisocial behavior.

Discriminant Validity

The third research question addressed by the present study related to discriminant validity. The correlations between the scale scores on the HCSBS, and the KTEA subscale and composite scores were all near zero, providing evidence that the HCSBS is measuring a different construct than that measured by the KTEA. Also, the correlations between the HCSBS-A and both teacher ratings of antisocial behavior and the at-risk screening instrument were near zero. These results are in accordance with the assumptions of discriminant validity noted in the literature (Anatasi, 1988; Campbell & Fiske, 1959; Gregory, 1992).

However, the near zero correlations between the KTEA and the HCSBS scores are somewhat in contrast to other writing in this area, suggesting that social skill development is associated with academic success (Walker & Hops, 1976). Some possible explanations for the current finding include the fact that standardized academic achievement testing was measured rather than actual school performance, which may have resulted in a decreased correlation coefficient. Also, the use of only an at-risk sample of youth likely yielded a restriction in the range of scores, resulting in artificially lowered correlation coefficients.

The HCSBS-B ratings of antisocial behaviors and the student self-ratings of social competence were negatively correlated, though the correlation was small. This suggests that students who rated themselves higher on social competence tended to be rated by their parents as lower on antisocial behaviors. Similarly, HCSBS-B ratings of antisocial behavior had a small negative correlation with teacher ratings of social competence. While these correlations were slightly lower than those between the HCSBS-B and the SSRS-B, the degree of difference did not appear large enough to provide strong evidence of discriminant validity.

Taken as a whole, the results of the convergent and discriminant validity studies indicate moderate support for the construct validity of the HCSBS. The results of the HCSBS analysis generally correspond to the expected pattern (Anatasi; 1988; Campbell & Fiske, 1959; Gregory, 1992) with measures of the same constructs generally correlating higher than measures of different constructs, though there was somewhat less support for this in the case of the Antisocial Behaviors Scale. Future research replicating these results with a larger, normative population, as well as the inclusion of another well validated parent rating scale, is needed to fully demonstrate the construct validity of the HCSBS.

Group Differences

Group means and standard deviations for both the non-at-risk and at-risk samples

on the two scales of the HCSBS were calculated, along with significance tests and effect size estimates. The non-at-risk group was rated as significantly higher on social competence and significantly lower on antisocial behaviors, with at least one-and-one-half standard deviation units difference between their mean scores. Such effect size differences are generally considered to be of a large magnitude (Cohen, 1988). Thus the HCSBS appeared to do an excellent job of discriminating between at-risk and non-at-risk students, providing additional evidence of construct validity of the instrument.

Also, the discriminant analyses indicated that the scales of the HCSBS, both separately and combined, were powerful predictors of group membership. The combined instrument was able to correctly classify 92.37% of the cases. Also, skills associated primarily with the Self-Management factor dominated both the social competence function and the combined function, indicating the importance of these skills in predicting at-risk status.

However, there may have been biases at work that artificially exaggerated the group differences. A halo effect (Martin et al., 1986) may have been operating in the case of parents of non-at-risk youth, who received a rather positive letter from the school principal indicating that their child had "recently been nominated as a student who has adjusted well to the academic and behavioral expectations" at school. Likewise, parents of the at-risk sample may have had a tendency to rate their children as a bit worse than they really were to ensure their acceptance into the Prevention Plus Program, resulting in a "severity bias" (Martin et al., 1986). Though there is no unequivocal way to prove or disprove the existence of such biases in the present study, future research with the HCSBS could avoid this problem by obtaining parent ratings first and then examining these children's educational and psychological status.

Factor Analysis

Social Competence Scale

After conducting the principal component analysis on the HCSBS-A, a decision was made to rotate using four factors accounting for 55.70% of the total variance. This approach, while justified for several reasons noted earlier, represented a compromise between the Kaiser (1960) criterion of retaining all factors with eigenvalues greater than 1, and the scree test (Cattell, 1966) of retaining only those factors that precede the break point on the scree plot. The approach used in this study could be criticized for not adhering to any one, well established method of factor retention, and may represent a weakness in the present study. However, as noted by Gorsuch (1983), the numbers of factors chosen must fit the data well. In the present study, four social competence factors appeared to do this best. Further study of the HCSBS using a larger, normative population would help validate these findings.

Self-Management. The first factor labeled Self-Management, accounted for 37.10% of the total variance in test scores. This was somewhat different in normative studies using the SSBS where the first factor was labeled Interpersonal Skills and accounted for 59.10% of the total variance (Merrell, 1993). In the Merrell study, a Self-Management factor, comprised of many of the same test items as in the present study, did emerge but was the second factor labeled, accounting for only 6.70% of the variance. The reason for these differences may be that for at-risk youth a Self-Management component is a more salient and powerful descriptor based on the high incidence of problems with self-monitoring and self-control noted earlier. With a normative population more global interpersonal skills may be more important. Also, the "Self-Management" label applied to this first social skill factor was somewhat arbitrary since most, but not all (e.g., "Is sensitive to the feelings of others") of the items were descriptive of the self-management of behavior. Additional factor analytic study of the HCSBS using a normative population is

needed to help resolve these differences.

Compliance. The Compliance factor, accounting for an additional 7.60% of the total variance, appeared to reflect a child or youth who essentially complies with requests from others. This factor appeared to most closely resemble the second SSBS factor labeled by Merrell (1993) as Academic Skills. Similar representative skills, such as listening to and carrying out instructions/directions, completing assignments/chores, and producing work of an acceptable quality, were present in both of these factors.

Leadership-Popularity. The third social competence factor, labeled Leadership-Popularity, accounting for 6% of the total variance, appeared to reflect skills important for popularity and leadership among peers. This factor most closely resembled the first SSBS factor labeled Interpersonal Skills. Behaviors such as having good leadership skills, being skillful at initiating or joining conversations, and being looked up to or respected by others, all appeared to describe these factors well.

Peer Relationship. The last factor, labeled Peer Relationship, accounted for 4.90% of the total variance and seemed to reflect a child or youth who might be called "outgoing or extroverted" by peers. This factor also closely resembled the first SSBS factor labeled Interpersonal Skills. Skills such as inviting peers to interact, participating in group discussions, and offering help to peers when needed, all appeared to describe both of these factors well.

Summary. Overall, the HCSBS-A performed similarly to the normative studies of the SSBS-A, with items tending to cluster in the same social skill patterns. It seems, however, that with the HCSBS the first SSBS factor (Interpersonal Skills) was split into two smaller HCSBS factors (Leadership/Popularity and Peer Relationship). The reasons for these differences are unclear, though this may again represent the unique characteristics of at-risk youth. Future studies using a larger normative population would help resolve these differences.

It should also be noted that the four social skill factors derived using the HCSBS have been shown to consistently emerge in factor analytic studies of child and adolescent social skills (Caldarella & Merrell, in press). These results lend additional support for the construct validity of the HCSBS.

Antisocial Behavior Scale

A principal component analysis was also conducted on the HCSB-B, resulting in six factors with eigenvalues greater than 1, and a scree plot with a break point at 2. A decision was made to rotate using three factors accounting for 54.30% of the total variance. This solution seemed to fit the data best and is the same number of factors derived by Merrell (1993) using the teacher version of the instrument (SSBS) on a normative sample. In fact, the three antisocial behavior factors labeled in this study were quite similar to those derived by Merrell (1993) and thus the same factor labels were used.

Antisocial-Aggressive. The first factor, labeled Antisocial-Aggressive, accounted for 44.90% of the total variance in test scores. This was somewhat different in the normative studies using the SSBS where the first factor that emerged was labeled Hostile-Irritable and accounted for 61.40% of the variance (Merrell, 1993). In the Merrell study, an Antisocial-Aggressive factor, comprised of many of the same test items as in the present study, was the second factor to emerge, accounting for only 4.70% of the variance. The reason for these differences, as with the Self-Management factor noted earlier, may be that for at-risk youth an Antisocial-Aggressive factor is a more salient and powerful descriptor based on the high incidence of such behaviors noted by researchers in the field (Walker et al., 1995). With a normative population, hostile/irritable behaviors may be more frequent. Additional factor analytic study of the HCSBS using a normative population is needed to help resolve these differences.

Hostile-Irritable. The second antisocial behavior factor, labeled Hostile-Irritable, accounted for 4.90% of the variance and reflected a youth who might be called "sensitive"

or "oppositional-defiant" by others. This factor closely resembled the SSBS factor of the same name. Similar representative behaviors such as being impertinent or sassy, being easily provoked, and having temper tantrums or outbursts were present in both of these factors.

Disruptive-Demanding. The Disruptive-Demanding factor accounted for 4.50% of the variance and seemed to reflect a youth who might be labeled "immature and needy" by others. This third factor closely resembled the third SSBS factor of the same name. Behaviors such as being overly demanding of attention, and demanding help from others were present in both of these factors.

Summary. Overall, the HCSB-B performed similar to the normative studies of the SSBS-B, with items tending to cluster in the same antisocial behavior patterns. These results lend additional support for the construct validity of the HCSBS. However, the first factor to emerge was Antisocial-Aggressive rather than the Hostile-Irritable factor as found by Merrell (1993). Whether this is due to rater differences, or differences in the populations sampled is unknown. Future studies using a larger normative population would help answer this question.

Limitations and Directions for Future Research

Sampling

All subjects in the present study came from Utah, and more specifically from Northern Utah. Also, subjects came from only four grade levels (sixth through ninth). These are clearly limitations of the present study that could be addressed using a larger national normative sample. At present we cannot be sure whether the results of the present study will generalize to samples outside of Utah, nor whether they apply to younger or older youth.

Additionally, the way the at-risk subjects were gathered was not random and may have impacted the results of the study. As noted earlier, certain biases may have been at work that affected scores in a manner exaggerating differences between the at-risk and non-at-risk samples.

Reliability

As noted earlier, only one form of test reliability could be examined in the present study. While both scales of the HCSBS performed well on the internal consistency analyses, no further evidence was provided showing that these scores were reliable. Test-retest reliability has been viewed as the most important type of reliability to establish for behavior rating scales (Gregory, 1992). Future studies focusing on the reliability of the instrument are clearly needed.

Instrumentation

Because of limitations in the experimental design, the instruments used in the present study did not include other well validated parent rating scales. This could be viewed as the single largest limitation of the present study. As noted earlier, though few parent rating scales appear to exist which do an adequate job of assessing both the social competence and antisocial behaviors of at-risk youth, several excellent instruments that measure one of these constructs do exist, such as the CBCL parent form (Achenbach, 1991) and the SSRS parent form (Gresham & Elliot, 1990). Future studies could greatly benefit from adding such instruments to the test battery, helping to more fully establish the construct validity of the HCSBS.

Classification

Unfortunately, as there were no attempts to link special education or psychological diagnoses with HCSBS scores, we do not know how well the instrument can distinguish between youth meeting various special education classification categories or DSM-IV

diagnoses. As noted by Blashfield (1984), behavioral taxonomies can have far-reaching effects on how professionals conceptualize, communicate about, and treat well established behavior patterns. Clearly studies examining these characteristics of the instrument would go a long way towards making the HCSBS more valid, and potentially more valuable to researchers and clinicians alike.

Intervention

As no attempt was made to directly link the HCSBS scores to particular interventions with at-risk youth, no evidence is yet available to support such use. However, the objective, behavioral qualities of the instrument could provide valuable skills and behaviors to target for interventions. Gesten (1976) has noted that competencies in clients must be identified and reinforced to maximize (treatment and research) outcomes. Future studies attempting to link HCSBS score profiles to psychological and educational interventions could help greatly in further validating and expanding the uses of this instrument.

Conclusions and Implications

In conclusion, the HCSBS appears to possess sufficient construct validity to justify further research with the instrument. Given the serious consequences of youth not having adequate social skills (Gilbert & Gilbert, 1991; McColloch & Gilbert, 1991; Walker et al., 1995), as well as the links between early antisocial behavior patterns and later more serious offenses (Ramsey et al., 1990; Walker et al., 1995), such additional studies are needed.

The HCSBS unique dual construct (Social Skills and Antisocial Behaviors) assessment of at-risk youth is viewed as one of the instrument's greatest strengths. As noted earlier, assessment procedures with youth may focus on risk factors, resiliency factors, or both. Frymier and Gansneder (cited in West, 1991) noted that if we think of human existence as a continuum ranging from health to sickness, then "at-riskness" would

make up the bad half of the continuum, tending in the direction of illness, maladjustment, low achievement, and antisocial behavior; the good end of the continuum would tend towards health, adjustment, high achievement, and prosocial behavior. The HCSBS attempts to gauge both ends of this continuum by measuring the prosocial and antisocial behaviors exhibited by at-risk youth. Such an assessment yields a much greater breadth of information, and helps build bridges to intervention that a single construct assessment cannot. Indeed, in a recent review of social skill assessment instruments, the School Social Behavior Scales (Merrell, 1993), the teacher version of the HCSBS, was praised for both its Social Competence and Antisocial Behavior Scales (Demaray et al., 1995). The need for a validated parent rating scale that measures both social skills and antisocial behaviors may be met by the HCSBS.

The HCSBS also appeared to do an excellent job of discriminating a sample of youth at risk for substance abuse from a sample of non-at-risk youth. With alcohol estimated to be associated with 50% of all spousal abuse cases, 49% of homicides, 38% of child abuse cases, and 52% of rapes (CSAP, 1995), early identification of youth at risk for such problems is clear. Based on recent findings, it appears that tobacco and alcohol have become the drugs of choice for many youth, often serving as gateways to later, more serious drug and alcohol problems (Nicholson, 1995; Young, 1992). The HCSBS could help in the early identification of other at-risk youth.

With the alarming increases in juvenile violence, the HCSBS could also make a significant difference in earlier identification and treatment of youth at risk for such problems. The U.S. Department of Justice has reported that violent crimes among youth rose by 51% between 1988 and 1994 (Synder, Sickmund, & Poe-Yamagata, 1996). These studies predict a doubling of youth arrests for violent crimes by the year 2010 if current trends continue (Synder & Sickmund, 1995). With its unique broad-based assessment of both social competence and antisocial behaviors, the HCSBS could prove to be a valuable

part of a comprehensive violence assessment and intervention program involving information from both parents and teachers (using the SSBS) alike. Indeed, in the current study parent and teacher ratings appeared to do a much better job of accurate identification of social skill deficits in at-risk youth than did student self-ratings.

The HCSBS is also well positioned to play an important research role in early intervention and prevention programs, which are increasingly being emphasized as the best practice models for serving at-risk youth. CSAP (1995) lists five guidelines to follow when considering best practice programs serving at-risk youth: (a) Programs should be started as early in a person's life as possible to increase the chances of success; (b) programs should be knowledge-based, incorporating findings and practices drawn from empirical research; (c) programs should be comprehensive, including family, school, and community components; (d) programs should include both process and outcome evaluation data; and (e) programs should be initiated and conducted within communities. The HCSBS, having already shown promise as an empirically based, valid, parent rating scale, has the potential to contribute to such community-based research and intervention.

REFERENCES

Achenbach, T. M. (1991). Manual for the Child Behavior Checklist and 1991 Profile. Burlington: University of Vermont Department of Psychiatry.

Achenbach, T. M., & McConaughy, S. H. (1987). Empirically based assessment of child and adolescent psychopathology: Practical applications. Newbury Park, CA: Sage.

Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. Psychological Bulletin, 101, 213-232.

Alan Guttmacher Institute, (1994). Sex and America's teenagers. New York: Alan Guttmacher Institute.

Anastasi, A. (1988). Psychological testing (6th ed.). New York: MacMillian.

Asher, S. R., & Taylor, A. R. (1981). The social outcomes of mainstreaming: Sociometric assessment and beyond. Exceptional Children Quarterly, 1, 13-30.

Blashfield, R. K. (1984). The classification of psychopathology: Neo-Kraepelinian and quantitative approaches. New York: Plenum.

Caldarella, P. (1995). Common dimensions of social skills of children and adolescents: A review and analysis of the literature. Unpublished master's thesis, Utah State University, Logan.

Caldarella, P., & Merrell, K. M. (in press). Common dimensions of social skills of children and adolescents: A taxonomy of positive behaviors. School Psychology Review.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 56, 81-105.

Catalano, R. F. (1992, December). Risk and prevention factors: Implications for comprehensive prevention. Paper presented at the Sixth Annual Conference on Drug-Free Schools and Communities, Washington, DC.

Cattell, R. B. (1966). The meaning and strategic use of factor analysis. In R. B. Cattell (Ed.), Handbook of multitvariate experimental psychology (pp. 174-243). Chicago: Rand-McNally.

Center for Substance Abuse Prevention (CSAP) (1995). Prevention primer. Rockville, MD: National Clearinghouse for Alcohol and Drug Information.

Chiauzzi, E. (1991). Social skills training for alcoholics: Conceptual, methodological, and treatment issues. In D. G. Gilbert & J. J. Connolly (Eds.), Personality, social skills, and psychopathology: An individual difference approach (pp. 211-227). New York: Plenum.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

Commission on Behavioral and Social Sciences and Education, & the National Research Council (1993). Losing generations: Adolescents in high-risk settings. Washington, DC: National Academy Press.

Demaray, M. K., Ruffalo, S. L., Carlson, J., Busse, R. T., Olson, A. E., McManus, S. M., & Leventhal, A. (1995). Social skills assessment: A comparative evaluation of six published rating scales. School Psychology Review, 24(4), 648-671.

Denham, S. A., & McKinley, M., (1993). Sociometric nominations of preschoolers: A psychometric analysis. Early Education and Development, 4 (2), 109-122.

Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. Psychological Assessment, 7, 286-299.

Garfield, S. L. (1994). Methodological problems in clinical diagnosis. In P. B. Sutker & H. E. Adams (Eds.), Comprehensive handbook of psychopathology (2nd ed., pp. 27-46). New York: Plenum.

Gesten, E. L. (1976). A health resources inventory: The development of a measure of the personal and social competence of primary-grade children. Journal of Consulting and Clinical Psychology, 44 (5), 775-786.

Gilbert, B. O., & Gilbert, D. G. (1991). Personality, social skills, and disturbed behavior patterns: An introduction to the issues. In D. G. Gilbert & J. J. Connolly (Eds.) Personality, social skills, and psychopathology: An individual difference approach (pp. 1-15). New York: Plenum.

Gorsuch, R. L. (1983). Factor analysis (2nd ed.). Hillsdale, NJ: Erlbaum.

Gregory, R. J. (1992). Psychological testing: History, principles, and applications. Boston: Allyn & Bacon.

Gresham, F. M. (1986). Conceptual and definitional issues in the assessment of children's social skills: Implications for classification and training. Journal of Clinical Child Psychology,15(1), 3-15.

Gresham, F. M., & Elliot, S. N. (1984). Assessment and classification of children's social skills: A review of methods and issues. School Psychology Review, 13, 292-301.

Gresham, F. M., & Elliot, S. N. (1990). Social Skills Rating System test manual, Circle Pines, MN: American Guidance Service.

Hartup, W. W. (1979). Peer relations and social competence. In M. W. Kent & J. E. Rolf (Eds.), Social competence in children (pp. 150-170). London: University Press of New England.

Hartup, W. W. (1992). Peer relations in early and middle childhood. In V. B. Van Hasselt & M. Hersen (Eds.), Handbook of social development: A lifespan perspective (pp. 257-281). New York: Plenum.

Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. Psychological Bulletin, 112(1), 64-105.

Hixson, J., & Tinzmann, M. B., (1990). Who are the "at-risk" students of the 1990s? Oak Brook, IL: North Central Regional Educational Laboratory.

Hokanson, J. E., & Rubert, M. P. (1991). Interpersonal factors in depression. In D. G. Gilbert & J. J. Connolly (Eds.), Personality, social skills, and psychopathology: An individual difference approach (pp. 157-184). New York: Plenum.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. Educational and Psychological Measurement, 20, 141-151.

Kaufman, A. S., & Kaufman, N. L. (1985). Kaufman Test of Educational Achievement: Brief form manual. Circle Pines, MN: American Guidance Service.

Kazdin, A. E. (1989). Developmental psychopathology: Current research, issues, and directions. American Psychologist, 44, 180-187.

Lewinsohn, P. M. (1974). A behavioral approach to depression. In R. J. Friedman & M. M. Katz (Eds.), The psychology of depression: Contemporary theory and research (pp. 157-178). New York: Wiley.

Lewinsohn, P. M., Mischel, W., Chaplin, W., & Barton, R. (1980). Social competence and depression: The role of illusory self-perceptions. Journal of Abnormal Psychology, 89, 203-212.

Martin, R. P., Hooper, S., & Snow, J. (1986). Behavior rating scale approaches to personality assessment in children and adolescents. In H. Knoff (Ed.), The assessment of child and adolescent personality (pp. 309-351). New York: Guilford.

McColloch, M. A., & Gilbert, B. O. (1991). Development and maintenance of aggressive behavioral patterns. In D. G. Gilbert & J. J. Connolly (Eds.), Personality, social skills, and psychopathology: An individual difference approach (pp. 185-210). New York: Plenum.

McFall, R. M. (1982). A review and reformulation of the concept of social skills. Behavior Assessment, 4, 1-33.

Merrell, K. W. (1993). Using behavior rating scales to assess social skills and antisocial behavior in school settings: Development of the School Social Behavior Scales. School Psychology Review, 22, 115-133.

Merrell, K. W. (1994). Assessment of behavioral, social, & emotional problems. White Plains, NY: Longman.

Nicholson, T. (1995). Social policy and adolescent drug consumption: The legalization option. In T. P. Gullotta, G. R. Adams, & R. Montemayor (Eds.), Substance misuse in adolescence (pp. 233-247). Thousand Oaks, CA: Sage.

Overton, T. (1992). Assessment in special education: An applied approach. New York: Merrill.

Quay, H. C. (1986). Classification. In H. C. Quay & J. S. Werry (Eds.), Psychopathological disorders of childhood (3rd ed., pp. 1-34). New York: Wiley.

Ramsey, E., Patterson, G. R., & Walker, H. M. (1990). Generalization of the antisocial trait from home to school settings. Journal of Applied and Developmental Psychology, 11, 209-223.

Robins, L. N. (1979). Follow-up studies. In H. C. Quay & J. S. Werry (Eds.), Psychopathological disorders of childhood (2nd ed., pp. 1-46). New York: Wiley.

Rossi, R., & Montgomery, A. (1994). Educational reforms and students at risk: A review of the current state of the art. Washington, DC: U.S. Government Printing Office.

Rubin, K. H., & Rose-Krasnor, L. (1991). Interpersonal problem solving and social competence in children. In V. B. Van Hasselt & M. Hersen (Eds.), Handbook of social development: A lifespan perspective (pp. 283-323). New York: Plenum.

Synder, H. N., & Sickmund, M. (1995). Juvenile offenders and victims: A national report. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Synder, H. N., Sickmund, M., & Poe-Yamagata, E. (1996). Juvenile offenders and victims: 1996 update on violence. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Tidwell, R., & Garrett, S. C. (1994). Youth at risk: In search of a definition. Journal of Counseling and Development, 72, 444-446.

United States Bureau of the Census (1990). Decennial census summary, 1990 population profile for the United States. Washington, D.C.

Walker, H. M., Colvin, G., & Ramsey, E. (1995). Antisocial behavior in school: Strategies and best practices. New York: Brooks/Cole.

Walker, H. M., & Hops, H. (1976). Increasing academic achievement by reinforcing direct academic performance and/or facilitating nonacademic responses. Journal of Educational Psychology, 68, 218-225.

West, L. L. (1991). Effective strategies for dropout prevention of at-risk youth. Gaithersburg, MD: Aspen.

Young, K. R. (1992). Prevention Plus: A model program for preventing the use of tobacco and alcohol. Unpublished manuscript (federal grant application), Utah State University, Logan.

Young, K. R., & West, R. P. (1984). Parent training: Social skills manual. Logan: Utah State University.

Young, K. R., & West, R. P. (1995). Prevention Plus: A model program for preventing the use of tobacco and alcohol. Unpublished manuscript (federal grant continuation application), Utah State University, Logan.

Youngren, M. A., & Lewinsohn, P. M. (1980). The functional relation between depression and problematic interpersonal behavior. Journal of Abnormal Psychology, 89, 333-341.

APPENDICES

Appendix A. Student Screening and Referral Instrument (SSRI)

PREVENTION PLUS

A Collaboration Of

Ogden City
School District
Ogden, Utah

SCYFAR Institute
USU Foundation
Logan, Utah

STUDENT SCREENING AND REFERRAL INSTRUMENT (SSRI)

If you feel that a student is in need of assistance, he/she is eligible for referral to the PREVENTION PLUS Program. Referrals must be based on behavior which you have actually observed. As a rule, *isolated instances of poor or unsatisfactory performance will not be grounds for referring the student*. However, if the student exhibits several of the following behaviors listed, the student should be referred. The information on this form will enable us to make better decisions. Please complete and return this form to your PREVENTION PLUS Specialist (If placed in the Specialist's school mailbox, for confidentiality, please seal the form in an envelope). Thank you.

Student_____ Rated by_____

Grade_____ Position_____

Date_____

DESCRIPTORS: 0 = Observed student, not a problem
1 = Observed student, mild problem
2 = Observed student, severe problem
N/A = Not Applicable, insufficient information

Each item must be scored. Please circle the appropriate response for each item listed.

I. Academic Performance And Academic Related Behaviors (12)

0 1 2 N/A Disruptive in class
0 1 2 N/A Inattentiveness/lack of concentration
0 1 2 N/A Easily frustrated
0 1 2 N/A Cheating
0 1 2 N/A Frequent requests to leave class
0 1 2 N/A Incomplete assignments
0 1 2 N/A Assignments not turned in
0 1 2 N/A Declining quality of work
0 1 2 N/A Declining grades earned
0 1 2 N/A Academic failure "F"
0 1 2 N/A Does not follow directions
0 1 2 N/A Other:_____

II. Physical Signs/Symptoms (16)

0 1 2 N/A Hyperactivity/nervousness
0 1 2 N/A Time disorientation
0 1 2 N/A Depression
0 1 2 N/A Staggering or stumbling
0 1 2 N/A Sleeping in class
0 1 2 N/A Crying
0 1 2 N/A Vomiting
0 1 2 N/A Glassy/blood-shot eyes, dark glasses
0 1 2 N/A Lack of coordination
0 1 2 N/A Slurred speech
0 1 2 N/A Poor hygiene
0 1 2 N/A Dirty/torn/tattered apparel
0 1 2 N/A Physical complaints
0 1 2 N/A Physical injuries
0 1 2 N/A Poor general health
0 1 2 N/A Other_____

III. Motivation And Self-Management Skills (19)

0 1 2 N/A Tardiness
0 1 2 N/A Truancy
0 1 2 N/A Absenteeism
0 1 2 N/A Lack of motivation
0 1 2 N/A Extreme negativism
0 1 2 N/A Sudden outbursts of temper
0 1 2 N/A Erratic behavior from day-to-day
0 1 2 N/A Lack of organizational skills
0 1 2 N/A Mood swings
0 1 2 N/A Unrealistic goals
0 1 2 N/A Changes in personal values
0 1 2 N/A Difficulty in accepting criticism
0 1 2 N/A Defensiveness
0 1 2 N/A Irresponsibility; blaming/denying
0 1 2 N/A Lack of refusal skills
0 1 2 N/A Poor decision making skills
0 1 2 N/A Consistently in the wrong area
0 1 2 N/A Difficulty in managing unstructured time
0 1 2 N/A Other:_____

IV. School/Community Involvement (3)

0 1 2 N/A Nonparticipation in extracurricular school activities
0 1 2 N/A Nonparticipation in community activities
0 1 2 N/A Other:_____

SSRI Continued:

Please circle the appropriate response for each item listed.

V. Social Interaction (17)

0 1 2 N/A Lack of sensitivity
0 1 2 N/A Defiance
0 1 2 N/A Fighting in class
0 1 2 N/A Frequently needs discipline
0 1 2 N/A Non-Compliance
0 1 2 N/A Obscene language/gestures
0 1 2 N/A Negative change in friends/peer groups
0 1 2 N/A Socializing with inappropriate age group
0 1 2 N/A Seeks constant adult attention
0 1 2 N/A Seeks adult advice without a specific problem
0 1 2 N/A Dramatic attention-getting (in appear. or beh.)
0 1 2 N/A Inappropriate public displays of affection
0 1 2 N/A Evidence of sexual promiscuity
0 1 2 N/A Talk of fantasies
0 1 2 N/A Withdrawal; a loner; separateness from others
0 1 2 N/A Sudden unexpected popularity
0 1 2 N/A Other:_____

VI. Family Interactions And Relationships (15)

Expressed by student regarding:

0 1 2 N/A Discipline
0 1 2 N/A Communication
0 1 2 N/A Expectations
0 1 2 N/A Lack of involvement
0 1 2 N/A Lack of monitoring
0 1 2 N/A Lack of encouragement
0 1 2 N/A Lack of school support
0 1 2 N/A Lack of homework assistance
0 1 2 N/A Conflict resolution
0 1 2 N/A Other:_____

Your Concerns:

0 1 2 N/A Difficulty contacting parents
0 1 2 N/A Lack of responsiveness
0 1 2 N/A Nonattendance Parent/Teacher Conferences
0 1 2 N/A Difficulty in communicating
0 1 2 N/A Other:_____

VII. Possible Alcohol/Drug Related Behaviors (11)

	Suspected	Witnessed	
0 1 2 N/A	_____	_____	Selling/Delivering of: alcohol, drugs, cigarettes
0 1 2 N/A	_____	_____	Possession of: alcohol, drugs, cigarettes
0 1 2 N/A	_____	_____	Possession of drug paraphernalia
0 1 2 N/A	_____	_____	Use of: alcohol, drugs, cigarettes
0 1 2 N/A	_____	_____	Under the influence of: alcohol, drugs, cigarettes
0 1 2 N/A	_____	_____	Odor of: alcohol, drugs, cigarettes
0 1 2 N/A	_____	_____	Talks freely/bragging about use of: alcohol, drugs cigarettes
0 1 2 N/A	_____	_____	Associated with known users of: alcohol, drugs cigarettes
0 1 2 N/A	_____	_____	Insufficient drug knowledge
0 1 2 N/A	_____	_____	Pro-use attitudes
0 1 2 N/A	_____	_____	Other:_____

VIII. Previous Interventions

yes - no Student/Teacher conference---------Date/Outcome_____

yes - no Parent/Teacher conference----------Date/Outcome_____

yes - no Referred to school counselor---------Date/Outcome_____

yes - no Referred to principal/vice principal---Date/Outcome_____

yes - no Other:_____

IX Additional Comments

Appendix B. Home and Community Social Behavior Scales (HCSBS)

Home and Community Social Behavior Scales

Experimental Research Version for Ages 5-18

Kenneth W. Merrell, Ph.D.
Department of Psychology, Utah State University

Subject Information

Name (or identification number) of Subject _____

Grade _____ Age _____ Sex _____ School _____

Rated By _____ Date Completed _____

Classroom Type at School:

Regular _____ Remedial _____ Special Education _____

Subject's Racial/Ethnic Group: _____

If this student is identified as having a disability, please list the special education service category (MR, LD, EBD, etc.): _____

If this subject participates in any other special programs, please list (Talented and Gifted, Remedial Education, etc.): _____

Occupation of Subject's Parent(s): _____

Instructions

After you have completed the subject information section, please rate the subject on each of the items on pages 2 and 3 of this rating form. If the subject does not exhibit a specified behavior, or if you have not had an opportunity to observe it, circle 1, which indicates *Never*. If the subject often exhibits a specified behavior, circle 5, which indicates *Frequently*. Circle the numbers 2, 3, or 4, (which indicate *Sometimes*) if the subject exhibits these behaviors somewhere in between the two extreme rating points, based on your estimation of how frequently the specified behavior occurs. The rating points after each item appear in the following format:

NEVER SOMETIMES FREQUENTLY

1 2 3 4 5

Please complete all items, and do not circle between numbers.

Scale A: Social Competence

	NEVER		SOMETIMES		FREQUENTLY
1. Cooperates with peers in a variety of situations	1	2	3	4	5
2. Makes appropriate transitions between different activities	1	2	3	4	5
3. Completes chores or other assigned tasks without being reminded	1	2	3	4	5
4. Offers help to peers when needed	1	2	3	4	5
5. Effectively participates in group discussions and activities	1	2	3	4	5
6. Understands problems and needs of peers	1	2	3	4	5
7. Remains calm when problems arise	1	2	3	4	5
8. Listens to and carries out directions from parents or supervisors	1	2	3	4	5
9. Invites peers to participate in activities	1	2	3	4	5
10. Asks for clarification of instructions in an appropriate manner	1	2	3	4	5
11. Has skills or abilities that are admired by peers	1	2	3	4	5
12. Is accepting of peers	1	2	3	4	5
13. Completes chores or other assigned tasks independently	1	2	3	4	5
14. Completes completes chores or other assigned tasks on time	1	2	3	4	5
15. Will give-in or compromise with peers when appropriate	1	2	3	4	5
16. Follows home and community rules	1	2	3	4	5
17. Behaves appropriately in a variety of settings	1	2	3	4	5
18. Asks for assistance in an appropriate manner	1	2	3	4	5
19. Interacts with a wide variety of peers	1	2	3	4	5
20. Produces work of acceptable quality for his/her ability level	1	2	3	4	5
21. Is skillful at initiating or joining conversations with peers	1	2	3	4	5
22. Is sensitive to the feelings of others	1	2	3	4	5
23. Responds appropriately when corrected by parents or supervisors	1	2	3	4	5
24. Controls temper when angry	1	2	3	4	5
25. Appropriately enters into ongoing activities with peers	1	2	3	4	5
26. Possesses good leadership skills	1	2	3	4	5
27. Adjusts to different behavioral expectations across settings	1	2	3	4	5
28. Notices and compliments others' attributes or accomplishments	1	2	3	4	5
29. Is appropriately assertive when he/she needs to be	1	2	3	4	5
30. Is sought out by peers to join activities	1	2	3	4	5
31. Shows self-restraint	1	2	3	4	5
32. Is "looked up to" or respected by peers	1	2	3	4	5

TOTAL SCORE: _____

Scale B: Antisocial Behavior

	NEVER		SOMETIMES		FREQUENTLY
1. Blames others for his/her problems	1	2	3	4	5
2. Takes things that are not his/hers	1	2	3	4	5
3. Defies parents or supervisors	1	2	3	4	5
4. Cheats on schoolwork or in games	1	2	3	4	5
5. Gets into fights	1	2	3	4	5
6. Lies	1	2	3	4	5
7. Teases and makes fun of others	1	2	3	4	5
8. Is impertinent or "sassy"	1	2	3	4	5
9. Is easily provoked; has a "short fuse"	1	2	3	4	5
10. Ignores parents or supervisors	1	2	3	4	5
11. Acts as if he/she is better than others	1	2	3	4	5
12. Destroys or damages others' property	1	2	3	4	5
13. Will not share	1	2	3	4	5
14. Has temper outbursts or tantrums	1	2	3	4	5
15. Disregards feelings and needs of others	1	2	3	4	5
16. Is overly demanding of attention from adults	1	2	3	4	5
17. Threatens peers; is verbally aggressive	1	2	3	4	5
18. Swears or uses obscene language	1	2	3	4	5
19. Is physically aggressive	1	2	3	4	5
20. Insults peers	1	2	3	4	5
21. Whines and complains	1	2	3	4	5
22. Argues and quarrels with peers	1	2	3	4	5
23. Is difficult to control	1	2	3	4	5
24. Bothers and annoys others	1	2	3	4	5
25. Gets in trouble at school or in community	1	2	3	4	5
26. Disrupts ongoing activities	1	2	3	4	5
27. Is boastful; brags	1	2	3	4	5
28. Cannot be depended on	1	2	3	4	5
29. Is cruel to others	1	2	3	4	5
30. Acts impulsively without thinking	1	2	3	4	5
31. Unproductive; achieves very little	1	2	3	4	5
32. Is easily irritated	1	2	3	4	5
33. Demands help from peers	1	2	3	4	5

TOTAL SCORE: _____

Appendix C. Prevention Plus At-Risk Consent Form

Prevention Plus

A Collaboration of

Ogden City School District

and

Institute for the Study of Children, Youth, and Families At Risk (SCYFAR) and the USU Foundation

INFORMED CONSENT FORM: TESTING AND DATA COLLECTION

I, the undersigned, _____ understand that I am granting voluntary permission for my child, named _____, to participate in the Prevention Plus program whose general focus is to assist students with improving academic and social skills so they can be successful in school and other settings. I understand that my child will be given the right to agree or refuse to participate in this program. I also understand that my involvement as a parent/guardian will be essential in helping my child to make maximum gains from the Prevention Plus Program.

I understand that students, parents, and teachers participating in the Prevention Plus program will be given a series of tests and questionnaires throughout the school year. These will include the following:

Child Measures
Kaufman Test of Educational Achievement (KTEA); used to assess my child's academic achievement in reading, math, and spelling.
Social Skills Rating System (student version); a rating of my child's own perception of his/her social behavior at school and home.

Parent Measures
Home and Community Social Behavior Scales; my rating of my child's social and problem behaviors exhibited both in and out of the home.

Teacher Measures
School Social Behavior Scale; teacher's rating of my child's social and problem behaviors exhibited in school.

Anonymous Group Measures
Resist Questionnaire; an anonymous survey to determine children's use of, and attitudes towards, alcohol and illegal drugs.

I understand that in addition parents, teachers, and children may participate in structured interviews, behavioral observations, and role plays conducted by Prevention Plus staff, during which additional information on my child's academic and social functioning will be collected. I further understand that other academic, social, and behavioral measures may be given as needed to evaluate the ongoing progress of students in the Prevention Plus Program.

I understand that all of the information collected by Prevention Plus will be treated as confidential, kept in locked files, and that no identifying information about individuals will be included in any published reports. I also understand that if, following the assessments, my child is determined to be inappropriate for the Prevention Plus Program, I will be informed of other service options available to my child.

Finally, I understand that I have a right to refuse to participate in this program and so does my child. In addition, if at any time I or my child wants to discontinue participation, either of us has the right to do so without prejudice or negative consequence.

_____ _____

Parent Signature Date

_____ _____

Prevention Plus Staff Date

Persons to contact if you have questions or concerns:

Richard P. West, Ph.D. - Program Co-Director office 797-3091

K. Richard Young, Ph.D. - Program Co-Director office 797-3244

Appendix D. Prevention Plus Non-At-Risk Consent Form

Prevention Plus

A Collaboration of

Ogden City School District

and

Institute for the Study of Children, Youth, and Families At Risk (SCYFAR) and the USU Foundation

INFORMED CONSENT FORM: TESTING AND DATA COLLECTION

Dear Parent,

Congratulations! Your child was recently nominated as a student who has adjusted well to the academic and behavioral expectations at Ben Lomond High School. You have been selected to participate in an important research project currently being conducted at Ben Lomond. For the past year and a half we have been collaborating with Utah State University on a prevention program designed for at-risk students. Your child was selected for a comparison group of youth who seem to represent students who are well adjusted.

We need your help to finish our research. We ask that you please fill out the enclosed Home and Community Social Behavior Scales so we may obtain ratings of your child's social behaviors to compare with our at-risk sample. This data is very important to ensure the continuation of services designed to serve at-risk youth.

The enclosed form will take only 15 minutes to fill out, but will provide us with crucial information. You do not have to put your child's name on the rating form. All of the information collected will be treated as confidential, kept in locked files, and no identifying information about you or your child will be included in any published reports.

If you agree, simply sign here (Signature _____ Date _____) and fill out the parent rating scale. Then put both this letter and the parent rating scale into the self addressed envelope and drop it in the mail. No postage is needed. You have a right to refuse to participate in this research without prejudice or negative consequence. However, we hope you will agree to take just a few moments of your time to help us with this worthy cause.

Thank you in advance for your help! If you have questions or concerns please feel to contact us at Ben Lomond or the co-director of this project at Utah State University.

Sincerely,

Dr. Bruce Penland
School Principal
Ben Lomond High School
(801) 625-8885

Dr. Richard P. West
Prevention Plus Co-Director
Utah State University
(801) 797-3091

Appendix E. Additional Correlational Data

ADDITIONAL CORRELATIONAL DATA

	SSRI	SSBS-A	SSBS-B	KTEAMATH	KTEAREAD	KTEASPELL	KTEACOMP
SSRS	-.19	.01	-.02	.12	.19	-.02	.11
	(101)	(122)	(121)	(138)	(138)	(138)	(138)
	P=.06	P=.91	P=.82	P=.14	P=.02	P=.83	P=.21
SSRI		-.35	.18	-.11	.12	-.05	-.02
		(100)	(99)	(104)	(104)	(104)	(104)
		P=.00	P=.08	P=.26	P=.23	P=.60	P=.85
SSBS-A			-.39	.08	-.02	.08	.07
			(126)	(124)	(124)	(124)	(124)
			P=.00	P=.40	P=.80	P=.37	P=.46
SSBS-B				-.05	-.18	-.20	-.17
				(123)	(123)	(123)	(123)
				P=.55	P=.04	P=.03	P=.06
KTEAMATH					.55	.36	.80
					(144)	(144)	(144)
					P=.00	P=.00	P=.00
KTEAREAD						.51	.80
						(144)	(144)
						P=.00	P=.00
KTEASPELL							.78
							(144)
							P=.00

CURRICULUM VITAE

Paul Caldarella

651 East 1000 North #1
Logan, UT 84321
H (801) 753-7833
W (801) 797-1460

EDUCATION:

Ph.D., Utah State University, Logan, UT (Expected June, 1998)
Combined Clinical/Counseling/School Psychology Program.
Dissertation Title: *An investigation of social skills and antisocial behaviors of at-risk youth: Construct validation of the Home and Community Social Behavior Scales*

M.S., Utah State University, Logan, UT (1993-95)
Counseling Psychology (G.P.A. - 3.9)
Thesis Title: *Common dimensions of social skills of children and adolescents: A review and analysis of the literature*

Harvard University Extension School, Cambridge, MA (1990-92)
Completed three graduate courses in preparation for an advanced degree in psychology. Part-time, evenings. (G.P.A. - 3.8)

B.A., Rhode Island College, Providence, RI (1983-88)
Double Major, Psychology and Philosophy (G.P.A. - 3.6).
Graduated cum laude. Recipient of the Philosophy Faculty Award.

PROFESSIONAL EXPERIENCE: (To Date = Hours projected up to January 1, 1997)

Bear River Community Mental Health Center (9/96 - Present)
90 East 200 North, Logan, UT 84321
Psychology Intern: Clinical Practicum
Responsible for providing assessment services and individual therapy for a community population presenting with a variety of psychiatric problems. Duties include conducting intake interviews, psychological evaluations, and consultations to Cache County Jail.
Direct Service Hours to Date: 116
Indirect Service Hours to Date: 48
Supervision Hours to Date: 32
Total Hours to Date: 196
Supervisor: Skip Winger, Ph.D., Licensed Psychologist - Adult Clinical

Child Evaluation and Treatment Center (8/95 - Present)
130 South Main Street, Suite 100 Logan, UT 84321
Psychology Intern: Child Clinical Experience
Responsible for conducting psychological evaluations and providing individual and family therapy for children and adolescents with emotional and behavioral problems.
Direct Service Hours to Date: 113
Indirect Service Hours to Date: 20
Supervision Hours to Date: 39
Total Hours to Date: 172
Supervisor: Steven Gentry, Ph.D., Licensed Psychologist - Child and Family

The Prevention Plus Program (6/94 - 9/96)
Center for Persons with Disabilities, Logan, UT 84322
Assessment Specialist/Research Associate
Performed assessments and led interventions for a two year demonstration project examining the impact of a comprehensive prevention program for at-risk youth. Duties included administration, scoring, and interpretation of achievement, social skills, and drug/alcohol measures, as well as leading parent and youth groups. Also analyzed and presented treatment data using SPSS.
Direct Service Hours: 314
Indirect Service Hours: 111
Supervision Hours: 98
Total Hours: 523
Supervisors: Richard P. West, Ph.D., Psychologist - Behavior Analyst, and K. Richard Young, Ph.D., Licensed Psychologist - Child and Adult

University Counseling Center (9/95 - 6/96)
Utah State University, Logan, UT 84322
Psychology Intern: Counseling Practicum
Responsible for providing individual and group therapy to university students presenting with a variety of behavioral and emotional problems. Duties also included conducting intake interviews, evaluations, and individual case presentations.
Direct Service Hours: 86
Indirect Service Hours: 13
Supervision Hours: 130
Total Hours: 229
Supervisors: Mary Doty, Ph.D., Licensed Psychologist - Counseling, and David Bush, Ph.D., Licensed Psychologist - Clinical

Cache County Testing Center (9/94 - 6/95)
Psychology Intern: School Practicum
Conducted psychological and educational evaluations of children and adolescents referred for special education classification. Assessments included aptitude, achievement, social skills, hearing/vision screening, behavioral observations, and parent interviews. Led social skills group for first and second graders, as well performed consultations with teachers and parents on child and adolescent behavioral and emotional problems.
Direct Service Hours: 132
Indirect Service Hours: 30
Supervision Hours: 111
Total Hours: 273
Supervisor: Yvette Casto, M.S., Certified School Psychologist

Psychology Department Community Clinic (1/94 - 10/94)
Utah State University, Logan, UT 84322
Psychology Intern: Clinical Practicum
Responsible for providing individual and group therapy for clients presenting with a variety of behavioral and emotional problems. Completed intake interviews, psychological evaluations, and case presentations.
Direct Service Hours: 110
Indirect Service Hours: 33
Supervision Hours: 106
Total Hours: 249
Supervisor: David Stein, Ph.D., Licensed Psychologist - Clinical

The Cambridge Hospital (2/92 - 8/93)
1493 Cambridge Street, Cambridge, MA 02139
Mental Health Worker: Part-time weekends
Responsible for ward milieu and individual patient care on both locked and unlocked, adult inpatient psychiatric units. Duties included administering nursing care, providing for unit safety and monitoring, communicating accurately via log reports, daily Kardex and team meetings, facilitating a therapeutic milieu utilizing communication and interaction skills.
Supervisors: Linda Najem, R.N., Clinical Psychiatric Nurse, and Jerry Martone, R.N., Clinical Psychiatric Nurse

Harvard Community Health Plan, (2/90 - 8/93)
Mental Health Dept., 1611 Cambridge Street, Cambridge, MA 02139
Senior Practice Assistant/Group Coordinator
Coordinated the Mental Health Group Psychotherapy Program by acting as a contact person for intake of members into long and short term groups. Provided clinical and practice management support for a staff of 20 clinicians and 5 support staff. Worked as an interim supervisor of the department during summer of 1992.
Supervisor: Geraldine Koppenaal, R.N., Clinical Psychiatric Nurse

GROUP EXPERIENCE:

Obese/Overeaters Group (7/96 - 9/96)
Co-led a cognitive-behavioral treatment group for women suffering from obesity and binge eating. Used a triparite treatment approach consisting of normalization of eating behaviors, increased physical activity, and emotional support.
Supervisor: David Stein, Ph.D., Licensed Psychologist - Adult Clinical

Children of Divorce Group (1/96 - 2/96)
Co-led a therapy group for six to eight year old children experiencing emotional and behavioral distress regarding their parents divorce. Used play therapy, drawings, and story telling to help children express and process negative affect.
Supervisor: Steven M. Gentry, Ph.D., Licensed Psychologist - Child Clinical

Anxiety Disorders Group (1/96 - 2/96)
Co-led a four week psycho-educational group for university students suffering from anxiety disorders including obsessive compulsive and generalized anxiety symptoms.
Supervisor: Jan Neece, Ph.D., Licensed Psychologist - Counseling

Parent Training/Support Groups (10/94 - 5/95)
Co-led psycho-educational parent groups as part of the Prevention Plus Program. Parents met weekly to discuss challenges and learn strategies to effectively manage children's behavior and improve family relationships.
Supervisors: Richard P. West, Ph.D., Psychologist - Behavior Analyst, and K. Richard Young, Ph.D., Licensed Psychologist - Child and Adult

Social Skills Group (1/95 - 2/95)
Led a six week psycho-educational group for first and second graders at a local elementary school. Students were experiencing peer and/or teacher difficulties and were taught basic social skills and self-management strategies. Separate one session parent and teacher groups were also led.
Supervisor: Yvette Casto, M.S., Certified School Psychologist

Psychiatric In-Patient Groups (2/92 - 8/93)
Co-led weekend check-in groups on locked and unlocked in-patient psychiatric units. Focus of these groups was to assess patient safety (i.e., suicidality/homocidality), to address issues of concern on the unit, and help plan for weekend activities.
Supervisors: Linda Najem, R.N., Clinical Psychiatric Nurse, and Jerry Martone, R.N., Clinical Psychiatric Nurse

RESEARCH EXPERIENCE:

- Nov 1996 to Present: Conducting a construct validation study of a new parent rating scale. This research is being conducted to fulfill the dissertation requirement and is being supervised by Dr. Ken Merrell. Dissertation defense scheduled for Nov 1996.

- June 1994 to Sept 1996: Coordinated the administration, scoring, and data analysis of psycho-educational batteries given as part of the Prevention Plus program supervised by Dr. Richard West and Dr. K. Richard Young. Supervised three undergraduate student volunteers.

- June 1994 to July 1995: Conducted a review and analysis of the literature examining common dimensions of social skills for children and adolescents. This research was conducted to fulfill the thesis requirement and was supervised by Dr. Ken Merrell. Thesis successfully defended July 1995.

- Fall 1994 to Spring 1995: Collaborated with fellow graduate student Jim Sharpnack on a survey of the spread of youth gangs into the rural areas. This research was done as part of the Rural School Psychology Training Grant and was supervised by Dr. Ken Merrell.

PUBLICATIONS AND PRESENTATIONS:

Caldarella, P., & Merrell, K. (in press). Common dimensions of social skills of children and adolescents: A taxonomy of positive behaviors. School Psychology Review.

Caldarella, P., Sharpnack, J., Loosli, T., & Merrell, K. (in press). The spread of youth gangs into rural areas: A survey of school counselors. Rural Special Education Quarterly.

Caldarella, P., Young, K. R., & West, R. P. (1996). A pound of prevention is worth a ton of treatment. Paper presentation at the annual International Adolescent Conference, Aspen, CO.

Caldarella, P., Young, K. R., & West, R. P. (1996). Procedures for early identification of high-risk youth and families. Paper presentation at the annual conference of the Council for Children with Behavior Disorders, Provo, Utah.

Caldarella, P., Sharpnack, J., Loosli, T., & Merrell, K. (1996). The spread of youth gangs into rural areas: A survey of school counselors. Poster presentation at the annual meeting of the Rocky Mountain Psychological Association, Park City, Utah.

Caldarella, P., & Merrell, K. (1996). Common dimensions of social skills of children and adolescents: A taxonomy of positive behaviors. Poster presentation at the annual meeting of the Southwest Society for Research in Human Development, Park City, Utah.

Caldarella, P. (1995). Critical social skills of children and adolescents: Practical implications for school personnel. Paper presentation at the Eighteenth Annual Intervention Procedures Conference, Logan, Utah.

CONFERENCES/WORKSHOPS ATTENDED:

- USU Counseling Center Conference, April 19, 1996, by Dr. Robert Weber of Harvard Medical School and Cambridge Hospital. Attended this one day workshop focusing on various approaches to maximize the effectiveness of group therapy.

- American Indian Psychology Convention, June 26, 1995, sponsored by the Utah State University Psychology Department and the U.S. Indian Health Service. Topics included the unique assessment, diagnostic, and intervention needs of Native American populations.

- USU Counseling Center Conference, April 14, 1995, by Dr. Joseph Zinker. Attended a one day seminar on the use of Gestalt therapy as a tool for growth in families and couples.

- Violence Comes to School, February 16, 1995, by Dr. Mary Margaret Kerr. Attended this training as part of the Center for Persons with Disabilities Interdisciplinary Colloquium Series. Topics included the rise in school violence, responding to crises, and the treatment of trauma survivors.

- Traumatic Brain Injury (TBI) Workshop, November 22, 1994, by Deneen Pond, M.S. at Spring Creek Middle School. Topics included assessment, diagnosis, and school-based treatment of TBI.

- Intervention Procedures Conference, June 13-17, 1994, sponsored by the Special Education Department at Utah State University. Topics included emotional and behavioral disorders, intervention strategies for gang members, and various community-based prevention efforts.

TEACHING EXPERIENCE:

Utah State University (9/96 - Present)
Graduate Teaching Assistant : Psychology 101: Introduction to Psychology
Responsible for preparing and delivering lectures, quizzes, and exams, as well as leading study review sessions and charting student grades in class sizes ranging from 200-300.
Supervised by Dr. Kenneth Merrell

Utah State University (3/94 - 5/94)
Role Play Facilitator : Special Education 629: Teaching Social Skills to Youth
Responsible for assessing undergraduate and graduate student competencies in the effective delivery of social skill instruction to children and adolescents.
Supervised by Dr. K. Richard Young

Rhode Island College (9/87 - 6/88)
Department Assistant : Philosophy Department
Responsible for proctoring exams, academic tutoring, and related administrative support.
Supervised by Dr. Thomas Howell

AWARDS AND SPECIAL APPOINTMENTS:

- American Psychological Association Graduate Student Representative (1994-6)
- Student Representative to the Psychology Faculty Search Committee (1995)
- Recipient of the Rural School Psychology Training Grant (1994-5)
- Recipient of the Vice President's Research Fellowship (1993-4)

SPECIALTY TRAINING/EXPERIENCE:

- **Multicultural Interviewer:** Served as interviewer for a multi-cultural education research project sponsored by the Utah State University Department of Secondary Education. Duties included conducting semi-structured interviews with students from cultural minority groups and presenting the results to faculty (May - Sept 1995). Supervisor: Grace Huerta, Ph.D., Assistant Professor
- **School Psychology Certification:** Currently completing NASP certification as a School Psychologist. Have completed coursework, a one year practicum, and over 600 hours of school based internship experience.
- **Computer Experience:** Have received extensive computer experience with SPSS for Windows, Microsoft Word, WordPerfect, Excel, Powerpoint, and Lotus Freelance Graphics.
- **Military Experience:** Served six years (1983-1989) as a military police officer in the Rhode Island Army National Guard. Participated in military exercises at various locations including West Point, Cape Cod, Germany, and the Netherlands. Honorably Discharged.
- **Medical Experience:** Training and experience in obtaining vital signs, responding to medical and psychiatric emergencies, and providing CPR and basic first aid to children and adults.

REFERENCES:

Dr. Kenneth Merrell	Department of Psychology, Utah State University, Logan, UT 84322. (801-797-2034)
Dr. Steven Gentry	Child Evaluation and Treatment Center, Logan, UT 84321. (801-753-2222)
Dr. Skip Winger	Bear River Mental Health Center, Logan, UT 84321. (801-752-0750)
Dr. Richard Young	Department of Special Education, Utah State University, Logan, UT 84322. (801-797-3244)
Dr. Richard West	Center for Persons with Disabilities, Utah State Univ., Logan, UT 84322. (801-797-3091)