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## Evaluating Anger, Depression, and Anxiety in Aggressive/ Homicidal and Depressive/Suicidal Children and Adolescents

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Evaluating Anger, Depression, and Anxiety in Aggressive/Homicidal and  
Depressive/Suicidal Children and Adolescents

by

Thomas Michael Brunner

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
Department of Psychology  
College of Arts and Sciences  
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## Dedication

I would like to dedicate this manuscript to my wife, Dr. Maria Azalea Miller. Maria has supported me through each advance during my epic-like 7-year climb toward the Ph.D. crest. Maria has also refreshingly reminded me of the panoramic view that lied beyond the crest. Maria has been my primary helping Spirit. Her undying and heartfelt support has helped me realize how lucky I am to have joined her as a lifetime partner.

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Evaluating Anger, Depression, and Anxiety in Aggressive/Homicidal and  
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Thomas Michael Brunner

ABSTRACT

The goals of this study were to evaluate anger, depression, and anxiety in children and adolescents with aggressive/homicidal (A/H) and depressive/suicidal (D/S) problems and to compare these clinical groups with each other and a normal control group. The State Trait Anger Expression Inventory for Children and Adolescents (STAXI C/A), the Children's Depression Inventory (CDI), and the Pediatric Anxiety Scale (PANX) were administered to the Clinical (N=114) and Normal (N=353) groups ranging from 9-18 years of age. The Clinical group was comprised of 18 A/H, 87 D/S, and 18 Comorbid children with both problems.

The Clinical group had significantly higher scores on the STAXI C/A State and Trait Anger and Anger-Out scales, and higher scores on the CDI Total scale and Interpersonal Problems, Negative Mood, and Negative Self-Esteem subscales. They also had higher PANX State Anxiety scores. These differences were primarily due to substantially higher Clinical Comorbid group scores. Similarly, the Clinical Comorbid scores on most of the anger, depression, and anxiety scales were higher than the Normal and Clinical scores.

The D/S group had significantly higher scores than the A/H group on the STAXI C/A Anger-Out scale, the CDI Negative Mood subscale and the PANX State Anxiety



scale. The D/S group has significantly higher scores than the Normals on the CDI Negative Mood, Interpersonal Problems, and Negative Self Esteem subscales, and a higher State Anxiety score. Although not statistically significant, the A/H group had noticeably higher Anger-In and Anger-Control/Out scores than the D/S group. In contrast, the scores of the A/H group on State and Trait Anger were somewhat lower than those of the other clinical groups, as well as the Normals. This pattern of findings for the A/H group was interpreted as possibly due to the operation of psychological defense mechanisms.

The findings indicated the procedure for assignment into the A/H group was unrelated to the mean level of anger that they reported. Since assignment to clinical groups guided inpatient treatment planning, these results suggest that administration of anger, depression, and anxiety measures assessing both state and trait features would likely facilitate better assignment and more effective treatment.

## Introduction

### *The Evolutionary Function of Anger and Anxiety*

Anger is a primary emotion which serves adaptive purposes (Darwin, 1965).

Darwin conceptualized anger as an emotional state that varies in intensity, from mild irritation or annoyance to intense fury and rage. For Darwin (1965), anger was a state of mind that differed "... from rage only in degree, and there is no marked distinction in their characteristic signs" (p. 244). Rage was considered by Darwin to be a powerful emotion that motivated "animals of all kinds, and their progenitors before them, when attacked or threatened by an enemy" (1965, p. 74) to fight and defend themselves. Darwin observed that rage was reflected in facial expression (e.g., reddened face, clenched teeth, dilated nostrils), accelerated heart-rate and muscular tension, and often resulted in violent behavior.

Anger (rage, hostility) as well as fear (anxiety) and depression were considered by Darwin and Freud to be fundamental emotional states that had powerful effects on thoughts and behavior. Freud theorized that the interaction of anger and anxiety were critical primary components of depression, and it has long been theorized that anger plays a role in violent and suicidal behavior (Abraham, 1911; Freud, 1917/1957). Evolutionary and psychodynamic theories have been proposed for explaining the role of anger in suicide and violent behavior.

One strain of evolutionary theory posits the idea that suicide attempts and violent behavior may serve some adaptive purpose for an individual: suicide may be a “cry for help” while violent actions may be attempts to change circumstances (Plutchik, et al., 1976). Both evolutionary and psychodynamic thinkers conceptualize suicide and homicide as having the same origin in an aggressive impulse, where they are distinguished by whether the aggression is directed outward or inward. For example, Freud and later psychodynamic thinkers related aggression to homicide, depression, and suicide through the concept of “thanatos”, or the death instinct. Menninger (1933) practically applied the thanatos concept by proposing that a dynamic triad underlies all aggressive behavior, whether directed inward (depression or suicide) or outward (homicide): the wish to die, the wish to be killed, and the wish to kill. While these theories are two among a host of theoretical viewpoints, they both exemplify how aggression and homicide and depression and suicide and have been related through the concept of anger expression styles. Recent researchers (Cohen, 1997; Plutchik, 1989) also conceptualize the etiology of both homicide and suicide as rooted in aggression.

*The Experience, Expression, and Control of Anger*

Anger and its regulation appear to play a crucial role in many aspects of human life including interpersonal relationships, physical and mental well-being, vocational success, and general life satisfaction (Diamond, 1982; Friedman, 1992; Novaco, 1975). The dysregulation of anger, such as the modern day phenomenon such as “road rage”, appears to be increasing. Particularly with children, inability to manage anger has starkly manifested in homicidal acts such as the school shooting at Columbine.

From a psychological point of view, inappropriate anger expression also has been shown to be related to several mental disorders. Despite its status as a primary emotion, high frequency of occurrence, and potentially debilitating effects on social and psychological adjustment, anger and its related disorders have a less than prominent place in the *Diagnostic and Statistical Manual of Mental Disorders –IV* (DSM-IV). In fact, Furlong and Smith (1993) pointed out that there is no major category of anger-related disorders as there are for anxiety (anxiety disorders) and depression (mood disorders).

In terms of research on anger, one problem has been that the terms anger, hostility, and aggression are often used interchangeably in the research literature, and this conceptual confusion is reflected in a diversity of measurement operations of questionable validity (Biaggio, Supple, & Curtis, 1981). During over 30 years of anger research, Spielberger and colleagues created a taxonomy of anger terms involving several dimensions of anger, including state and trait anger experience, inward and outward expression of anger, and different modes employed to control anger. Spielberger's *State-Trait Anger Expression Inventory* (STAXI-2) assess for these dimensions. In light of the development of this functionally related network of terms, which has been empirically supported (see, for example, Fuqua, Leonard, Masters, Smith, Campbell, & Fischer, P.C., 1991), an anger profile has become much more multidimensional. It is this more sophisticated taxonomy that will be used to try and differentiate the groups involved in this study.

#### *Importance of a Developmentally Informed View*

Any study trying to differentiate youth groups based on anger expression styles must first address the question of whether anger expression style is stable, and if so, when

it becomes stable. Some research suggests that anger expression style may not be established as a stable individual characteristic in childhood but may become more consistent from adolescence into adulthood (Groer et al., 1994). Contrary to expectation, in a study using 10-20 year olds, higher stability estimates were not found for the older versus younger children (Musante, et al., 1999). A longitudinal study by Kollar, et al. (1991) found consistency in scores from freshman to senior year in high school on a measure of frequency of anger experience. Similarly, individual differences in hostility have been found to be relatively stable across time, which is impressive in light of the major developmental transitions that were spanned in the studied (10-20 year olds) population (Woodall & Matthews, 1993). Thus, this literature suggests it is meaningful to view some components of anger as relatively stable over time.

When investigating anger in children, especially those with serious problems, the question of how anger may play an etiological role in behavioral and/or emotional problems is also important to discuss briefly. Generally speaking, the level of anger and anger expression have been recognized by many (see, for example, Sexton, 1999; Jacobs et al., 1989; Renouf and Harter, 1990) as important factors in emotional and behavioral adjustment among children. For example, it has been shown that as early as 2 and 3 years old, children who express anger frequently (high in T-Anger) are at risk for future developmental psychological problems (Radke-Yarrow, & Kochanska, 1990).

Though findings such as this one are not surprising, the mechanisms underlying maladaptive anger expression are not well understood (Sexton, 1999). The importance of examining the bias toward hostile attribution biases was noted in aggressive boys (Dodge, Bates, and Pettit, 1990). The idea that social-cognitive biases are important as a

mediating factor in the expression of anger has received more support, as well as the idea that emotional expression style of the parents influences how their children express anger (Rudolph & Clark, 2001; Woodall & Matthews, 1993). One study found that parental expression style was a significant predictor of the emotional expression style of the child as early as the first half of the second year (Radke-Yarrow & Kochanska, 1993). Overall, children with anger-related problems tend to display a range of specific cognitive deficits and/or differences including limited problem-solving ability, poor social reasoning, and lack of empathy (Brendgen, Vitaro, Turgeon, Poulin, 2002; Rudolph & Clark, 2001; Furlong & Smith, 1993).

#### *Child and Adolescent Self-report Measures of Anger Expression Style*

In general, there has been more research evaluating the reliability and validity of adult anger scales than of those for youth (see, for example, Friedman, 1992; Williams, Barefoot, and Shekelle, 1985). In a review of anger measures for youth, Furlong and Smith (1993) reported finding only 4 measures that assessed for the anger expression component of anger. These measures are the following: the Buss-Durkee Hostility Inventory for Children (BDHI-C; Treiber et al., 1989); the Multidimensional Anger Inventory (MAI; Siegel, 1984; 1986; 1992) the State Trait Anger Expression Inventory (STAXI; Spielberger, et al., 1985); and the Pediatric Anger Expression Scale (PAES; Jacobs, Phelps, & Rohrs, 1989).

After evaluating the psychometric characteristics of these measures, Furlong and Smith (1993) found that, for example, the STAXI was the only self-report anger inventory that includes normative data for a large sample of youth, a fact that led Feindler (1991) to recommend its usage with adolescents. The authors reported that the STAXI

accounted for the concepts assessed by other measures, but also provided assessment of the state and trait aspects of anger. However, one shortcoming of the STAXI is that its readability is too high for it to be administered to children under 12.

To solve this problem, Jacobs, Phelps, and Rohrs (1989) retained the STAXI's multidimensional outlook and many of the same concepts used by Spielberger and colleagues and created the Pediatric Anger Expression Inventory (PAES). This is a 15-item scale, completely composed of items from the Anger Expression Scale (Spielberger, Johnson, & Jacobs, 1982), the precursor to the STAXI. The PAES, and its updated version, the PAES-III, only measures the trait aspects of anger expression and control, and the authors state this is a measure of "anger stylistics". Its instructions and item format were adapted from the STAIC and AX. This instrument was tested on 284 un-referred fourth and fifth grade children. The authors report their measure assesses three concepts: *Anger-Out*, *Anger-Suppression*, and *Anger-Reflection/Control*. High scores on this measure indicate more frequently reported use of each type of anger expression. Reflecting this scoring procedure, the correlations between *Anger-Out* and *Anger-Reflection/Control* (-.25) and *Anger-Suppression* (-.33) were all negative, while correlations between the latter two scales were positive (Furlong & Smith, 1993). Furthermore, Jacobs, et al. (1989) found that boys obtained significantly higher scores than girls on *Anger-Out* and lower scores on *Anger-Reflection*.

Based on the review of anger measures, the State-Trait Anger Expression Inventory for Children and Adolescents (STAXI C/A), it is the best measure for assessing anger in youth. It is superior to other measures since it assesses state and trait anger, as well as having scales for anger expression and control. Anger control is a

particularly important dimension as it can facilitate the differentiation of children with problem behavior. This has significant clinical implications since it is important to distinguish momentary states from more persistent personality traits.

*General Characteristics of Inpatient Aggressive/homicidal and Depressive/suicidal Children and Adolescents*

In the population of children and adolescents the prevalence estimates of suicide (8-10%; Lehnert & Overholser, 1994) and of juvenile violence have both grown dramatically since the 1980s (Cornell, 1993). Suicide is the third most frequent cause of death among adolescents (Lehnert et al., 1994). For every death by suicide, there are numerous unsuccessful suicide attempts. Therefore, numerous children and adolescents are at risk for attempting or completing suicide. Interestingly, the suicide rate is higher among white adolescents as compared to other racial groups (Shaffer, 1988).

The major reason suicidal and violent acts are so difficult to predict is they are relatively infrequent events. Therefore, even “good” predictor variables will tend to identify many false positives. Another reason for the difficulty of prediction is that many different variables contribute in some degree to the probability of suicidal or violent behavior. That is, each variable makes only a small contribution to the likelihood of action, and thus affects the threshold for overt behavior in unpredictable ways (Mauiro, et al., 1989).

The proportion of those in some form of psychological treatment who exhibit aggressive or depressive problems is fairly pronounced. For example, aggressive verbalizations or acts of violence by psychiatric patients are relatively common (Plutchik, et al., 1989). Some surveys have indicated that 26% of inpatients are secluded during



their stay at an acute care hospital with the major reason being assaultive behavior (Plutchik, et al., 1978). In fact, 20% to 75% of psychiatrists have experienced assaults from patients (Thackery, 1987). After examining one subgroup of the suicidal population, those who have voiced suicidal ideation only, two large prospective studies of psychiatric patients were found to have 35 times the suicide rate of normal controls (Rorsmen, et al., 1982). In addition, studies have found the prevalence of violent acts and suicidal impulses in inpatient populations is approximately equal (Plutchik, von Praag, and Conte, 1989; Stanley and Stanley, 1985).

To explore the relationships between violent and suicidal groups of inpatients, researchers have compared them based on demographic, historical, and diagnostic variables. These studies have failed to discriminate suicidal and homicidal groups (Rudolph & Clark, 2001; Angold, Costello, & Erkanli, 1999; Tardiff & Sweillam, 1980). Some of the most heavily cited research on the matter of suicidal and aggressive behavior in children has been conducted by Pfeffer (1983) and colleagues. They highlight the high rate of comorbidity in the adult literature and go on to point out that suicidal and assaultive behaviors among children are not only highly comorbid but also appear to be influenced by sets of variables rather than singular factors.

For example, they found that in suicidal children (ages 6 to 12) in psychiatric inpatient or outpatient care, the following were all significant factors in predicting suicide: depression, hopelessness, feeling worthless, preoccupation with death, believing the concept that death is temporary and pleasant, parental depression, and suicidal behavior. Likewise, for the aggressive group, the researchers found that severe aggression, lack of anxiety, depression, and severe assaultive behavior of the parents were significant high

risk factors (Pfeffer, Plutchik, & Mizruchi, 1983a). Interestingly, depression is risk factor for both groups. Pfeffer and colleagues emphasized the importance of defining more specifically the interactions of variables contributing to the expression of suicidal and aggressive behavior in children. They stressed that many variables “influence the magnitude of the aggressive impulse which may then be expressed in different ways”(as cited in Plutchik, von Praag, and Conte, 1989, p.220).

There also appears to be a close relationship between depressed and suicidal groups. For example Kosky, et al. (1986) failed to distinguish suicidal and nonsuicidal depressed child psychiatric outpatients (Kosky, et al., 1986). While some argue that those who actually have acted out a suicidal gesture are different from those who only verbally have expressed the intention to commit suicide, Khan (1985) failed to differentiate these groups based on either symptom presentations or social backgrounds. He found that both groups had high levels of depression, irritability, anxiety, and sleep disorder. These findings converge with the work of Friedman (1987), who surveyed 380 high-school students and found that suicidal ideators and suicide attempters were overlapping populations.

To be clear, adolescent suicide and adolescent depression are not being regarded as synonymous. Although depressive symptoms and/or a diagnosis of depression is common in suicidal adolescents, this is not always the case. For example, in one community sample, 41% of the adult subjects who reported suicidal ideation did not report depression (Vandivort & Locke, 1979). Similarly, in a nonclinical college sample, approximately half of the students who admitted making a suicide attempt did not meet criteria for Major Depressive Disorder (MDD) at any time in their lives (Levy and

Deykin, 1989). Reviewing a variety of reports, Goldney and Pilowsky (1981) concluded that only about 50% to 75% of suicide attempters were depressed. Relevant to this study, Cohen-Sandler and colleagues (1982) found that 35% of suicidal child and adolescent inpatients they studied did not appear depressed. This puts into question the long-held view that depression is *the* primary emotion at the core of suicide. In their review of the suicide literature, Spirito and colleagues (1989) pieced together studies on this issue and concluded that depression is characteristic of a substantial proportion, but not all, of adolescent suicide attempters. They found that the rates of depression in the suicide group varied depending on the population studied, with the highest rates found in psychiatric hospitals and the lowest on medical units.

One explanation for why depression may not be reported or observed in those who have expressed suicidal ideation or gestured in this manner is that there are at least two types of suicidal phenomenon. After comparing groups of 163 psychiatrically hospitalized adolescents, Apter, et al. (1995) found two kinds of suicidal behaviors: a planned desire to die, seen in disorders with a prominent depression such as MDD and Anorexia, and more impulse-driven suicidal characterized by disorders of impulse control such as Conduct Disorder (CD). The CD patients had high suicidal and violent behavior scores, but seemed to be driven by frustration and impulsivity, rather than depression. Impulsive suicide attempters have lower levels of depression and hopelessness, do not plan their suicide carefully, and use a wider variety of methods (Brown, Overholser, Spirito, & Fritz, 1991; Williams, Davidson, & Montgomery, 1980). Thus, nondepressive, impulsive suicide appears to have a different pathology from that of depressive suicide, at

least in adolescence (Apter, et al., 1995; Cairns, Peterson, and Neckerman, 1988). This finding has critical implications for clinical treatment and further empirical studies.

The relationship of these findings to future research and clinical strategies was discussed by Khan (1985): “Regarding suicidal adolescents as a single group with a unitary underlying psychopathology is unproductive, while a better understanding of the emotional and cognitive responses of each suicidal adolescent is more helpful in planning a suicide prevention program” (p. 92). In light of the difficulty with predicting homicide and suicide, for example, a number of investigators have suggested that a more advantageous approach to comparing these groups would be to identify and quantify prominent clinical and emotional variables to help establish specific targets for intervention (Bennum, 1983; Craig, 1982). This current dissertation, therefore, focuses on anger, depression, and anxiety, three of the primary phenomenon that have been associated with adolescent suicide attempts (Spirito, et al., 1989).

*Anger Profiles of Normal, Aggressive/homicidal, and Depressive/suicidal children and Adolescents*

*Normal children and adolescents.* Only a handful of studies have directly investigated the anger expression profiles of normal children and adolescents (Hagglund, et al., 1994). Higher *Anger-In* scores have been associated with self- and peer-reported shyness among fourth and fifth-grade children (Jacobs, Phelps, and Rohrs, 1989). In this same study, *Anger-Control* was associated negatively to anxiety and Type A behavior, whereas *Anger-Out* was positively related to these constructs (Jacobs, et al., 1989).

The most widespread means researchers have used to look for differences within normal groups of children is by exploring for gender differences in anger profiles. In

terms of younger children, there is no clear agreement as to how or if girls and boys differ in their anger expression. For example, some literature suggests boys tend to express anger outwardly (*Anger-Out*) to a greater extent than girls, and, conversely, girls tend to turn anger inward (*Anger-In*) more often than boys (Cox, Stabb, & Hulgus, 2000; Gjerde et al., 1988; Jacobs, et al., 1989). Females have been found to control (*Anger-Control*) their anger more often than boys (Cox, Stabb, & Hulgus, 2000; Musante, 1999). In contrast, Hagglund and colleagues (1994) found no differences between girls and boys across the three anger expression concepts.

One sex specific finding was that for males anger level (*T-Anger*) was correlated with all three anger expression styles (Clay, et al., 1993). This suggests that male children and adolescents experiencing higher levels of anger increase all three methods of anger expression. Additionally, Thomas (1989) suggested that anger expression and physical symptoms are associated more strongly for girls than for boys. Although some studies suggest that gender is an important factor in anger expression, little is known about the potential role of gender in the relationship between anger expression and subsequent emotional and behavioral problems (Clay, et al., 1993).

In summary, in studies using normal populations, there appear to be no convergent data on consistent differences among any of the anger experience, expression, or control scales for normals. Overall, the anger expression literature, especially regarding children and adolescents, is relatively undeveloped.

*Aggressive/homicidal children and adolescents.* While clinical folklore suggests, and some literature points to a relationship between anger and aggressiveness in children and adolescents, very few studies have assessed the *Anger-Out*, *Anger-In*, and

*Anger/Control* components of anger expression style. Moreover, *S-* and *T-Anger* rarely have been assessed in assaultive samples of children.

This lack of assessment of anger stands in sharp contrast to findings by those such as Averill (1983) that anger expressed outwardly toward people or objects in the environment often is manifested in aggressive behavior (Averill, 1983). However, anger expressed outwardly (*Anger-Out*) should not be thought of as synonymous with aggression. Highlighting this point, Clay et al. (1993) discussed the assumed relationship of *Anger-Out* to aggression, by pointing out that there is some (Feindler, 1990; Gjerde, et al., 1988; Mabe, et al., 1992) but not conclusive empirical correlational evidence linking higher scores on a scale measuring outward expression of anger (*Anger-Out*) and subsequent measures of actual aggression (Clay et al., 1993). In short, it must be remembered that there is not a perfect correlation between higher scores on these scales and actual behavior.

There was a study by Mauro and colleagues (1989) that compared the groups of interest in this study, however, using an adult sample. They examined hostility in a group of adult male psychiatric patients who exhibited either assaultive (A) or suicide attempting (SA) behavior, as compared to a normal control group. The *T-Anger* levels of the A and SA groups were both significantly higher than the nonclinical group. In terms of what the researchers called extra-punitive anger (roughly analogous to *Anger-Out*), A and SA males were higher than the non-clinical group. However, contrary to traditional belief, the A group was not significantly higher than the SA group on *Anger-Out*. To explain this latter finding, Mauro stated that the relatively lower *Anger-Out* expressions of anger may have been an artifact of the largely female populations studied (Biaggio,

1986; Lerner, 1980) and may not be specific to the assaultive or suicide attempting populations. Additionally, the failure to find differences between the SA and A groups on a number of anger-hostility indices is in line with the view that there may be considerable similarities and overlap in these populations.

In the child and adolescent literature, one study employed the STAXI involved the use of the STAXI to examine anger as a predictor of aggression among incarcerated adolescents 15 to 18 years of age (Cornell, Peterson, and Richards, 1999). Significant positive correlations were obtained between *T-Anger* and physical and verbal aggression. There was also a negative correlation between the *Anger-Control* scale and physical aggression.

*Depressive/suicidal children and adolescents.* Several studies yielded data to suggest that anger is a core component of childhood depression (Brendgen, Vitaro, Turgeon, Poulin, 2002; Cohen, 1997). Renouf and Harter (1990) found that 80% of adolescents reported that their depressed mood consisted of both sadness and anger. However, in almost all of the studies, including Renouf and Harter's, the direction of expression (*Anger-In* or *Anger-Out*) or the attempt to manage the anger (*Anger-Control*) were not measured.

As stated before, data from a set of studies have suggested there is a link between *Anger-In* and depression in adults (Biaggio & Godwin, 1987; Moore & Paolillo, 1984; Riley, et al., 1989). One of the only studies using self-report to compare the characteristics of anger expression in depressed children directly was conducted by Kashani et al. (1995). They used the PAES-III to compare the characteristics of anger expression in depressed children (diagnosed with MDD) with a group of psychiatric

children who did not have the diagnosis of MDD but rather, a mixture of other diagnoses. These authors obtained the following results: First, depressed children were not different from their psychiatric counterparts in terms of the magnitude with which they expressed anger outwardly (*Anger-Out*) or anger inwardly (*Anger-In*). In terms of *Anger-Control*, the depressed children were less able to control their anger in a thoughtful, nonimpulsive manner.

Anger has been neglected in much of the research on adolescent suicide (Lehnert, et al., 1994). In adolescents, violent outbursts are closely related to suicidal ideation (Choquet & Menke, 1989; Goldberg, 1981). Hoberman and Garfinkel (1988) found that 33% of adolescents who died by suicide displayed a predominant mood of anger at the time of their death. In some studies, adolescents (Cairns, et al., 1988) and adults (Mauiro, et al., 1989) who attempted suicide displayed aggressive tendencies equivalent to those seen in assaultive patients. Thus, anger and aggression expressed outwardly have been linked to suicidality in a variety of populations (Lehnert, et al., 1994). Both internalized and externalized anger as well as depression seem to be related to suicidal behavior.

In one study the anger expression styles of suicidal adolescents were compared to those of normal high school students (Lehnert & Spirito, 1994). The measures were administered shortly after their suicide attempts. Suicide attempters had significantly higher scores on *T-Anger*, *Anger-Out*, and *Anger-In* than their normal peers. Additionally, the attempters reported increased probability of aggressive outbursts, and reduced tendencies for impulse control (Garfinkel, Froese, & Hood, 1982; Gispert, et al., 1987; Myers, McCauley, Calderon, & Treder, 1991). Of note, in both the suicidal and



non-suicidal students, *T-Anger* was strongly correlated to *Anger-Out*. The only study directly assessing anger expression styles in suicidal inpatients as compared to normals was conducted by Goldston, Daniel, Reboussin, Kelley, Ievers, and Brunstetter, 1996. These researchers found that the only significant difference was that suicide attempters were higher in *T-Anger* than the group of normals.

## Statement of the Problem

In light of their prevalence and lethality, depression and suicide, as well as aggressive and homicidal behavior, have been identified as high priority for mental health researchers and clinicians (Maiuro, et al, 1989). While there is a high rate of comorbidity between suicidal or self-harming behavior and aggressive behavior (including homicidal ideation), few studies have collectively evaluated anger, anxiety, and depression in children with these problems (Maiuro, et al., 1989). More specifically, although some studies have examined particular clinical subgroups of children, very few have directly compared aggressive/homicidal (A/H) and depressive/suicidal (D/S) children and evaluated whether there any systematic differences between patterns of anger, depression, and anxiety. Moreover, efforts to evaluate these constructs while comparing A/H and D/S children together as a clinical collective have also been absent. However, information garnered from such studies, even if not successful in differentiating groups such as the A/H and D/S children (that obviously have a high rate of comorbidity with each other), would help determine what patterns of anger, anxiety, and depression might discriminate them, as a clinical group, from normals.

This gap in the literature will be addressed by the main goals of this study, which are to evaluate anger, depression, and anxiety in children and adolescents with aggressive/homicidal (A/H) and depressive/suicidal (D/S) problems (Clinicals), and to

compare these two clinical groups with each other and with normal children and adolescents (Normals).

Previous research has shown that A/H children and adolescents are higher in state and trait anger, are more likely to express their anger in aggressive behavior, and less likely to suppress their angry feelings, as measured by the State Trait Anger Expression Inventory (STAXI) and the Pediatric Anger Expression Scale (PAES-III). Children and adolescents with D/S problems also experience intense anger more frequently than normals, while tending to suppress their anger by turning it inward toward themselves. Research findings indicate that D/S youth are higher in trait anger, turn their anger inward, and have trouble controlling their anger. However, there is also research evidence that some D/S children are higher in anger-out.

The A/H and D/S groups are similar in reporting frequent experiences of intense anger, but those with A/H problems express their anger outwardly more frequently than D/S youth, while the D/S children and adolescents are more likely to suppress their anger. Evaluating how children and adolescents with A/H and D/S problems, as subgroups and as a collective clinical group, differ from normal children and from each other will contribute to a better understanding of anger profiles of these three groups.

Based on the theoretical conceptions and empirical findings that are reported in the literature on A/H and D/S children and adolescents, the following hypotheses will be evaluated:

1. The A/H group will report experiencing and expressing anger more frequently than normals. The A/H group will have higher scores than normals on the STAXI-C/A *T-Anger* and *Anger-Out* scales.

2. The A/H group will report that they hold anger in less often and have less control of their anger than normals. The A/H group will have lower scores than normals on the STAXI-C/A *Anger-In* and *Anger-Con/Out* scales.
3. The D/S group will report both more frequently experiencing and directing anger toward themselves than normals, and will be less likely to endeavor to reduce their angry feelings. The D/S group will have higher scores than normals on the STAXI-C/A *T-Anger* and *T-Anger/In* scales, and lower scores on the *Anger-Control/Out* scale.
4. The A/H group will suppress their feelings less than the D/S group, and the D/S group will control their outward expression of anger more frequently than the A/H group. The A/H group will have lower scores on the STAXI-C/A *Anger-In* scale than the D/S group, and the D/S group will have higher scores on the STAXI-C/A *Anger-Con/Out* scale than the A/H group.
5. The A/H group will report experiencing anxiety less frequently than normals and the D/S group. The A/H group will have lower scores on the PANX than normals and the D/S group.

## Method

### *Participants*

The participants in this study were 476 children and adolescents between the ages of 10 and 18. None of the children and adolescents were offered any type of reward for participating in this study. The children and adolescents with aggressive/homicidal (A/H; N = 18) and depressive/suicidal (D/S; N = 87) problems were drawn from a local psychiatric facility, the Children's Crisis Services Unit (CCSU). There were also participants (N = 18) who were assigned to both groups, denoted as the Comorbid group. The control group (N = 353) of normal children and adolescents (Normal) were students drawn from schools within the Hillsborough County School System. Participant demographic information on gender, age, grade, and ethnic background is provided in Appendix A (Table 1).

### *Instruments and Measures*

Each participant was given a packet of tests administered in following order: (1) State Trait Anger Expression Inventory for Children and Adolescents (STAXI C/A: 46 items); (2) the Pediatric Anxiety Scale for Children (PANX: 20 items); and (3) the Children's Depression Inventory (CDI: 27 items). The packets were administered to the children in either their school setting (Normal group) or at the inpatient psychiatric hospital (Clinical group).

*State Trait Anger Expression Inventory for Children and Adolescents (STAXI-C/A).* The STAXI-C/A is a 38-item measure designed to assess the experience,

expression, and control of anger in children and adolescents with a reading level of 4<sup>th</sup> grade or higher. The STAXI-C/A is a child and adolescent version of the State-Trait Anger Expression Inventory (STAXI-2: Spielberger, Johnson, E.H., Russell, S.F., Crane, R.J., Jacobs, G.A., & Worden, T.J., 1985), the most widely used measure of anger in adults.

The conceptual structure (See Appendix A [Table 2]) of the STAXI C/A is identical to that of the STAXI-2. The STAXI C/A assesses state and trait aspects of the experience of anger, as well as trait aspects of the expression and control of anger. The state scale is composed of two subscales assessing the intensity of feelings currently being experienced (*S-Anger/FL*) as well as the intensity of feelings of desire to express verbal or physical aggression. The trait scale is composed of subscales that assess how frequently anger without provocation is experienced (*T-Anger/Temperament*) and the frequency of angry feelings that are experienced in situations where the respondent feels mistreated (*T-Anger/Reaction*). Anger expression is assessed with scales measuring the frequency that anger is expressed in verbally or physically aggressive behavior (*Anger-Out*) or experienced but not expressed (suppressed; [*Anger-In*]). Anger control is assessed with scales that evaluate how often a person controls the outward expression of anger (*Anger-Control/Out*) or how often she or he attempt to control angry feelings by calming down (*Anger-Control/In*).

The state instructions ask respondents to answer according to how they feel “right now, at this very moment”. Respondents read item statements such as “I am mad” and then choose from three options: “not at all”, “somewhat”, and “very much”. In contrast, the trait instructions ask for responses based on “how you usually feel”, and for an item

like, “I get angry quickly”, the participants would choose from the following: “hardly-ever”, “sometimes”, and “often”.

Like the STAXI-2, the STAXI C/A exhibits strong psychometric properties, as determined by the responses of a large, heterogeneous normative sample (N=944) of 4<sup>th</sup> through 12<sup>th</sup> graders who were attending schools in Florida and Illinois. Alpha coefficient measures of internal consistency were uniformly high across all scales and subscales (.70 or higher). These coefficients are strong in light of the brevity of the 4 and 5 item subscales composing the measure (See Appendix A, Table 3). Preliminary comparison of the alpha coefficients for this normative sample as compared to a clinical sample indicate the internal consistency of the scales are not adversely affected by psychological pathology (Brunner & Spielberger, unpublished manuscript, 2003). In fact, the alpha coefficients were higher for the clinical group.

*Pediatric Anxiety Scale for Children (PANX)*. The PANX (Jacobs, 1989) is a 20-item abbreviated version of the 40-item State-Trait Anxiety Inventory for Children (STAIC). Like the full version of the STAIC (Spielberger, Edwards, Montuori, & Lushene, 1970), the PANX measures S- and T-Anxiety by representing them with balanced (i.e., 10) numbers of items. Jacobs (1989) developed the PANX at the same time he developed a state and trait measure of anger (the Pediatric Anger Expression Scale [PANG]) designed to complement the PAES-III, which only assesses the expression and control of anger. Items from the two scales are alternated on a single form, labeled the Pediatric Personality Scale. These scales are 20 and 19 items, respectively. This requires a 4<sup>th</sup> grade reading level.

Only the PANX items were administered for this study. The state scale is composed of items assessing both the presence (5) and absence (5) of anxiety. One example of an absence item is "I feel pleasant". S-Anxiety and T-Anxiety are conceptualized similarly to S-Anger and T-Anger in terms of their transitory or relatively stable natures. The instructions for both versions involving the S-Anxiety scale require respondents to report *the intensity* of their feelings of anxiety, "*right now*, at this very moment", and for both measures a three-point rating scale is used. The trait scales asks for children to respond according to how they "generally" feel.

The nature of the response options for the state scales of the two versions differ. The STAIC State items begin with the phrase "I feel" which the student reads and then chooses from one of the following three: "very calm", "calm", or "not calm". In contrast, to respond to the State items of the PANX, respondents read the full statement (e.g., "I feel scared") and then choose either "not at all", "somewhat", or "very much so". Jacobs has presented some norms for the PANX based on 268 4<sup>th</sup>-7<sup>th</sup> grade children. The PANX has not been used widely. However, since it is composed completely of STAIC items, some of the strengths of the STAIC transfer in terms of construct and convergent validity.

The STAIC has been used to measure anxiety in 9 12-year-old elementary school children (Spielberger, 1973) and has extensive norms for fourth-, fifth-, and sixth-grade students. The STAIC has been used in over a 100 studies of children who have emotional or physical problems and has also been used with adolescents. Since the PANX is a revised and exploratory version of the STAIC, there are no firm cutoff scores. Overall, Spielberger (1973) reported that that the STAIC has respectable internal



consistency in terms of its S-Anxiety (.87 for females, .82 for males) and T-Anxiety (.81 for females, .78 for males) scales.

*Children's Depression Inventory (CDI)*. The CDI is a 27-item self-report measure which assesses the level of severity of depression in children and adolescents aged 8-17. According to the author (Kovacs, 1983), the CDI was modeled after the Beck Depression Inventory (an adult scale) due to support in the literature that overlap exists among the salient aspects of depressive disorders in children and adolescents and adults.

Each CDI item consists of three symptom-oriented statements (numerically scored as 0,1, or 2) from which a child is instructed to "choose the one that best describes you in the past two weeks including today" (Kovacs, 1983). Higher scores indicate more depression, and the maximum score is 54. Cutoff scores are reported by Kovacs which may be used to determine if a child appears to have clinically significant depressive problems, either overall or on any of the five subscales: Negative Mood, Interpretation Problems, Ineffectiveness, Anhedonia, and Negative Self-Esteem. These scores are based on normative data including a sample of 860 school children (Kovacs, 1983).

The CDI is the most widely used measure of youth depression, and literature suggests it is a psychometrically sound instrument (Crowley, Thompson, & Worchel, 1994). Kovacs reports internal consistency to be .86 with a diagnostically heterogeneous, psychiatrically referred sample (N=75). Test-retest reliability was estimated to be .82.

#### *Procedure*

*Normal group*. All participants in the normal group were selected from local schools. The parents of these children were notified beforehand through a take-home description of the study attached to a passive consent form. The school children were

administered the questionnaire packets (See Appendix A) in small groups, and the children were monitored as they filled out the questionnaire packet. Before passing out the questionnaires, the researcher clarified that responses were completely anonymous. The author was present to answer questions. After the packets were completed, the children and adolescents received a debriefing form and were asked if they had any questions or concerns.

*Clinical inpatient group.* All the clinical participants were drawn from a local psychiatric crisis facility which was part of a larger mental health center. The participants in this study were screened by an intake counselor within 12 hours. No special training was provided to the intake counselors since the part of the purpose of the study was to determine the examine how much congruency would exist between the classification procedure as it was regularly conducted and the findings of the psychometric instruments. However, it should be noted that the intake counselors had limited training.

The assessment into groups followed a standard procedure. The counselors used a standardized form (See Appendix A, Table 4) that guided the questions they asked. The goal of their assessment was to rank what they considered to be the top 3 problems of the child. Specifically, they coded as “1”, “2”, and “3” what they considered to be the primary, secondary, and third most critical problem that needed treatment intervention in order for the child to be considered stable enough to be discharged. On this standardized form (regularly used by the crisis center) there were 10 problem groupings (See Appendix D) the counselors chose from, although there is also an “other” category. However, this “other” category is rarely used.

Before ranking the presenting problems, the intake counselors tried to contact parents and any law enforcement officer or school personnel who had experience with the child related to the reason the child or adolescent was at the crisis center. The information the intake counselor used to rank the child's problems included the self-reports by the child at the time of intake, statements by the child documented on papers accompanying the child (e.g., a Baker Act), and/or either live reports of adults (or as documented on paper) by those such as school personnel who had been around the child around the time when they manifested the problem behavior.

If any of this information suggested the presence of suicidal, homicidal, or psychotic phenomena, then these problems were given precedence in the rankings over other such problems such as family conflict. The problem coded as a "1" was considered to be the issue that was most destabilizing to the child. This is to say that a family conflict that might be coded as "family problems" would never be coded as a "1" if the same child presented with suicidal ideation; this latter problem would receive a "1".

After coding the problem, the intake counselors used a set of criteria to decide whether they would administer a packet to the child. First, the child had to be 10 years of age or older and 18 years of age or younger. Secondly, if a child had "psychoticism" listed as any of their top 3 problems, they were disqualified from the study. Also, if the child was mentally retarded or had any organic cognitive deficits impairing their cognitive ability, they were disqualified. The child also had to be literate to the extent that they could read the packet. The children and adolescents deemed appropriate for the study were administered the packet by the intake counselor. Since the Crisis Center agreed to have these measures become part of their regular intake process, consent was

obtained once the patient and/or their guardian signed the Crisis Center's "Consent to Treatment" paperwork.

## Results

The main goals of this study were to evaluate anger, depression, and anxiety in children and adolescents with aggressive/homicidal (A/H) and depressive/suicidal (D/S) problems (Clinical) and to compare these two clinical groups with each other and with normal children and adolescents (Normal). However, a substantial number (N=18) of participants in this study who were referred to The Crisis Center were coded as having both types of clinical problems (i.e., the Comorbid group) and many fewer subjects were assigned to the A/H group (N=18) than to the D/S group (N=86). Given the significant number of Comorbid participants, the relatively small number in the A/H group, and the concerns noted earlier about the training and experience of the intake counselors, the initial analyses of the data focused on comparing the total Clinical group (A/H, D/S, and Comorbid) with the Normal group. The A/H and D/S clinical groups were then compared to each other and the Normal group, and hypotheses were tested as originally planned.

The comparison of the mean scores of the Normal and Clinical groups, in terms of the experience, expression, and control of anger, as measured by the State-Trait Anger Expression Inventory for Children and Adolescents (STAXI C/A) scales and subscales, are reported first. The findings on the comparison of the AH and DS clinical groups with the Normal group are then reported and specific study hypotheses were evaluated. Data revealing the impact of the Comorbid group on the findings regarding the A/H, D/S, and Normal group comparison are then described. The same general procedure was used to

report the findings for depression and anxiety, as measured by the Children's Depression Inventory (CDI) and the Pediatric Anxiety Scale (PANX). Each of the tables referred to in the Results section are located in Appendix A.

*Comparison of the Responses of the Clinical and Normal Groups to the Anger Measure*

The means, standard deviations, and alpha coefficients for the STAXI C/A anger scales and subscales of the responses of the Clinical and Normal groups are presented in Table 5 (Appendix A). The Clinical group was composed of the A/H and D/S subgroups as well as the Comorbid subgroup. The alpha coefficients for all 10 measures were slightly higher for the Clinical group (ranging from .73 to .94) than for the Normal group (.66 to .87), indicating a reasonably high level of internal consistency for both groups that was slightly better for the Clinical participants, whose scores were more variable, as reflected in the larger *SD*'s for this group on all 10 scales. It should be noted that the scores for the Normal group were more skewed on the anger measures, indicating a floor effect and less variability.

Nevertheless, the alpha coefficients for all 10 scales for both groups were quite strong, which is particularly noteworthy, for subscales with only 4 or 5 items. The strongest alphas for both groups were found for the *S-Anger* scale ([Clinical, .94]; [Normal, .87]); Pearson Product Moment correlations between the STAXI C/A anger scales and subscales were computed and are reported in Table 6 (Appendix A). The correlations between the STAXI C/A scales and subscales were roughly commensurate for the Normal and Clinical groups, where the correlation between any given pair of measures was usually slightly stronger for the Clinical group.

The mean scale scores for the Clinical and Normal group were compared by computing a Multivariate Analysis of Variance (MANOVA), taking gender into account, to detect the presence of statistically significant differences in experience, expression, and control of anger scales and subscale scores. The MANOVA was computed before analyzing for differences between individual scale and subscale mean scores. This test is specifically designed to assess whether or not there are any differences among a number of dependent variables (Tabachnik, 1992). More specifically, Pillai's Trace criterion was used to determine whether the MANOVA F-test was significant or not, since the Pillai's procedure is more robust than other F statistic criterion when small group sizes and inequality of sample sizes are present (Olson, 1979). The results indicated that there was a substantial Groups main effect [Pillai's Trace = .052,  $F(8, 465) = 3.20$ ,  $p = .002$ ]. No statistically significant differences were found for Gender or for the Gender X Group analysis.

Analyses of variance (ANOVA's) were then computed, the results of which are reported in Appendix A, Table five. The Clinical group had significantly higher scores on 5 of the 10 scales and subscales. Specifically, the Clinical group mean was higher for *S-Anger* [ $F(1, 472) = 7.25$ ,  $p < .01$ ], as well as for the *S-Anger FL* and *S-Anger FX* subscales (See Table 4). It should be noted that the Clinical participants filled out the questionnaires around the time of their admission into the Crisis Center and the Normal group responded during their regular school routine.

The mean *T-Anger/Temp* subscale score for the Clinical group was also significantly higher [ $F(1, 472) = 7.10$ ,  $p < .01$ ] than the Normal group's mean, while no difference on the *T-Anger/React* subscale was found. These findings suggested that,

while the Clinical group more frequently experienced angry feelings without provocation (*T-Anger/Temp*), they were no different from the Normal group in their reactions to being treated badly (*T-Anger/React*). The Clinical group *Anger-Out* mean was also significantly higher than the Normal group mean (See Table 5), indicating that they more often express anger toward persons or objects in the environment verbally or using physically aggressive behavior. No statistically significant differences were found for the *Anger-In* score or for either of the anger control scales.

#### *Comparison of the Responses of the Normal, A/H, D/S, and Comorbid Groups to the Anger Measure*

The means, standard deviations, and alpha coefficients for STAXI C/A anger scales and subscales of the Normal, A/H, and D/S groups are presented in Table 7. These characteristics are also reported for the Comorbid group, who as part of the total Clinical group were included in the prior but not the present F-statistic analysis to facilitate comparison of the three groups involved in the original hypotheses.

Similar to the Clinical versus Normal group anger findings, the A/H and D/S clinical subgroups also had equal or higher alpha coefficients than did the Normal group for nearly every STAXI C/A scale and subscale (See Table 7). Additionally, the D/S group had slightly higher alpha coefficients and *SD*'s than the A/H group. This was likely caused by the natural increase in variability stimulated by the larger sample size (D/S,  $N = 87$ ; A/H,  $N = 18$ ) and the ensuing strengthening of the alphas. Of note, on the *T-Anger/Reac* subscale, the A/H group's alpha (.41) was noticeably lower than for their D/S clinical counterparts (.75) or for the Normal group (.68). Given the A/H group's *SD* of 1.62, which was substantially lower than any other A/H *SD* for the other 9 scales, this



weaker alpha makes sense. However, there is no clear reason why the A/H *SD* was noticeably smaller. This finding suggests that A/H participants react differently to situations where they are treated badly, which is what *T-Anger/Reac* measures.

The correlations between the STAXI C/A anger scales and subscales for the Normal, A/H, and D/S groups are reported in Table 8. The correlations between the STAXI C/A scales and subscales were roughly commensurate for the Normal, A/H and D/S subgroups. One of the few exceptions was how the experience of anger at the moment of responding (*S-Anger*) was somewhat more negatively correlated with efforts to control angry feelings by calming down (*Anger-Control/In*) for the A/H (-.55) and D/S (-.38) groups than for the Normal group (-.14).

The mean scores for the Normal, A/H, and D/S groups were compared by computing a MANOVA, taking gender into account, to detect significant differences on the STAXI-C/A scales and subscales. The results indicated there was a significant Groups main effect [Pillai's Trace = .062,  $F(16, 892) = 1.78$ ,  $p < .05$ ], as well as a significant Gender X Group interaction effect [Pillai's Trace = .068,  $F(16, 892) = 1.96$ ,  $p < .05$ ]. No significant differences were found for Main effect of Gender. Analyses of variance (ANOVA's) were computed, the results of which are reported in Table Seven. In contrast to the Clinical versus Normal findings, no significant differences were found between the Normal and the A/H and D/S clinical subgroups on the *S-Anger* scale and subscales or on the *T-Anger/Temp* subscale.

*Hypothesis 1* was that the A/H group would report experiencing anger significantly more frequently (*T-Anger*) than the Normal group. However, as Table 7 shows, the A/H group reported less frequent experience of anger, which is a noteworthy paradoxical

finding even though it is statistically nonsignificant. Tukey's Honestly Significant Difference (HSD) test was employed to detect which specific groups differed as indicated by the significant main effect for Group F statistics presented in Table 5. The HSD was used since it is designed specifically to look for differences on particular dependent variables by conducting pairwise comparisons of groups with unequal sample sizes.

The D/S group participants reported more frequently expressing anger outward toward objects or persons in the environment using verbal or physically aggressive behavior (*Anger-Out*) than the Normal group. However, the author speculated that (*Hypothesis 1*) the A/H (not the D/S) *Anger-Out* mean score would be significantly higher than the mean for the Normal group, since aggressives were theorized to be less anxious than D/S (i.e., depressive) group participants who, in light of their higher level of anxiety, were impeded from expressing their anger outwardly. Regardless, it is interesting to note that the Clinical group as a whole (A/H, D/S, and Comorbid) was more statistically differentiable ( $p < .01$ ) from the Normal group than was the D/S group ( $p < .05$ ) in terms of *Anger-Out*. The reason behind the attenuation of this statistical difference, and the absence of significant differences in the 3-way comparisons that were present in the 2-way (Normal versus Clinical) comparison, will become clear when the findings for the Comorbid group are described.

The second and only other statistically significant difference detected when comparing the Normal and A/H and D/S group means was also contrary to what was expected. Specifically, as Table 7 shows, the A/H *Anger-Control/Out* group mean was significantly ( $p < .05$ ) higher than the mean for the D/S group, suggesting the aggressive group controlled their outward expression of anger more than the depressive group

participants. This finding is also paradoxical; the speculation (*Hypothesis 4*) was that the D/S group would control their outward expression of anger more than the A/H group, evidenced by a significantly higher *Anger-Control/Out* mean score. This was based on the previously cited role that the more frequent experience of anxiety (See *Hypothesis 5*) would play in minimizing the frequency that D/S group participants would express anger outwardly. These paradoxical findings will be discussed after all the findings for anger, depression, and anxiety are reported.

There were three remaining hypotheses. *Hypothesis 2* speculated the Normal group would report more often suppressing anger (as evidenced by a higher *Anger-In* mean score) as well as report more frequent control of their outward expression of anger (*Anger-Control/Out*) than that reported by A/H group participants. As Table 7 shows, the mean differences were actually in the opposite direction, though they were not statistically significant. One possible reason for this is that the small number of A/H participants produced a mean score not representative of the central tendency of children who are aggressive or have voiced and/or manifested a homicidal intention. Interpretation of these findings will be conducted in the Discussion section.

In terms of *Hypothesis 3*, none of the three specifically formulated comparative speculations were supported by the data. The first two assumptions were that the D/S group would experience anger more frequently (*T-Anger*) and suppress angry feelings more frequently (*Anger-In*) than the Normal group. The third hypothesis was that the Normal group would more frequently control the outward expression of their anger as compared to the A/H group participants, as evidenced by their significantly higher *Anger-Control/Out* mean score. No significant support was found for these three hypotheses,

and for the latter two speculations the differences were in the opposite direction (See Table 7).

The earlier reported significant Gender X Group interaction [Pillai's Trace = .068,  $F(16, 892) = 1.96$ ,  $p = .013$ ] was followed up with univariate F tests which revealed a significant interaction of Gender with the *Anger-Control/In* scale ( $F(2, 452) = 3.40$ ,  $p = .034$ ). Evaluation of the means revealed that females in the Normal ( $M = 11.13$ ) and A/H ( $M = 12.29$ ) groups suppressed anger more than their male peers in those groups, while the males assigned to the D/S group suppressed their anger more frequently ( $M = 11.53$ ) than the females ( $M = 10.19$ ). The more frequent suppression of anger by females in the Normal group fits with the notion that anger expression in males is more culturally sanctioned than for females. However, this is a speculation requiring validation. Nevertheless, it is interesting to note that the presence of females in the A/H group was much rarer (7 out of the 17 were female) than in the D/S group (61 out of 87).

#### *The impact of the Comorbid group on the Normal, A/H, and D/S anger differences*

To understand why a greater and more robust set of differences were identified for the Clinical versus Normal anger mean score comparisons, as compared to the A/H, D/S, Normal comparison, it is critical to evaluate the relationship between the Comorbid group means and those of their A/H and D/S clinical counterparts. As Table 7 reveals, across nearly every one of the 10 STAXI C/A measures (except for *Anger-In*) the Comorbid group was more unlike the Normal group than were either the A/H or D/S group, especially in terms of the anger felt at the time of responding (*S-Anger*) and in terms of the frequency with which anger was experienced (*T-Anger*). In fact, the Comorbid group means were further away from the other two clinical groups than the A/H and D/S means

were from the Normal group. It appears as if the Comorbid group, as compared to the other three groups, were experiencing anger with more intensity and frequency, were expressing anger both outwardly and inwardly more often, and were controlling their anger less frequently.

Based on this information it makes sense that without the help of the Comorbid group means, the A/H and D/S group means - by themselves - were less differentiated from the Normal group means. Simultaneously, it seems a primary contributor to the mean anger scale score differences between the Normal and Clinical group - even though they only made up 15% of the Clinical group - were the Comorbid group mean scores. It is interesting to note that the Comorbid SD's and alpha coefficients for the *T-Anger* scale and *T-Anger/Temp* subscale (which was the impetus behind the higher *T-Anger* score) were substantially higher than those for any of the other three groups (i.e., A/H, D/S, and Normal). There is no clear reason for this finding.

#### *Comparison of the Responses of the Normal and Clinical Groups to the Depression Measure*

The means, standard deviations, and alpha coefficients for the Children's Depression Inventory (CDI) scales and subscales of the Normal and Clinical groups are presented in Table Nine. Similar to the findings for anger, the alpha coefficients and SD's across all 6 CDI measures (1 overall scale and 5 subscales) were somewhat higher for the Clinical group (ranging from .61 to .92) than for the Normal group (.58 to .87). This indicated the scales exhibited a higher level of internal consistency based on the Clinical participant responses, where the reasons stated for this phenomenon were already mentioned. For both groups, the strongest alphas were exhibited by the overall *Total*

*CDI Score* ([Normal, .87]; [Clinical, .92]). It is worth noting that the *Interpersonal Problems* subscale clearly exhibited the lowest alpha for each group, as Table 9 shows.

Similar to the STAXI C/A anger findings, the correlations between the CDI scales and subscales were roughly commensurate for the Normal and A/H and D/S subgroups (See Table 10). One of the few exceptions was the higher correlation between thoughts about lack of achievement (*Ineffectiveness*) and negative self-evaluations (*Negative Self-Esteem*) for the Clinical group (.67) versus for the Normal group (.48). The mean scale scores for the Normal and Clinical group, taking gender into account, were compared by computing a MANOVA to detect the presence of significant differences in mean scale scores. Results indicated that there was a substantial main effect for Group [Pillai's Trace = .184,  $F(7, 486) = 15.64$ ,  $p < .001$ ] and a main effect for Gender [Pillai's Trace = .057,  $F(7, 486) = 4.20$ ,  $p < .001$ ]. No statistically significant Gender X Group interaction effects were found.

Analyses of variance (ANOVA's) were then computed, the results of which are reported in Table 9. The Clinical Group reported a significantly higher score in terms of overall depressive symptoms (*Total CDI Score*), negative attitude toward others (*Interpersonal Problems*), sadness (*Negative Mood*), and negativity toward the self (*Negative Self Esteem*) than the Normal group. No significant differences for *Anhedonia* and *Ineffectiveness* were found. Inspection of the means for the scales where there was a main effect for Gender revealed that the female responses produced a significantly higher *Total CDI Score*, *Anhedonia*, *Negative Self Esteem*, and *Negative Mood* mean score than did male responses. The greater amount of depressive symptomatology reported for both

Normal and Clinical groups of females fits with the greater prevalence rates of depression for females as compared to males that is consistently reported in the literature.

There was also one interaction effect that was detected by the univariate F (reported in Table 9: *Negative Self-Esteem*) but not detected by the omnibus MANOVA computation. Due to these conflicting statistical findings, more emphasis will be placed on reporting the cell means than on highlighting the F statistic as is suggested by Tabachnik (1992). For the Normal group, the female mean ( $M = 1.58$ ,  $SD = 1.92$ ) was marginally higher than the male mean ( $M = 1.44$ ,  $SD = 1.66$ ), but, for the Clinical group, the females ( $M = 2.92$ ,  $SD = 2.67$ ) scored higher, substantially more than the males ( $M = 1.86$ ,  $SD = 2.20$ ). This suggests that, while females generally reported more intense negative self-evaluations (regardless of group membership), the female Clinical respondents were much more intensely self-deprecating than male Clinical respondents. It is not clear why this is so. It may be conjectured that female inpatients feel more stigmatized by their status as patients in mental health settings, but this requires empirical validation.

#### *Comparison of the Responses of the Normals, A/H, and D/S Groups on the Depression Measure*

The means, standard deviations, and alpha coefficients for the CDI depression scale and its subscales for the Normal, A/H, D/S, and Comorbid group responses are presented in Table 11. Similar to the procedure used for the anger analyses, while these characteristics are also reported for the Comorbid group, they were included in the prior but not the present F-statistic analyses to facilitate comparison of the three groups involved in the original hypotheses.

While for the STAXI C/A anger measure both the A/H and D/S group responses produced larger alphas (with one exception in the case of the A/H group's *T-Anger Reac* alpha, as discussed earlier) than did the Normal responses, in the case of the CDI depression measure, only the D/S group responses produced alphas that were higher than the Normal alphas, across the CDI scale and 5 subscales, as reported in Table 11. The higher alphas for the D/S group versus the A/H group in terms of anger measures makes sense in light of the fact that the D/S group exhibits larger standard deviations.

In contrast to the correlations between the CDI scales and subscales for Normal and Clinical groups, there was some variability in the correlation matrix based on the Normal, A/H, and D/S subgroup responses to the CDI (See Table 12). Specifically, there were several measures which were substantially more correlated for the A/H group versus the D/S subgroup or the Normal group. A prime example of this was the difference between the correlation for the scale assessing negative attitude toward relationships (*Interpersonal Problems*) and sadness (*Negative Mood*) for the A/H group (.70), versus the D/S (.39) and Normal group (.39).

The mean scale scores for the Normal, A/H, and D/S groups were compared by computing a MANOVA, taking gender into account, to identify the presence of statistically significant differences in the CDI scale and subscale mean scores. The anxiety scales were also included in this MANOVA computation, while the follow-up anxiety ANOVAs will be discussed later. The MANOVA detected a robust Group effect [Pillai's Trace = .193,  $F(14, 944) = 7.19$ ,  $p < .001$ ]. No significant differences were found for Gender or for the Gender X Group interaction.



Analyses of variance (ANOVA's) were computed, the results of which are reported in Table 11. Whereas the F-tests detected significant differences between the Clinical and Normal group mean in terms of their *Total CDI Score*, no such difference was detected in the Normal, A/H, and D/S comparison. However, the statistically significant differences on the *Interpersonal Problems*, *Negative Mood*, and *Negative Self* subscales present in the Normal versus Clinical comparison were also present in this 3-way comparison, though the F statistics were much less robust.

The HSD tests indicated the D/S group's *Negative Mood* (sadness) mean score was significantly higher than for the A/H ( $p < .001$ ) and Normal ( $p < .001$ ) group. Moreover, the D/S group's *Negative Self Esteem* (negative self-evaluation;  $p < .001$ ) and *Interpersonal Problems* (negative attitudes toward others;  $p < .001$ ) mean scores were higher than for the Normal group. It is interesting to note that the D/S group mean significantly differed from the A/H group mean only in terms of their higher level of sadness (*Negative Mood*). While the D/S group is expected to have higher depression score means than the Normal group, they also might be expected to differ as much from the A/H group. However, there were no differences detected between the A/H and D/S group, as revealed by Table 11. This lack of differences between these two clinical subgroups contributes further concern about the validity of the group assignments made by the intake counselors. This will be covered further in the Discussion section.

Similar to earlier findings, the univariate F (as reported in Table 11) detected differences not identified by the omnibus MANOVA computation. As before, emphasis is again on reporting the cell means (though the F-statistics are reported in the Table 11). First of all, the Gender main effect was produced by the consistently higher female

*Negative Mood* means for the A/H (Females  $M = 2.42$ ; Males  $M = 1.69$ ), D/S (Females  $M = 4.63$ ; Males  $M = 2.76$ ), and Normal (Female  $M = 2.88$ ; Male  $M = 2.13$ ) participants. The meaning of this difference is not clear, since the CDI asks respondents to answer according to “the past two weeks including today”.

Additionally, there was a Gender X Group interaction effect detected by the ANOVA’s only, as reported in Table 11. Specifically, the female D/S *Negative Self-Esteem* group mean ( $M = 3.19$ ) was well above the means for females in the A/H ( $M = 1.29$ ) and nonclinical ( $M = 1.58$ ) groups. For the males, no one group stood out, and the order of magnitude was the following: A/H ( $M = 1.84$ ); D/S ( $M = 1.52$ ); and Normals ( $M = 1.44$ ). There is a pattern relating in how the females compared to the males that links the main effect and interaction effect just reported. Specifically, the somewhat higher female levels of sadness (*Negative Mood*) and negative self-evaluation (*Negative Self-Esteem*) were most differentiable from the male mean scores for those females assigned to the D/S group.

#### *The Impact of the Comorbid Group on the A/H, D/S, and Normal Depression Score Differences*

Similar to the findings for anger, the Comorbid group once again played two different roles. First, though relatively small in size, as part of the Clinical group, the Comorbid group contributed to the differentiation of the Clinical group from the Normal group, which translated into significant differences in overall depressive symptomatology (*Total CDI Score*) as well as robust differences for three CDI subscales (See Table 9). However, the actual effects of this Comorbid group were not apparent until they were broken out and delineated from their clinical A/H and D/S counterparts. As Table 11

reveals, as was true for anger, the Comorbid group were more differentiated from the Normal group across all 6 CDI measures. Also, similar to the STAXI C/A anger measure findings, the Comorbid group SD's and alpha coefficients for the *CDI Total Score* scale and five subscales were commensurate with those of the other two clinical groups.

#### *Comparison of the Responses of the Normal and Clinical Groups to the Anxiety Measure*

The means, standard deviations, and alpha coefficients for the PANX state and trait anxiety scales for the Normal and Clinical groups are presented in Table 9. Similar to the findings for anger and depression, the alpha coefficients and SD's across the *S-Anxiety* and *T-Anxiety* scales were somewhat higher for the Clinical group (.86 & .83, respectively) than for the Normal group (.80 to .78). As might be expected, the Clinical group exhibited a wider range of variability in terms of the anxiety they reported at the time of responding to the questionnaire (*S-Anxiety*, SD = 4.90) as compared to the Normal group (SD = 3.82). The correlations (See Table 10) between the PANX scales state and trait anxiety were higher for the Clinical group (.45) than for the Normal group (.25).

Guided by the previously reported MANOVA indicating substantial main effects for Group [Pillai's Trace = .184,  $F(7, 486) = 15.64$ ,  $p < .001$ ] and Gender [Pillai's Trace = .057,  $F(7, 486) = 4.20$ ,  $p < .001$ ], ANOVA's were computed, the results of which are reported in Table 6. The F-tests for the main effect for Group revealed that the Clinical group mean scores were significantly higher on *S-Anxiety* ( $F(1, 492) = 83.32$ ,  $p < .001$ ) but not for *T-Anxiety*. This *S-Anxiety* finding is clearly the largest difference found in this study, across all the anger, depression, and anxiety scales and subscales F-Tests. The

effect for Gender (See Table 6) was that both the Normal and Clinical group female responses produced significantly higher ( $p < .001$ ) *T-Anxiety* mean scores. This suggests that both Normal and Clinically referred females report experience feeling anxiety more frequently than do their male peers.

*Comparison of the Responses of the Normals, A/H, and D/S Groups on the Anxiety Measure*

The means, standard deviations, and alpha coefficients for the PANX anxiety scales of the Normal, A/H, D/S, and Comorbid groups, are presented in Table 11. As previously done, the former three groups shall be discussed in terms of these characteristics, to be followed by comparison of the Comorbid group to these three groups. Similar to the findings for the depression measure, while the total Clinical group produced higher anxiety scale alphas, when the A/H and D/S samples were broken out, only the D/S sample continued to exhibit comparatively higher alphas as compared with the Normal group. This makes sense in light of the A/H group's lower SD's when compared to the D/S group.

It is interesting to note that, as compared to the Normal group, even though the A/H group had a higher S-Anxiety SD (4.33) than did the Normal group (SD = 3.82), the A/H alpha (.73) was slightly lower than for the Normal group (.80). Similar to the findings for the Normal versus Clinical group, the correlations for the PANX state and trait anxiety scales were higher for both clinical subgroups (A/H,  $r = .35$ ; D/S,  $r = .45$ ) as compared to the Normal group ( $r = .25$ ).

Guided by the previously reported MANOVA, indicating substantial main effects for Group [Pillai's Trace = .193,  $F(14, 944) = 7.19$ ,  $p < .001$ ], with no main or

interaction effects found, ANOVA's were computed, the results of which are reported in Table 11. The same two effects found for the Normal versus Clinical groups comparisons were found in the 3-way comparison. The HSD tests indicated the D/S group's *S-Anxiety* mean score was significantly higher ( $p < .05$ ) than for the A/H group, and significantly greater than the Normal group mean ( $p < .001$ ). No significant difference in *T-Anxiety* was found.

The greater amount of anxiety shown at the time of response by the D/S versus the A/H inpatients fits with the general psychodynamic conceptualization of depressives as more anxious than aggressive children. However, this conceptualization posits that this is more of a trait-like difference (not simply a momentary characteristic), and this is why the final hypothesis in this study (*Hypothesis 5*) speculated that a significantly higher D/S *T-Anxiety* group mean would indicate they more frequently experienced anxiety than did the A/H group participants. However, no significant differences in *T-Anxiety* were found.

Similar to the *T-Anxiety* main Gender effect (See Table 9) where Normal and Clinical female mean scores were higher, the female A/H ( $M = 18.71$ ), D/S ( $M = 20.27$ ) and Normal ( $M = 20.08$ ) means scores suggested that across all three groups females reported more frequently experiencing anxiety than the male [A/H ( $M = 17.00$ ), D/S ( $M = 17.83$ ), and Normal ( $M = 18.22$ )] respondents. This suggests that both Normal and clinically referred females experience anxiety more frequently than do their male peers. Given the previously stated data about the greater depression (and by extension, anxiety) prevalence rates among females (children and adults), this makes sense. But follow-up validation of these conjectures is critical. Finally, the impact of the Comorbid group on the A/H, D/S, and Normal anxiety findings were similar to what held true for anger and

depression mean score findings; the Comorbid group was a contributor to the differentiation of the Clinical group from the Normal group and was more different from the Normal group than either the A/H and D/S subgroups.

## Discussion

The main goals of this study were to evaluate anger, depression, and anxiety in children and adolescents with aggressive/homicidal (A/H) and depressive/suicidal (D/S) problems, and to compare these two clinical groups with each other and with normal children and adolescents (Normals). After analyzing the data, it was decided that the main goals of the study would be best addressed if the total Clinical group, composed of the A/H, D/S, and Comorbid groups, was compared to the Normal group first, to be followed by comparisons of the A/H and D/S clinical subgroups with the Normal group to facilitate hypothesis testing.

The initial comparison of the Normal group to the inpatient child Clinical group in the experience, expression, and control of anger, as measured by the STAXI C/A scales and subscales, indicated the children admitted to the Crisis Center were experiencing significantly more anger at the time of their response, as measured by the *S-Anger* scale. Upon closer inspection, it was determined that the major contributor to this difference was the Comorbid group, whose means pushed the Clinical group further away from the Normal group. This suggested that a general tendency among Clinicals was to experience unprovoked anger more frequently (*T-Anger/Temp*) and also, to use verbal or physical means to aggressively expression anger (*Anger-Out*) more frequently.

In contrast, even with the inclusion of the Comorbid group scores, the Clinical group did not significantly differ from the Normal group in terms of the frequency with which they suppressed anger (*Anger-In*), nor were there any significant differences between the Normal and Clinical groups on the two anger control scales. The absence of an *Anger-In* difference was potentially explainable insofar as the A/H group was expected to be low on suppression while the D/S group was expected to be high on anger suppression: thus, theoretically, their scores would cancel each other out. This would disallow the “collective” Clinical group mean from moving away from the Normal group mean.

The Clinical group was then broken into subgroups whose participants were assigned into them after intake counselors conducted a brief evaluation, which primarily focused on investigating some manifested emotional/behavioral problem(s) which caused an adult (e.g., parent, police officer, etc.) to bring the child in for evaluation. Children assigned to the A/H and D/S groups were compared with the Normal sample, while the Comorbid group was excluded from statistical analyses to facilitate hypothesis testing. As analyses moved from comparing the mean scale scores of Normal and Clinical groups responding to anger, depression, and anxiety measures, to comparing Normals with the clinical subgroups (A/H and D/S), a consistent pattern emerged. Through the course of analyses of each clinical construct, the significant differences between the Normal and Clinical groups would either disappear or become less robust. Inspection of the Comorbid group means revealed they were the furthest away from the Normal group, and thus, when the A/H and D/S groups were independently compared to the Normal group,



they stood out less than when they were pulled away from the Normal group as part of the Clinical collective.

For example, the A/H, D/S, and Normal group STAXI C/A mean scale score comparisons resulted in the disappearance of the significant differences for the three state and one trait anger that the Clinical group was significantly higher on, as compared with each other and to Normals. No significant differences were found between the A/H and D/S clinical subgroups and the Normals, in terms of the immediate (*S-Anger*) and general frequency of anger experience (*T-Anger*). In contrast, both the A/H and D/S groups were expected to be higher in *T-Anger*, as speculated in *Hypotheses 1* and *Three*. The rationale behind the A/H speculation was that since participants assigned into the A/H group had displayed some sort of aggression toward the environment (the criteria for assigning them into the A/H group). This speculation fit with those such as of Clay et al. (1993).

At the same time, it was believed that the D/S group would be higher in T-Anger since the anger they were theorized to be turning anger toward themselves also was believed to be accompanied by frequent experiences of anger. This speculation was based on the results of several studies including those by Hagglund (1999) and Lehnert and Spirito (1990). Paradoxically, the D/S group reported expressing anger outwardly significantly more frequently (*Anger-Out*) than their A/H counterparts, whereas it was believed that the A/H group would be higher than the Normal group on this scale (*Hypothesis 5*).

There were also several anger expression scale hypotheses for *Anger-In*, the conceptual counterpart to the already discussed *Anger-Out* scale. For example, it was

hypothesized that the D/S group, based on their assumedly more frequent experience of anxiety, would suppress anger more frequently (*Anger-In*) than both the A/H group and the Normal group (speculations nested within *Hypotheses 3 and 4*). No significant differences were found, and the D/S mean was actually the lowest of the three groups. It was also hypothesized that the D/S group would report suppressing anger significantly more than the A/H group (*Hypothesis 2*), but no difference was found.

The absence of differences has also been noted by other researchers, such as Rudolph and Clark (2001), who upon obtaining a similar finding offered the post hoc hypothesis that depressives may actually more frequently suppress anger, but due to their defensiveness, do not report doing so. The problem of invalid self-report scores due to defensiveness or denial is a commonly mentioned weakness of self-reports: however, others argue that phenomena such as defensiveness and particular defense mechanisms can be measured (Spielberger & Reheiser, 2003).

The only significant finding for the STAXI C/A anger control scales was that the A/H group reported significantly more frequently controlling their outward expression of anger (*Anger-Control/Out*). This was in direct contrast to *Hypothesis 4*, which speculated the D/S group would report more frequently controlling their outward expression of anger (as compared to the A/H group) due to the blocking effects of their frequently experienced anxiety. These data contribute to concern about the validity of the assignment procedures.

The initial comparison of the Normal group to the Clinical group on differences in depression as measured by the CDI scale and subscales indicated that the child Clinical inpatient group mean *CDI Total Score* was significantly higher than for the Normal

group. Three of the five subscales contributing to the *CDI Total Score* mean also were significantly higher for the Normal group. Specifically, the Clinical group mean scores were significantly higher than those of the Normal group, for the scales designed to assess negative feelings toward others (*Interpersonal Problems*), sadness (*Negative Mood*), and negative self-evaluation (*Negative Self Esteem*). However, similar to before, upon closer inspection it was determined that the Comorbid group was a major contributor to these differences.

The A/H, D/S, and Normal groups were then compared, and the previous *CDI Total Score* difference was no longer significant, and the subscale mean differences were much less robust. It is interesting that the D/S was not significantly different from the Normal group in terms of their *Total CDI Score*, which provided further reason to question the validity of the group assignments. However, one of the criticisms of the *CDI* has been that it may lack the ability to discriminate between depressed and non-depressed youngsters (Brooks and Kutcher, 2003). Regardless, the D/S group did score significantly higher on the *Interpersonal Problems* and *Negative Self Esteem* scales, indicating the D/S group was differentiable from the Normal group at least in terms of some facets of depression as conceptualized by Kovacs (1992). Simultaneously, the D/S group was differentiable from the A/H group only in terms of their significantly higher *Negative Mood* mean score. Of note, the Comorbid group, for all six *CDI* measures, presented as the most depressed. The nature of Comorbid children as the most distressed fits with the findings of Rudolph and Clark (2001) who found children with both aggressive and depressive problems had higher *CDI* depression scores.

The common pattern in this study, where Normal versus Clinical significance findings disappeared (or weakened) when the clinicals were decomposed into subgroups, also emerged in terms of the main effect for Gender. While the female Clinical group means for the *CDI Total score, Negative Self Esteem, and Anhedonia* were significantly higher than the Normal group means, these differences became nonsignificant when the clinicals were broken up into subgroups. The meaning of the main Gender effects found in both the Normal versus Clinical and the 3-way comparison is difficult to interpret, since the CDI asks respondents to answer according to “how you have felt in the past two weeks including today”, an instruction format identical to the Beck Depression Inventory (BDI) which the CDI was modeled after. Specifically, it is not clear whether these gender differences indicate differentiability in terms of more state-like or trait-like depressive qualities. Regardless, that the females reported higher levels of depression is congruent with the general high rate of prevalence of depression prevalence rates favoring females 3 to 1.

Interestingly, it was through the measurement of anxiety that the Clinical group was most differentiable from the Normal group; the child Clinical inpatient group reported a significantly higher degree of *S-Anxiety*. This is expectable since regardless of the referral problem, the experience of being admitted (or held in) into a mental health unit is likely quite anxiety provoking. After separating the Clinical group into its A/H and D/S components, the D/S group mean score suggested a significantly higher intensity of *S-Anxiety*, as compared to the Normal and A/H groups, at the time of response. Though this result is congruent with the psychodynamic conceptualization of depressives

as more anxious, this finding fell short of supporting the proposition that the D/S group would report more frequent experience of anxiety (*T-Anxiety*) generally.

Thus, one overall speculation is that the particular procedures used to classify the children into groups resulted in the detection of very few statistically significant findings across the STAXI C/A, PANX, and CDI scale and subscales. Specifically, the A/H and D/S groups mean scores were statistically differentiable from each other in the following ways only. In terms of anger, the D/S respondents reported significantly more frequently expressing anger outwardly, using verbally or physically aggressive behavior, and significantly less frequently controlling the outward expression of anger than did the A/H respondents. The D/S groups also reported a significantly more intense negative mood (CDI) and were significantly more anxious during the time they responded to the measures at the crisis center than the A/H group.

This study involved the effort to differentiate the A/H, D/S, and Normals groups from each other. The hypothesized differences were all unsupported, and several of the findings were paradoxical, which contributed to concern regarding the intake counselors' assignments, which involved no use of psychometric data. The failure to differentiate children with A/H and D/S problems, based on their anger, depression, and anxiety scores, is not surprising since even experienced clinical researchers have trouble differentiating these groups when so-called state-of-the-art measures have been used in the past to try and differentiate children with these kinds of problems (Plutchik, 1999).

The type of minimalistic assessment procedure used in this study, where psychometric measures are not used for the purpose of conceptualization, suggests the superficiality of the evaluation procedure used at this and other crisis centers to guide

categorization and treatment decisions. In many ways, the assignment of patients into groups based on casual observation, minimal background information, and the absence of comprehensive assessment data, reflects the problems with psychiatric classification systems which often lack reliability and validity but are sometimes solely relied upon for explaining behavior.

It is very interesting that the self-reports of the children produced not just a failure to support the hypotheses but, in some cases, data that went in the opposite direction than was speculated. The A/H group response pattern was particularly illustrative of this incongruence. Even though each of the A/H children was presented at the Crisis Center due to some incident of verbal or physical aggression expressed at some person or object in the environment, they reported lower *S-Anger*, as well as less frequent experiences of anger (*T-Anger*), as compared to Normals. The A/H group also, reportedly, expressed anger outwardly (*Anger-Out*) no more frequently, and tried to calm down no less frequently (*Anger-In*), than the D/S and Normal group. Perhaps the most interesting finding was that the A/H group reported significantly more frequently trying to control outward expressions of anger (*Anger-Control/Out*) than did the D/S group.

The only finding that came near to what was expected for the A/H group was in terms of their lower level of *T-Anxiety*, which fit with the psychodynamic conceptualization of them as less inhibited by anxiety than depressives, but this difference was not significant. Moreover, all the other anger findings for the A/H group were unexpected or intriguing. Either the A/H group is not truthfully reporting, or they actually more frequently were controlling their outward expression of anger more than the depressives. This is to say, it might be conjectured that the A/H group reports

produced a lower *T-Anger* mean because in general they employ denial as a defense mechanism whereby the presence of anger is put out of awareness until it forcibly erupts. These eruptions would potentially force the A/H participants to put more energy toward controlling their anger than the D/S and Normal groups. While the A/H group mean was higher than the D/S group mean for *Anger-Control/Out*, this postulation does not explain why no differences were found between the A/H and the Normals groups. Closer examination of intake information might provide a means of determining whether the A/H participants tended to manifest more explosive (or impulsive) types of behavior as compared to depressives.

To understand the A/H group further, it also seems important to determine why, for example, this group's responses produced a very low alpha (.41) on the *T-Anger Reac* subscale, which was markedly lower than for the D/S (.75) or Normal (.68). It may be possible that the individual respondents produced inconsistent answers, possibly because there was something about a question or questions they did not understand. Inspection of item characteristics for this scale will help solve this riddle. Finally, there were also a few pairs of scales that were quite differently correlated for the A/H respondents as compared to the other two groups. Further examination of these differences might help explain the response pattern of this group.

Like the A/H group, the Comorbid group was interesting for many reasons. First, it was interesting that the ratio of Comorbid children presenting with problems relating to both aggression toward the environment (A/H) and toward themselves (D/S) were as numerous as those brought in who manifested anger toward the environment only (i.e., A/H). It would be interesting to further review the intake records to determine if, for

example, those assigned to the A/H group also had in the past directed anger toward themselves, since the literature would indicate that they also would have this problem.

Secondly, the Comorbid group played a key role in the differentiation among the groups in this study. Specifically, they contributed to the differentiation of the Clinicals from the Normals, and then stood out as the furthest from the Normals when their data were separated from the other two clinical groups. Clearly, across all three measures, the Comorbid group was the most distressed looking. In terms of anger, for example, they had the most extreme scores in relation to the Normals on 9 of the 10 STAXI C/A measures. That is, they reported higher state and trait anger, higher frequency of outward expression of anger, and less frequent control of outward anger, and fewer efforts to cool down on the inside. And interestingly, the Comorbid group was sometimes, such as in the case of *S-* and *T- Anger*, further away from their clinical counterparts than these groups were from the Normals. This group is critical to study as their mixture of anger, depression, and anxiety could be considered indicative of children who are the most distressed and in the most at-risk for further psychological difficulties.

This study had several limitations, the main one being the likely lack of validity of the assignment procedures. However, the author allowed the typical procedure used by the crisis center to guide the assignment process to test its validity, providing important findings that could then address the problems with such an assignment system. Another major limitation was the inequality of group sizes, resulting in the A/H group being one-fourth the size of the D/S group. This raises several questions, including to what degree this small sample represented the actual population of children in the real world with aggressive/homicidal problems. Interestingly, the efforts to reconcile this problem



through extension of the duration of the data collection were unsuccessful. The reason was the ratio of children presenting with only aggression was quite low compared to children who presented with depressive/suicidal problems alone. There are several reasons why this may be, one of them having to do with the way in which fictitious reporting may be reinforced by legal regulations. Specifically, children who have committed serious acts involving aggression often know (if they have been in the mental health system before) that they can put off their arrival at a legal holding facility by reporting suicidal ideation. Once children report suicidal ideation, they must be assessed at a mental health facility. Staff at the Crisis Center reported to the author that, based on their long-term experience, this is not an infrequent occurrence.

One measurement-related limitation is worth highlighting. Specifically, as mentioned before, the CDI instructions ask respondents to answer according to how you have felt “in the past two weeks including today” when answering questions. Thus, unlike the state and trait anger and anxiety measures used in this study, the CDI did not clearly assess for either temporal dimension, leaving unresolved the question of whether any differences found related more strongly to more ephemeral state-like characteristics or relatively stable trait like qualities. Accounting for this distinction becomes a poignant issue when, as in this study, there are significant phenomena in one temporal domain but not the other, as in the case of a *S-Anxiety* but not a *T-Anxiety* finding for the depressive group. The CDI has a questionable psychometric structure. While most studies of the CDI psychometric structure have indicated that one depression factor (*CDI Total Score*) accounts for a significant portion of the variance (e.g., Kovacs, 1992; Weiss and Wesiz, 1988), large scale studies of clinic referred youngsters found that the factor structure and

item loadings differed for children (8 – 12 years,  $N = 515$ ) versus adolescents (13-16 years,  $N = 768$ ).

This study provides greater understanding of the problems with categorizing children based on minimal assessment information. Especially with children who often have complex psychological histories, it is critically important for the shortcomings of “quick and dirty” categorizing to be recognized so that the true nature of the child’s emotional dynamics are not obfuscated by reliance upon common sense beliefs about children who behave in a particular manner.

Regardless of the lack of differences found between the A/H and D/S clinical subgroups in this study, important data were obtained regarding how these child Clinical participants differ from a Normal group. Of course, these findings require further validation. But the findings, some expected, but most surprising, indicate the importance of assessing not only the problems but the child’s view of their problems. As this study suggests, the child’s view of their problems may differ from those who see the child through their problem behavior. Regardless of the classifications children are given, assessment tools such as the STAXI C/A are calibrated to measure phenomenon such as anger that help a clinical conceptualization account not just for the child’s problems, but the problems as perceived by the individual child.

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## Appendices



Appendix A:

Table 1: Demographics characteristics of the study groups

Group	Normals	C	AH	DS
<b>Sex</b>				
Female	224 (53%)	76 (54%)	7 (29%)	61 (64%)
Male	198 (47%)	64 (46%)	17 (71%)	35 (36%)
<b>Age</b>				
9-10	62 (15%)	5 (4%)	3 (13%)	2 (2%)
11-12	63 (15%)	14 (10%)	6 (25%)	7 (7%)
13-14	88 (21%)	49 (35%)	9 (37%)	31 (32%)
15-16	117 (28%)	51 (36%)	6 (26%)	39 (41%)
17-19	92 (21%)	21 (15%)	0	17 (18%)
<b>Grade</b>				
4-6	117 (27%)	14 (10%)	6 (26%)	6 (6%)
7-9	127 (31%)	76 (53%)	13 (53%)	51 (54%)
10-12	168 (42%)	41 (29%)	3 (12%)	33 (35%)
<b>Background</b>				
AA	178 (42%)	26 (19%)	5 (21%)	16 (17%)
Hispanic	77 (18%)	14 (10%)	1 (4%)	6 (6%)
Caucasian	90 (21%)	95 (68%)	16 (67%)	71 (74%)
Other	75 (18%)	5 (4%)	2 (8%)	3 (3%)

Appendix A: (Continued)

Table 2. Brief conceptual overview of the STAXI C/A

Scale/Subscale	# of Items	Scale/ Subscale Range	Description of scale/subscale
State Anger	10	10-30	Measures the intensity of angry feelings and the extent to which a person feels like expressing anger at a particular time
Feeling Angry	5	5-15	Measures the intensity of the angry feelings the person is currently experiencing
Feel Like Expressing	5	5-15	Measures the intensity of current feelings related to verbal /physical anger expression
Trait Anger	8	8-24	Measures how often angry feelings are experienced over time
Angry Temperament	4	4-12	Measures the disposition to experience anger without specific provocation
Angry Reaction	4	4-12	Measures the frequency that angry feelings are experienced in situations that involve frustration and/or negative evaluations
Anger Expression-Out	5	5-15	Measures how often angry feelings are expressed in verbally or physically aggressive behavior
Anger Expression-In	5	5-15	Measures how often angry feelings are experienced but not expressed (suppressed)
Anger Control-Out	5	5-15	Measures how often a person controls the outward expression of angry feelings
Anger Control-In	5	5-15	Measures how often a person attempts to control angry feelings by calming down or cooling off

Appendix A: (Continued)

Table 3. Psychometric properties of the STAXI C/A (N=944)

<b>Scales &amp; subscales</b>	<b>#</b>	<b>X</b>	<b>SD</b>	<b><math>\alpha</math></b>
State Anger	10	13.68	4.45	.88
S-Ang/Feelings	5	7.12	2.49	.82
S-Ang/FX	5	6.66	2.40	.82
Trait Anger	8	15.59	3.59	.78
T-Ang/Temper.	4	6.99	2.17	.75
T-Ang/Reaction	4	8.60	2.09	.70
Anger-Out	5	9.03	2.48	.70
Anger-In	5	9.03	2.49	.72
Anger-Control/Out	5	10.53	2.59	.77
Anger-Control/In	5	10.56	2.59	.76

Appendix A: (Continued)

Table 4. Summary of presenting problems used by counselors

11. Presenting Problems. Describe fully the current problems, onset and intensity, recent stressors, etc. Include actual statements of consumer and others.

Consumer: \_\_\_\_\_

Other: \_\_\_\_\_

12. Other current problems (e.g., describe chronic psychiatric problems or other factors that contributed to the presenting problem.)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

13. Presenting Problems Summary

Based on items #11 and #12 above, rank the consumer's top 3 problems from the list below (Write #1 next to the main presenting problem, #2 and #3 by additional problems)

- \_\_\_\_\_ Recent or Current suicidal ideation/gesture
- \_\_\_\_\_ Depression
- \_\_\_\_\_ Homicidal ideation/aggressive behavior directed toward others
- \_\_\_\_\_ Other aggressive behavior (not directed toward others)
- \_\_\_\_\_ Other behavior problems (truancy, oppositional, etc.)
- \_\_\_\_\_ Drug/alcohol abuse
- \_\_\_\_\_ Physical/sexual abuse
- \_\_\_\_\_ Family problems/conflicts
- \_\_\_\_\_ Psychotic symptoms
- \_\_\_\_\_ Other: \_\_\_\_\_

Appendix A: (Continued)

Table 5. Mean, SD, and Alpha levels of the Anger (STAXI C/A) scales and subscales for the Normal and Clinical children and adolescents, and F tests for differences between groups

Scales	Items	Normal (N=353)			Clinical (N=123)			F Tests		
		X	SD	$\alpha$	X	SD	$\alpha$	N vs C	Gen	Int
S-Anger	10	13.50	4.23	.87	14.83	5.65	.94	7.25**	.31	.41
S-Ang/FL	5	6.98	2.38	.81	7.59	2.85	.88	5.17*	.02	.14
S-Ang/FX	5	6.51	2.28	.80	7.24	3.08	.92	7.31**	.81	.65
T-Anger	8	15.41	3.43	.75	15.74	4.15	.85	.84	.05	.19
T-Anger/T	4	6.88	2.10	.72	7.49	2.38	.84	7.10**	.02	.15
T-Anger/R	4	8.53	2.03	.68	8.25	2.30	.73	1.37	.28	.13
Anger-Out	5	8.74	2.34	.66	9.57	3.14	.86	8.66**	.00	1.84
Anger-In	5	9.05	2.56	.71	9.08	2.78	.78	.02	.28	.04
Anger-C/O	5	10.76	2.62	.76	10.21	2.98	.86	3.53	.01	.10
Anger-C/I	5	10.94	2.62	.76	10.61	3.30	.91	.84	.31	3.37

Appendix A: (Continued)

Table 6. Pearson r correlations between the STAXI C/A scales and subscales for the Normal (N=353) and Clinical (N=123) groups

Scales	S-Anger	S-Ang	S-Ang/FX	T-Anger	T-Anger /Tem	T-Anger /React	Anger-Out	Anger-In	Anger-Contro /Out									
S-Anger																		
S-Ang/FL	.91	.95																
S-Ang/FX	.90	.96	.65	.82														
T-Anger	.51	.59	.47	.55	.46	.58												
T-Ang/T	.52	.58	.50	.54	.45	.56	.84	.89										
T-Ang/R	.31	.48	.27	.43	.31	.47	.83	.88	.38	.58								
Anger-O	.43	.52	.37	.48	.43	.52	.66	.78	.65	.75	.47	.62						
Anger-I	-.01	.13	.01	.15	-.20	.10	-.06	.08	-.12	.10	.02	.04	-.25	-.08				
Ang-C/O	-.20	-.39	-.19	-.36	-.18	-.39	-.32	-.47	-.40	-.43	-.13	-.40	-.46	-.52	.45	.29		
Anger-C/I	-.14	-.42	-.09	-.42	-.15	-.38	-.10	-.35	-.19	-.37	.02	-.25	-.30	-.43	.41	.24	.62	.73

Appendix A: (Continued)

Table 7. Mean, SD, and Alpha levels of the Anger (STAXI C/A) anger scales and subscales for the Normal, aggressive/homicidal (A/H), depressive/suicidal (D/S), and Comorbid clinical groups of children and adolescents, and F tests for differences between groups

Scales	Normal (N=353)			A/H (N=18)			D/S (N=87)			F Tests			Comorbid (N=18)		
	X	SD	$\alpha$	X	SD	$\alpha$	X	SD	$\alpha$	Group	Gen	Int	X	SD	$\alpha$
S-Anger	13.50	4.23	.96	12.78	4.75	.96	14.56	5.59	.94	1.58	.01	1.23	18.17	5.67	.93
S-Ang/FI	6.98	2.38	.85	6.72	2.49	.85	7.39	2.77	.88	.66	.04	.83	9.44	2.94	.86
S-Ang/FI	6.51	2.28	.95	6.06	2.36	.95	7.17	3.13	.92	2.27	.14	1.27	8.72	2.99	.88
T-Anger	15.41	3.43	.74	14.83	3.37	.74	15.68	4.07	.84	.42	.05	.47	16.94	5.10	.93
T-Ang/T	6.88	2.10	.81	7.28	2.22	.81	7.38	2.32	.82	1.19	.30	1.60	8.22	2.78	.94
T-Ang/R	8.53	2.03	.41	7.56	1.62	.41	8.30	2.35	.75	1.91	.04	.04	8.72	2.54	.79
Anger-O	8.74	2.34	.84	8.94	2.84	.84	9.63	3.16	.87	2.86*	.01	1.97	9.89	3.39	.88
Anger-I	9.05	2.56	.73	9.33	2.61	.73	9.00	2.86	.81	.07	.50	.42	9.22	2.65	.67
A-Con/O	10.76	2.62	.74	11.78	2.18	.74	10.10	3.02	.87	3.34*	.34	.62	9.17	3.00	.87
A-Con/I	10.94	2.62	.87	11.56	2.71	.87	10.66	3.46	.93	.64	.02	3.40	9.44	2.85	.81

Appendix A: (Continued)

Table 8. Pearson r correlations between the STAXI C/A scales and subscales for the normal (N=353), aggressive/homicidal (N=18) and depressive/suicidal (N=87) clinical subgroups

Scales	S-Anger	S-Ang/FL	S-Ang/FX	T-Anger	T-Ang/Tem	T-Ang/React	Anger-In	Anger-Out	Anger-Control Out																		
S-Anger/FL	<i>.91</i>	<i>.98</i>	<i>.94</i>																								
S-Anger/FX	<i>.90</i>	<i>.98</i>	<i>.95</i>	<i>.65</i>	<i>.91</i>	<i>.80</i>																					
T-Anger	<i>.51</i>	<i>.45</i>	<i>.56</i>	<i>.47</i>	<i>.42</i>	<i>.50</i>	<i>.46</i>	<i>.45</i>	<i>.56</i>																		
T-Anger/T	<i>.52</i>	<i>.50</i>	<i>.52</i>	<i>.50</i>	<i>.48</i>	<i>.47</i>	<i>.45</i>	<i>.49</i>	<i>.52</i>	<i>.84</i>	<i>.91</i>	<i>.87</i>															
T-Anger/R	<i>.31</i>	<i>.25</i>	<i>.45</i>	<i>.27</i>	<i>.22</i>	<i>.41</i>	<i>.31</i>	<i>.27</i>	<i>.45</i>	<i>.83</i>	<i>.83</i>	<i>.87</i>	<i>.38</i>	<i>.53</i>	<i>.52</i>												
Anger-O	<i>.43</i>	<i>.47</i>	<i>.49</i>	<i>.37</i>	<i>.51</i>	<i>.42</i>	<i>.43</i>	<i>.40</i>	<i>.50</i>	<i>.66</i>	<i>.73</i>	<i>.75</i>	<i>.65</i>	<i>.83</i>	<i>.70</i>	<i>.47</i>	<i>.37</i>	<i>.61</i>									
Anger-I	<i>-.01</i>	<i>.25</i>	<i>.11</i>	<i>.01</i>	<i>.30</i>	<i>.14</i>	<i>-.20</i>	<i>.19</i>	<i>.06</i>	<i>-.06</i>	<i>.08</i>	<i>.08</i>	<i>-.12</i>	<i>.27</i>	<i>.05</i>	<i>.02</i>	<i>-.20</i>	<i>.08</i>	<i>-.25</i>	<i>.26</i>	<i>-.16</i>						
Anger-C/O	<i>-.20</i>	<i>-.23</i>	<i>-.37</i>	<i>-.19</i>	<i>-.26</i>	<i>-.32</i>	<i>-.18</i>	<i>-.19</i>	<i>-.37</i>	<i>-.32</i>	<i>-.34</i>	<i>-.48</i>	<i>-.40</i>	<i>-.22</i>	<i>-.47</i>	<i>-.13</i>	<i>-.41</i>	<i>-.36</i>	<i>-.46</i>	<i>-.49</i>	<i>-.54</i>	<i>.45</i>	<i>.40</i>	<i>.28</i>			
Anger-C/I	<i>-.14</i>	<i>-.55</i>	<i>-.38</i>	<i>-.09</i>	<i>-.57</i>	<i>-.36</i>	<i>-.15</i>	<i>-.50</i>	<i>-.36</i>	<i>-.10</i>	<i>-.23</i>	<i>-.33</i>	<i>-.19</i>	<i>.15</i>	<i>-.39</i>	<i>.02</i>	<i>-.28</i>	<i>-.19</i>	<i>-.30</i>	<i>-.15</i>	<i>-.45</i>	<i>.41</i>	<i>.16</i>	<i>.27</i>	<i>.62</i>	<i>.38</i>	<i>.77</i>

Note. Normal group scores in italics, followed by AH then DS scores.



Appendix A: (Continued)

Table 9. Mean, SD, and Alpha levels for the Depression (CDI) and Anxiety (PANX) scales and subscales for the Normal and clinical Children and adolescents, and F tests for differences between groups

Scales	Items	Normal (N=382)			Clinical (N=114)			F Tests		
		X	SD	$\alpha$	X	SD	$\alpha$	N vs C	Gen	Int
CDI Total	27	10.77	7.81	.87	13.92	10.81	.92	10.16**	8.60**	3.28
Anhedonia	8	3.90	2.88	.67	4.26	3.26	.71	.96	8.87**	.96
Ineffective	4	1.86	1.76	.61	2.07	2.13	.72	.88	.02	2.66
Inter. Prob.	4	.96	1.32	.58	1.47	1.63	.61	10.41**	.21	3.43
Neg. Mood	6	2.53	2.29	.69	3.65	3.30	.81	15.47***	14.87***	1.15
Neg. Self E	5	1.52	1.80	.68	2.46	2.52	.80	17.10***	8.06**	4.66*
S-Anxiety	10	15.40	3.82	.80	19.48	4.90	.86	83.32***	1.28	1.93
	10	19.23	4.27	.78	19.09	4.79	.83	.19	19.54***	.16

Appendix A: (Continued)

Table 10. Pearson r correlations between the PANX and CDI scales and subscales for the Normal (N=353) and Clinical (N =114) groups

Scales	S-Anxiety	T-Anxiety	Depression	Anhedonia	effectiveness	Inter. Prob	Neg. Mood	Neg. Self						
S-Anxiety														
T-Anxiety	.25	.45												
Total	.55	.51	.47	.67										
Anhedonia	.47	.38	.44	.64	.83	.88								
Ineffective	.34	.36	.24	.49	.71	.80	.45	.60						
Inter. Prob.	.37	.36	.04	.28	.65	.67	.42	.55	.50	.51				
Neg. Mood	.45	.50	.52	.64	.81	.89	.55	.74	.44	.61	.39	.47		
Neg. Self	.47	.49	.40	.61	.81	.87	.55	.68	.48	.67	.43	.47	.66	.75

Note. Normal group scores in grayscale.

Appendix A: (Continued)

Table 11. Mean, SD, and Alpha levels of the Depression (CDI) and Anxiety (PANX) scales and subscales for the normal Aggressive/homicidal (A/H), and Depressive/suicidal (D/S), and Comorbid clinical groups of children and adolescents, and F tests for differences between the groups

Scales	Normal (N=353)			A/H (N=20)			D/S (N=87)			F Tests			Comorbid (N = 13)		
	X	SD	$\alpha$	X	SD	$\alpha$	X	SD	$\alpha$	Group	Gen	Int	X	SD	$\alpha$
CDI Total	10.77	7.81	.90	10.75	9.70	.90	14.27	10.75	.92	2.92	2.56	4.29*	16.62	12.49	.93
Anhedonia	3.90	2.88	.55	3.85	2.96	.55	4.27	3.29	.72	.05	2.17	2.37	4.85	3.69	.79
Ineffective	1.86	1.76	.63	2.15	2.16	.63	1.93	2.04	.74	.83	.03	3.46*	2.92	2.53	.69
Inter. Prob.	.96	1.32	.56	1.15	1.66	.56	1.52	1.61	.60	3.76*	.004	1.98	1.69	1.75	.66
Neg. Mood	2.53	2.29	.59	1.95	2.04	.59	3.96	3.45	.84	8.02***	6.67*	1.65	4.31	3.88	.80
Neg. Self E	1.52	1.80	.83	1.65	2.37	.83	2.59	2.45	.79	5.97**	1.50	5.45**	2.85	3.11	.82
S-Anxiety	15.40	3.82	.73	16.90	4.33	.73	19.84	5.01	.88	35.88***	1.65	.95	21.23	3.68	.77
T-Anxiety	19.23	4.27	.71	17.60	3.73	.71	19.40	4.92	.84	.80	6.98**	.15	19.46	5.30	.86

Appendix A: (Continued)

Table 12. Pearson r correlations between the PANX and CDI scales and subscales for the Normal (N=353), Aggressive/homicidal (N=20) and Depressive/suicidal (N=81) clinical groups

Scales	S-Anxiety	T-Anxiety	S-T Depression		Anhedonia	Ineffective	Inter. Prob.	Neg. Mood	
S-Anxiety									
T-Anxiety	<i>.25</i>	<i>.35</i>	<i>.45</i>						
Total Dep	<i>.55</i>	<i>.52</i>	<i>.48</i>	<i>.47</i>	<i>.50</i>	<i>.69</i>			
Anhedonia	<i>.47</i>	<i>.30</i>	<i>.38</i>	<i>.44</i>	<i>.53</i>	<i>.66</i>	<i>.83</i>	<i>.84</i>	<i>.90</i>
Ineffective	<i>.34</i>	<i>.45</i>	<i>.32</i>	<i>.24</i>	<i>.51</i>	<i>.51</i>	<i>.71</i>	<i>.94</i>	<i>.79</i>
Inter. Prob.	<i>.37</i>	<i>.48</i>	<i>.33</i>	<i>.04</i>	<i>.31</i>	<i>.27</i>	<i>.65</i>	<i>.90</i>	<i>.60</i>
Neg. Mood	<i>.45</i>	<i>.44</i>	<i>.48</i>	<i>.52</i>	<i>.63</i>	<i>.65</i>	<i>.81</i>	<i>.89</i>	<i>.90</i>
Neg. Self	<i>.47</i>	<i>.62</i>	<i>.45</i>	<i>.40</i>	<i>.16</i>	<i>.65</i>	<i>.81</i>	<i>.79</i>	<i>.90</i>
	<i>.55</i>	<i>.41</i>	<i>.74</i>	<i>.48</i>	<i>.77</i>	<i>.70</i>	<i>.43</i>	<i>.72</i>	<i>.44</i>
	<i>.66</i>	<i>.61</i>	<i>.80</i>						

Note. Normal group scores in italics, followed by A/H, then D/S on far right

### About the Author

Dr. Thomas Brunner received his Bachelor's Degree in Philosophy and Political Science from Tulane University in 1993. He then retrained in psychology at the University of Arizona and then obtained a Ph.D. in Clinical Psychology from the University of South Florida in 2004. He completed his clinical internship at the University of Florida Health Sciences Center. Dr. Brunner has coauthored several articles and has presented locally and nationally on assessment related projects he has developed with Charles Spielberger, Ph.D, ABPP, Professor Emeritus. They are currently in the process of publishing the State Trait Anger Expression Inventory for Children and Adolescents (STAXI C/A). Dr. Brunner is also currently teaching and further developing his clinical interests in anger, depression and anxiety, especially as they manifest in children and adolescents. He is currently working in a postdoctoral position with the Hillsborough County School System in Tampa, Florida.