INTERNALIZING SYMPTOMS IN A SAMPLE OF
NATIVE AMERICAN ADOLESCENTS

by

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ABSTRACT

Internalizing Symptoms in a Sample of
Native American Adolescents

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Internalizing disorders can have negative effects ranging from diminished self-esteem to suicidal thoughts and behaviors. Native American children and adolescents often face pressures that put them at increased risk for the development of internalizing disorders, yet research within this population is almost nonexistent.

Given the serious implications of and the lack of research on internalizing disorders among this minority group, the present study was designed to provide information on the rate of internalizing symptoms in a sample of Native American adolescents, and provide normative data utilizing this sample for the Internalizing Symptoms Scale for Adolescents. Data were collected using the Internalizing Symptoms Scale for Adolescents, the Reynolds Adolescent Depression Scale, the Revised Children’s Manifest Anxiety Scale, and the State-Trait Anxiety Inventory for Children.

Findings indicate that the Native American sample of adolescents are endorsing
clinically significant levels internalizing symptoms at rates similar to those found in the general population.
DEDICATION

I dedicate this thesis to my daughter, Krystin Cole Onstad, for her never ending support and selfless sacrifice for my dream.

Georgia Lee Matt
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For the encouragement and guidance that I received throughout this thesis project, I am deeply indebted to Drs. Susan Crowley and Carolyn Barcus. Not only did they give of their time and expertise, but they also provided the emotional support that made a positive impact on my academic success here at Utah State University. I would also like to thank Dr. Gretchen Gimpel for the valuable input that she provided as a committee member.

I would like to express my gratitude to the school board, administrators, teachers, counselors, and high school students who made data collection with a Native American adolescent sample possible.

To my family and friends, thank you for the support and encouragement that you’ve provided throughout my academic endeavor. To Krystin, thank you for the love, laughter, and encouragement that helped ease the stress of graduate school. Also, thank you for not letting me give up on my dream.

Georgia Lee Matt
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>ii</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>iv</td>
</tr>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>I.   INTRODUCTION AND PROBLEM STATEMENT</td>
<td>1</td>
</tr>
<tr>
<td>II.  REVIEW OF THE LITERATURE</td>
<td>6</td>
</tr>
<tr>
<td>Overview of Internalizing and Externalizing Disorders</td>
<td>6</td>
</tr>
<tr>
<td>Correlates of Internalizing Disorders</td>
<td>8</td>
</tr>
<tr>
<td>Comorbidity Among Internalizing Disorders</td>
<td>16</td>
</tr>
<tr>
<td>Tripartite Model of Anxiety and Depression</td>
<td>17</td>
</tr>
<tr>
<td>Assessment of Internalizing Disorders</td>
<td>18</td>
</tr>
<tr>
<td>Internalizing Symptoms Scale for Adolescents</td>
<td>24</td>
</tr>
<tr>
<td>Summary</td>
<td>24</td>
</tr>
<tr>
<td>Purpose and Objectives</td>
<td>25</td>
</tr>
<tr>
<td>III. METHODS</td>
<td>26</td>
</tr>
<tr>
<td>Participants</td>
<td>26</td>
</tr>
<tr>
<td>Instruments</td>
<td>26</td>
</tr>
<tr>
<td>Procedures</td>
<td>28</td>
</tr>
<tr>
<td>IV.  RESULTS</td>
<td>31</td>
</tr>
<tr>
<td>Preliminary Analysis</td>
<td>31</td>
</tr>
<tr>
<td>Rate of Self-Reported Internalizing Symptoms</td>
<td>31</td>
</tr>
<tr>
<td>Convergent Validity of Internalizing Symptoms Scale for Adolescents</td>
<td>35</td>
</tr>
<tr>
<td>V.   DISCUSSION</td>
<td>37</td>
</tr>
<tr>
<td>Review of Research Findings</td>
<td>37</td>
</tr>
<tr>
<td>Limitations of the Study</td>
<td>42</td>
</tr>
<tr>
<td>Recommendations</td>
<td>44</td>
</tr>
</tbody>
</table>
# REFERENCES

<table>
<thead>
<tr>
<th>Appendix A: Institutional Review Board Letter of Approval</th>
<th>58</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix B: Consent Form</td>
<td>59</td>
</tr>
<tr>
<td>Appendix C: Internalizing Symptoms Scale for Adolescents</td>
<td>60</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Grade and Gender Breakdown of Sample</td>
<td>26</td>
</tr>
<tr>
<td>2</td>
<td>Descriptive Statistics: ISSA</td>
<td>32</td>
</tr>
<tr>
<td>3</td>
<td>Clinical Status of Adolescents: ISSA</td>
<td>33</td>
</tr>
<tr>
<td>4</td>
<td>Descriptive Statistics of Native American Sample and Preliminary Data Sample</td>
<td>34</td>
</tr>
<tr>
<td>5</td>
<td>Correlations Between the ISSA and the Supplementary Scales</td>
<td>36</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION AND PROBLEM STATEMENT

Research on psychological disorders in children lags far behind that with adults. Although there were a few efforts in the 1940s at developing classifications of child psychopathology, it was not until the 1952 publishing of the American Psychiatric Association’s *Diagnostic and Statistical Manual (DSM)* that categories were provided for children within a taxonomic framework (Achenbach & Edelbrock, 1978). However, with merely two categories in the original DSM, adjustment reaction and childhood schizophrenia, many children with psychological problems were either unclassified or lumped into the very general category of adjustment reaction (Achenbach & Edelbrock, 1978). The past four to five decades have seen an increase in studies aimed at improving the diagnosis and treatment of childhood psychological disorders.

Today the most common taxonomy of pathology for children is the broad band categories of externalizing and internalizing dysfunctions (Ollendick & King, 1994). Externalizing disorders consist of behavior excesses, such as hyperactivity and aggression, which are readily observable in the child or adolescent (Cicchetti & Toth, 1991; Reynolds, 1990a). In contrast, internalizing disorders are manifest through more covert problems such as depression and anxiety (Merrell, Anderson, & Michael, 1997; Reynolds, 1990a).

Although not readily observed in children and adolescents, the effects of inner-directed problems, ranging from diminished self-esteem to suicidal thoughts and behaviors, are of serious concern (Cicchetti & Toth, 1991; Merrell et al., 1997; Reynolds,
1990b). Further, recent research suggests that internalizing disorders of childhood and adolescence are stable with long-term negative outcomes (Albano, Chorpita, & Barlow, 1996; Hammen & Rudolph, 1996; Ollendick & King, 1994). Considering the immediate and long-term negative effects of internalizing disorders, and with prevalence rates estimated at 5% of the general population of school-aged children (Merrell, 1999), internalizing disorders in children and adolescence are serious and in need of further attention.

To date, most research on internalizing disorders has focused on Caucasian children. Ethnic minority children often face issues very different than the majority of their Caucasian counterparts. Such challenges include low socioeconomic status (SES), inadequate health care, high rates of violence, teen pregnancy, and single parent households (U.S. Bureau of the Census, 1995a). These pressures may put minority children and adolescents at higher risk for developing internalizing disorders compared to Caucasian children.

Native American children and adolescents in particular share the challenges faced by other minority groups, many at rates exceeding those of other minority groups. Native American children and adolescents have higher high school drop-out rates (National Center for Education Statistics, 1994) and higher rates of abuse and neglect than any other racial or ethnic group (U.S. Department of Justice, 1999). Native Americans suffer more violent crime (e.g., rape/sexual assault, aggravated assault, and robberies) than other ethnic groups and are victims of murder at a rate second only to Blacks (U.S. Department of Justice, 1999). Traumatic loss of family and friends due to accidental and premature death is experienced at a rate much higher in Native Americans
than in the general population (Long, 1983). In addition, 36% of Native American children reside in single-parent households (U.S. Bureau of the Census, 1997) and approximately one third of Native Americans live below poverty level (U.S Bureau of the Census, 1995b). Current findings suggest that risk factors such as abuse, loss, and trauma have been linked to childhood psychological disorders (Bradley, 2000). Yet, despite the potential increased risk for the development of internalizing disorders, research on internalizing disorders in Native American children and adolescents is almost nonexistent. Thus, the prevalence rates of internalizing disorders in the Native American population is essentially unknown, but likely higher than the 4 - 6% generally reported for the general population.

Given the serious implications of internalizing disorders, accurate assessment is essential in determining proper intervention and monitoring changes in symptoms. Due to the subjective nature of the disorders, assessment has proven difficult. The covert, often unobservable, symptoms limit identification of children and adolescents by outside observers such as teachers and parents. Thus, the direct assessment of the child or adolescent through self-report measures provides an important source of information as part of the diagnostic battery (La Greca, 1990; Reynolds, 1990b).

Currently there are many self-report inventories with proven psychometric properties for the assessment of syndromes classified under internalizing disorders, such as anxiety and depression. However, the majority of these inventories are designed to assess only single, syndrome-specific disorders. More recently, research has revealed a high degree of comorbidity, or overlap of the narrow band syndromes within the internalizing domain (Cicchetti & Toth, 1991). For instance, the comorbidity of anxiety
and depression has been found to be as high as 61% (Brady & Kendall, 1992). Due to the high rate of comorbidity between the narrow band syndromes and the lack of discriminant validity within the domain specific self-report measures, there is a need for a measure to assess overall broad band internalizing problems (Merrell, Crowley, & Walters, 1997). In addition, because minority populations may differ in many respects from the majority population, validation with minority populations (e.g., Native American) is necessary and often lacking in current self-report inventories, leaving the validity of their use with minority populations in question.

The Internalizing Symptoms Scale for Adolescents (ISSA) is a recently developed self-report scale designed to assess the domain of broad band internalizing disorders. Unlike several other measures that were also designed to assess broad band disorders, such as the Youth Self Report (YSR) and the Behavior Assessment System for Children (BASC), the ISSA has incorporated the concept of negative and positive affectivity, believed to be a key distinguishing feature of anxiety and depression (Clark & Watson, 1991; Crowley & Merrell, 1997). In addition, unlike the YSR and BASC, the ISSA can be administered and scored in a short period of time, making it ideal for screening purposes. Thus, the ISSA may prove to be a valuable instrument in the assessment of internalizing disorders in adolescents. However, the lack of available data limits the utility of the ISSA at this time. The psychometric properties of the ISSA with a variety of populations, including Native American, are needed before the ISSA can broadly be used for clinical and research purposes.

Due to the lack of research on internalizing disorders in Native American children and adolescents and the need for Native American representation in the normative
sample for the ISSA, the purpose of the present study is twofold: (a) to determine the level of self-reported internalizing symptoms in a group of Native American adolescents residing on an Indian reservation in Montana as measured by the ISSA, thus providing normative information on Native American adolescents for the ISSA; and (b) to assess the concurrent validity of the ISSA with three commonly used syndrome specific measures, the Reynolds Adolescent Depression Scale, the State-Trait Anxiety Inventory for Children, and the Revised Children’s Manifest Anxiety Scale.
CHAPTER II
REVIEW OF THE LITERATURE

This literature review was conducted to establish the necessity of research in the area of internalizing disorders in Native American youth. In the present review of the literature, an overview of internalizing and externalizing disorders will be presented, followed by correlates of internalizing disorders, their Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV; American Psychiatric Association, 1994), diagnostic criteria, and their respective prevalence rates in the general and Native American populations. In addition, self-report measures used in the assessment of internalizing disorders will be described, along with the strengths and weaknesses of the major instruments. Finally, the ISSA will be presented.

Overview of Internalizing and Externalizing Disorders

One of the most widely agreed upon classifications of social, emotional, and behavioral disorders in child psychopathology is that of internalizing and externalizing dysfunctions (Cicchetti & Toth, 1991). Historically, children with problems in these two domains have been described by Horney (1945) as children who “move away from the world” and children who “move against the world.” Based on the empirical work of Achenbach and Edelbrock (1978), the classification distinction was made between the inner-directed, overcontrolled behaviors and the outer-directed, undercontrolled behaviors that make up the broad band categories of internalizing and externalizing.
disorders, respectively. Today, they are the most common taxonomy of pathology for children (Ollendick & King, 1994).

Based on factor analytic research, the narrow band syndromes that make up the internalizing domain include depression, anxiety, somatic complaints, and withdrawal. The narrow band syndromes of the externalizing domain include hyperactivity, aggression, and delinquent behavior (Achenbach & Edelbrock, 1978; Cicchetti & Toth, 1991; Merrell & Walters, 1996; Ollendick & King, 1994).

Historically, research on internalizing disorders of childhood and adolescence has taken a back seat to that of externalizing disorders due, in part, to the nature of the disorders. Unlike the readily observable behavioral excesses of externalizing disorders, internalizing disorders, such as depression and anxiety, reflect subjective feelings and perceptions that are often unobservable, making them difficult to diagnose, assess, and treat (Merrell et al., 1997; Reynolds, 1990a). Although not readily observed in children and adolescents, the effects of these inner-directed problems, including diminished self-esteem, academic problems, social withdrawal, peer deficits, increased use of drugs and alcohol, and suicidal thoughts and behaviors, are noteworthy and of serious concern (Cicchetti & Toth, 1991; Hammen & Rudolph, 1996; Ramsey, 1994; Reynolds, 1984; Rubin & Stewart, 1996; Walters, 1996).

Originally considered just a “stage” that children and adolescents pass through, recent evidence refutes this notion (Cicchetti & Toth, 1991). Mounting research suggests that internalizing disorders of childhood and adolescence are often stable and recurrent. For example, stability rates for depression have been found to vary from 19 - 41% at 1-year follow-up to 26.2% at a 4-year follow-up, while relapse rates have been found to
range from 18 - 26% at 1-year posttreatment to 72% after 5 years (Hammen & Rudolph, 1996). Adult depression has often been found to be a recurrence of adolescent onset depression (Ollendick & King, 1994). In addition to recurrent distress that may lead to a chronic course into adulthood, personality disorders have been traced to childhood emotional problems including internalizing disorders (Albano et al., 1996; Bernstein, Cohen, Skodol, Bezirganian, & Brook, 1996).

**Correlates of Internalizing Disorders**

**Depression**

Over the years there has been considerable debate over the existence of childhood depression. One of several arguments against the presence of depression in children was the psychoanalytic belief that prepubertal children did not have a fully developed superego and were therefore unable to experience guilt. As a result, children were unable to experience depression (Sutker & Adams, 1993).

Today, research findings have changed such assumptions and it is widely agreed that depression in children and adolescents does indeed exist and represents a serious mental health problem (James, 1992; Ramsey, 1994). Although there are developmental differences that may differentiate childhood depression from adult depression (e.g., irritability, impaired school performance, etc.), the symptom expression of depression is quite similar in children, adolescents, and adults (Reynolds, 1990b).

In common usage, the term depression is generally equated with feelings that everyone has experienced at one time or another such as sadness or feeling “down in the dumps.” According to Dixon (1987) these feelings are generally mild and usually
associated with some situational event. Such feelings are not serious, typically lasting only a couple days with no significant functional interference. Symptoms of depression may be expressed through a variety of thoughts and behaviors including anhedonia, social withdrawal, fatigue, lowered self-esteem, dysphoria, crying spells, and sleep disturbances (Reynolds, 1990b). The coexistence of depressive symptoms at statistically significant levels is referred to as a syndrome. Less common than depression as a symptom, depression as a syndrome involves not only mood changes, but changes in motivation, cognition, and psychomotor functioning (Clarizio, 1984; Kazdin & Marciano, 1998; Merrell, 1999). Along this continuum, depressive syndromes that occur as part of a depressive disorder are characterized by specified duration requirements, degree of functional impairment, and outcome (Maag & Forness, 1991; Merrell, 1999; Reynolds, 1984).

Depression as a disorder is primarily identified based on DSM-IV (APA, 1994) criteria. Applying to children as well as adults, DSM-IV symptoms of depression include: (a) depressed mood, or irritable mood in children and adolescents; (b) diminished interest or pleasure in activities; (c) significant weight loss or gain, or failure to make expected weight gains in children; (d) insomnia or hypersomnia; (e) psychomotor agitation or retardation; (f) fatigue or loss of energy; (g) feelings of worthlessness or excessive or inappropriate guilt; (h) diminished ability to think or concentrate; and (i) recurrent thoughts of death. Although the symptoms are similar, the number of symptoms and duration requirements distinguish major depressive disorder from dysthymia. A diagnosis of major depressive disorder requires at least five symptoms for a duration of 2 weeks. A dysthymia diagnosis requires a depressed mood
for a 3-year period in adults, a depressed or irritable mood for 1 year in children and adolescents, along with two additional symptoms.

Prevalence rates of clinically significant depression vary with relatively lower rates found in children and increasing continually from adolescence through adulthood (Sutker & Adams, 1993). Prevalence rates for children in the general population range from 1% to 5.9% (Beitchman, Inglis, & Schachter, 1992; Costello, 1989; Lefkowitz & Testiny, 1985; Reynolds, 1992). Rates for adolescents have been found to be as high as 6% to 12%, with females outnumbering males by a ratio of 5 to 1 (Kazdin & Marciano, 1998; Reynolds, 1990b). With regard to Native American children and adolescents, limited data is available. In a sample of second- and fourth-grade Navajo children, Morris and Crowley (1998) found that, across reporting sources (parent, teacher, and self-report), depression at the “symptomatic” level was found in 7 - 15% of the children. At the clinically significant level, it was found that 3 - 6% of the sample was “depressed.” These data, however, are distribution based rather than based on comparisons to a standardized normative sample. In a group of Native American adolescents residing in boarding school, 58.1% of the population were categorized as depressed, with girls endorsing more depressive symptoms than boys. However, the results indicated that students were categorized as depressed based on the endorsement of weaker symptoms of depression rather than symptoms indicative of severe depression, and thus caution was suggested in interpreting the results (Manson, Ackerson, Dick, Baron, & Fleming, 1990). Due to the variability in diagnostic criteria and cut-off scores in the different studies, caution is suggested in interpreting prevalence rates. In addition,
due to the covert nature of depression, such prevalence rates may underestimate the actual levels of depressive symptoms.

**Anxiety**

Childhood anxieties and fears have had a long history in psychological literature, beginning with Freud’s account of Little Hans and his fear of horses, Watson’s description of Albert and his fear of rats, and Jones’s work with Peter and his fear of rabbits (Albano et al., 1996; Barrios & Hartman, 1997; Barrios & O’Dell, 1998).

Anxiety has been described as a basic human emotion that is characterized by complex response patterns to real or imagined threats (Barrios & O’Dell, 1998). Such responses include behavioral (e.g., escape and avoidance from certain stimuli), physiological (increased heart rate, head aches, difficulty breathing), and cognitive (maladaptive thoughts) components (Morris & Kratochwill, 1998; Murray & Clifford, 1988). Although included in the realm of psychological disorders, not all fears and anxiety reactions are “disorders” in nature. Many fears and anxiety reactions are adaptive, normal, developmentally appropriate reactions (Albano et al., 1996; Morris & Kratochwill, 1998). Fears are common in children from infancy through adolescence, but the focus of fears has been found to change over time (Albano et al., 1996; Strauss, 1990). Such fears, ranging from fears of loud noises and loss of support in infancy, to fears of the dark and supernatural figures in childhood, to fears of death, school performance, and physical appearance in adolescence, are considered developmentally appropriate (Morris & Kratochwill, 1998). When such anxiety and fear responses become maladaptive, based on their level of intensity, duration, and psychological
impairment, such responses may be considered "disorders" and warrant clinical intervention (Albano et al., 1996; Dadds, Spence, Holland, Barrett, & Laurens, 1997; Morris & Kratochwill, 1998).

Anxiety as a disorder is primarily based on the diagnostic criteria set forth in the DSM-IV (APA, 1994). In the latest revision of the DSM, separation anxiety disorder was the only childhood anxiety disorder to be retained. However, children can also be diagnosed with any of eight "adult" anxiety disorders, including panic disorder, agoraphobia, generalized anxiety disorder, social phobia, specific phobia, obsessive-compulsive disorder, posttraumatic stress disorder, and acute stress disorder (Strauss, 1990). With anxiety identified as the predominant feature, these disorders are distinguished by the focus of the child's anxiety (Albano et al., 1996).

Although research focused on childhood anxiety abounds, research on such disorders at the clinical level is sparse (Morris & Kratochwill, 1998). Considered one of the most common classes of psychiatric disorders affecting children and adolescents (Bernstein & Borchardt, 1991), the prevalence rate of anxiety disorders varies by age, sex, and type of disorder (Anderson, Williams, McGee, & Silva, 1987; Dadds et al., 1997; Strauss, 1990). Although the focus of fear changes over time, overall prevalence rates of intense anxiety have typically been found to be around 7 - 8% with separation anxiety more common among younger children, overanxious and avoidant disorders typical of preadolescent children, and social phobias more common among adolescents (Strauss, 1990). With respect to gender differences, girls typically report more anxiety symptoms than boys (Livingston, Taylor, & Crawford, 1988; Morris & Kratochwill, 1998). With limited research in general on Native American children and adolescents,
research specific to anxiety symptoms within this group is virtually nonexistent with one exception. In the single study located, nearly 14% of Native American children were found to endorse anxiety at the “symptomatic” level, with 3 - 5% reporting anxiety at the clinically significant level (Morris & Crowley, 1998). These levels, however, were distribution based with comparisons made to peers in the Native American sample rather than a normative sample.

Social Withdrawal

Developmental psychologists have long emphasized the importance of childhood relationships for adequate development of social, emotional, and cognitive competencies. Dominated by early theorists such as Piaget, emphasis was mainly on adult-child relationships. Only recently have childhood peer relationships, or the lack of, been considered important in children’s social-emotional growth (Bierman & Welsh, 1997).

As described by Rubin and Stewart (1996), social withdrawal refers to “the consistent (across situations and over time) display of solitary behavior when encountering familiar and/or unfamiliar peers” (p. 280). Further, this behavior can be construed as self-isolation from the peer group. Although these children appear socially motivated, they fail to interact with their peers at a normal rate and have been found to spend more than an average amount of time alone (Rubin & Stewart). Such children have been referred to as shy, timid, bashful, withdrawn, seclusive, and socially neglected (McFadyen-Ketchum & Dodge, 1998; Quay, 1986).

Although not defined clinically as a DSM-IV (APA, 1994) disorder, social withdrawal has been found to characterize a number of clinical disorders (McFadyen-
Ketchum & Dodge, 1998; Rubin & Stewart, 1996). Within the domain of internalizing disorders, social withdrawal has been found to be a common feature of both depression and anxiety disorders (McFadyen-Ketchum & Dodge; Merrell, 1999).

As noted by Williams (1997), there are few agreed-upon criteria for identifying social withdrawal in children. Social withdrawal in children is often a result of peer rejection, due to behavioral excesses such as aggression, or peer neglect, due to behavioral deficits such as inability to make friends (Bierman & Welsh, 1997; Kauffman, 1989; Merrell, 1999). According to Merrell (1999), the category of peer neglect and behavioral deficits is most closely associated with internalizing disorders. Due to this lack of specific diagnostic criteria, prevalence rates for social withdrawal have been found to vary considerably. One study reports prevalence rates of 6 - 11% in an elementary school population; however, such figures may include social withdrawal associated with behavioral excesses as well as deficits (McFadyen-Ketchum & Dodge, 1998). Additional studies have found prevalence rates ranging from 1 - 3% (McFadyen-Ketchum & Dodge, 1998; Quay & La Greca, 1986). Although no formal prevalence data are available, case studies reveal that social withdrawal was found to be a common response pattern in Native American children and adolescents who experienced repeated and traumatic loss (Long, 1983). This interpersonal distancing was seen as a way to defend against future pain and loss, having experienced closeness to others as a painful process.

Somatization

Somatization involves complaints about physical symptoms that cannot be
explained by an underlying organic impairment (Oltsmanns & Emery, 1998). It has been further described as physical complaints with apparent psychological origins (Smith, 1998). Although there is nothing physically wrong with the patient, the symptoms are not feigned and can take a number of different forms (Oltsmanns & Emery, 1998).

One of the DSM-IV (APA, 1994) somatoform disorders, a diagnosis of somatization disorder is based on criterion symptoms including pain symptoms, gastrointestinal symptoms, sexual symptoms, and pseudoneurological symptoms. Although a number of somatic symptoms can be experienced by a child, common symptoms include headaches, low energy, sore muscles, problems with eyes, nausea, and abdominal pain (McMahon, Harper, & Cruikshank, 1990; Merrell, 1999; Siegel, 1990; Walters, 1995). Because many children are not proficient at verbally communicating their emotions, it has been suggested that somatic complaints may be a child’s way of communicating emotional distress (Michael, 1997; Walters, 1996).

Prevalence rates vary depending on sample and diagnostic criteria; however, it has been estimated that between 15 - 20% of all school children present with somatic complaints at sometime (Greene & Thompson, 1984). More specifically, prevalence rates in the general school-age population have been found to be 14.4% for abdominal pain, 20.6% for headache, and 15.5% for limb pain (Edwards & Finney, 1994). With distributions based on comparisons made to peers, prevalence rates in a group of Navajo second and fourth graders indicated that 8 - 15% of the children were in the symptomatic range, with 3 - 4% endorsing clinical somatic concerns based on parent, teacher, and self-reports (Morris & Crowley, 1998).
Comorbidity Among Internalizing Disorders

Comorbidity has been described as the coexistence of two or more disorders in the same individual at the same point in time (Garber, Quiggle, Panak, & Dodge, 1991). The co-occurrence of disorders within the internalizing domain has been well documented. Although somatic symptoms and social withdrawal are frequently expressed in children and adolescents with both anxiety and depressive disorders (Beidel, Christ, & Long, 1991; McFadyen-Ketchum & Dodge, 1998), within the internalizing disorders domain, the comorbidity of anxiety and affective disorders is most common (Ollendick & King, 1994).

The estimated rates of concurrent anxiety and depressive disorders have been found to range from 15.9 - 61.9% (Brady & Kendall, 1992). This variability in rates may be due to sample characteristics, with higher rates of comorbidity found in clinic or referred samples (Kendall, Kortlander, Chansky, & Brady, 1992). Although highly variable, such high rates of comorbidity are clinically meaningful as children diagnosed with concurrent disorders display more symptomatology, report more psychopathology, and may have an increased potential for long-term psychological problems (Michael, 1997; Ollendick & King, 1994; Reynolds, 1990b; Strauss, Last, Hersen, & Kazdin, 1988).

Two competing views have been offered to explain the high incidence of comorbidity between anxiety and depressive disorders. One influential view is that anxiety and depression are two distinct disorders (Brady & Kendall, 1992). This view is evident in the most influential diagnostic classification system, the DSM-IV (APA,
1994), and widely used assessment instruments such as self-report inventories (Brady & Kendall, 1992). The high degree of overlap between anxiety and depression is believed to be a result of symptom overlap, rather than syndrome overlap, and the lack of discriminant validity within current self-report instruments (Endler, Cox, Parker, & Bagby, 1992; Kendall et al., 1992). For example, worry, sadness, and distress are common symptoms of both anxiety and depressive disorders. As such, self-report measures that incorporate mainly those symptoms common to both anxiety and depression will lack the ability to distinguish between the two disorders.

A second position regarding the high rate of comorbidity is that anxiety and depression are actually part of a single construct, referred to as general psychological distress, neuroticism, or negative affectivity (Brady & Kendall, 1992; Kendall et al., 1992; Watson & Clark, 1984). Among those conceptualizing anxiety and depression as variants of a single higher-order construct, several models have been proposed. One theory is that anxiety and depression exist on a continuum wherein an individual may fall anywhere in between the two, while others theorize that anxiety and depression are temporally linked with anxiety predating depression (Brady & Kendall, 1992; Clark & Watson, 1991). Longitudinal studies provide some support for the temporal theory. For example, Cole, Peeke, Martin, Truglio, and Seroczenski (1998) in a 3-year longitudinal study found that high levels of anxiety were predictive of high levels of depressive symptoms at a later point in time.

**Tripartite Model of Anxiety and Depression**

More recently, Clark and Watson (1991) have proposed a tripartite model of
anxiety and depression. Within the adult literature, it is well agreed that high negative affectivity (NA) or general emotional distress, which include moods such as guilt, anger, sadness, and fear, is a common feature of both anxiety and depression (Brady & Kendall, 1992). What may distinguish anxiety from depression is positive affectivity (PA) or the “generalized sense of well-being and competence, and of effective interpersonal engagement” (Watson, Clark, & Carey, 1988, p. 347). Depression appears to be a mixed state of high NA and low PA (anhedonia, lack of enjoyment, lethargy, fatigue, etc.), whereas anxiety has both high NA and high PA. Physiological hyperarousal, on the other hand, appears to be specific to anxiety (Clark & Watson, 1991). Current assessment measures tend to be NA focused, lacking reference to the states of positive affect and physiological hyperarousal, thus explaining their low discriminant validity, or inability to differentiate between depression and anxiety.

Assessment of Internalizing Disorders

Accurate assessment of child and adolescent psychopathology requires the use of broad-based assessment methods. As noted by Merrell (1994), a comprehensive assessment includes the use of multiple methods (behavioral observation, interviews, rating scales, and self-report inventories), multiple sources (parent, teacher, peer, and the child/adolescent client), and multiple settings (home, school, playground, clinic, and community).

Internalizing disorders present particular assessment difficulties. The covert, inner-directed nature of symptoms associated with internalizing disorders, such as fear, sadness, and pain, are difficult to assess through external sources and methods (Merrell &
Dobmeyer, 1996). Also, problems may not be as easily observed in different settings. For example, social phobia is not always evident in the home. Obtaining information directly from the child or adolescent through self-report inventories has been recognized as an important component of an assessment battery (La Greca, 1990).

Several self-report instruments designed for the assessment of anxiety and depression in children and adolescents have been developed and are widely used today. Due to the focus of this research, internalizing disorders in an adolescent population, those self-report inventories for use with an adolescent population will be presented, including a brief review of their psychometric properties, specific limitations, and the availability of information for minority groups. General limitations of these self-report inventories will then be presented, along with the availability of research utilizing these measures with a Native American adolescent population.

**Children’s Depression Inventory**

The Children’s Depression Inventory (CDI) is a 27-item, self-rated assessment measure designed to assess depressive symptomatology in children and adolescents aged 7 - 17 (Kovacs, 1980-1981, 1991). Psychometric properties of the CDI, as listed in the manual, include internal consistency reliability coefficients ranging from .71 to .89, and test-retest reliability coefficients ranging from .87 (1-week) to .59 (6-weeks) with a psychiatric inpatient population and .82 (2-weeks) to .66 (4-weeks) with a normal sample (Finch, Saylor, Edwards, & McIntosh, 1987; Saylor, Finch, Spirito, & Bennett, 1984). Concurrent validity correlations have been estimated between the CDI and similar measures of depressive symptoms including the Depression Self-Rating Scale (.81), the
Children’s Depression Scale (.70), and the Hamilton Rating Scale for Depression (.72; Asarnow & Carlson, 1985; Bartell & Reynolds, 1986; Shain, Naylor, & Alessi, 1990). The CDI was normed on 1,266 Florida children in Grades 2 to 8. Although race or ethnicity data were not available, based on school district demographics an estimated 23% of the normative sample were African American, American Indian, or Hispanic. Limitations of the CDI include the lack of a nationally standardized normative sample and although some research has been conducted with minority groups, research with a Native American population could not be found. In addition, according to the manual, strong correlations between the CDI and measures of related constructs, such as anxiety and self-esteem, have been found, thus limiting the ability of the CDI to discriminate between these constructs.

Reynolds Adolescent Depression Scale

Also designed to assess symptoms of depression, the Reynolds Adolescent Depression Scale (RADS) contains 30 items appropriate for the assessment of adolescents between 13 - 18 years of age (Reynolds, 1986). Psychometric properties range from acceptable to excellent. The RADS manual reports internal consistency reliability coefficients ranging from .91 to .94., along with test-retest reliability coefficients quite stable across various time intervals including 6 weeks (.80) and 3 months (.79). Convergent validity has been assessed between the RADS and other self-report measures of depression including the Beck Depression Inventory (.68 to .76) and the CDI (.73). In addition to being an adequately researched assessment measure, the RADS was standardized on a large adolescent population from a variety of geographical
locations in the United States. Limitations of the measure include a high correlation with individual characteristics such as anxiety and self-esteem (Kaplan, 1992), making discrimination between the constructs difficult to determine. In addition, Native American children and adolescent representation in the normative sample is uncertain based on information provided in the RADS manual.

Revised Children’s Manifest Anxiety Scale

The Revised Children’s Manifest Anxiety Scale (RCMAS) is a 37-item inventory designed for assessment of children and adolescents from 6 - 19 years of age (Reynolds & Richmond, 1985). Designed to assess general or trait anxiety, technical properties of the RCMAS range from fair to good. As noted by the authors, internal consistency estimates, based on the total anxiety score, have generally been found to exceed .80. Also based on the total anxiety score, test-retest reliability coefficients have been found to range from .98 after a 3-week interval to .68 after a 9-month interval. Convergent validity correlations between the RCMAS and the State-Trait Anxiety Inventory for Children (STAIC) Trait scale have been found to be significant at .85. Research on the scale is extensive and the norms are based on a large normative group from all geographical regions of the U.S. However, African American children are the only minority group represented in the standardization sample.

State-Trait Anxiety Inventory for Children

The STAIC is a 40-item inventory with 20 items designed to assess state or transitory anxiety and 20 items designed to assess trait or relatively enduring anxiety (Speilberger, 1973). Normative data, as reported in the STAIC manual, reveal internal
consistency reliability coefficients ranging from .82 to .87 for the state scale and .78 to .81 for trait anxiety. Test-retest reliability coefficients have been found in the .60s and .70s for trait anxiety and in the .30s and .40s for state anxiety. Concurrent validity correlations between the trait scale and the Children's Manifest Anxiety Scale were .75 and .63. Although the STAIC has a large normative sample and has been extensively researched, the normative sample is not nationally representative with African American children being the only minority group discussed.

**Youth Self-Report**

The Youth Self-Report (YSR) is a 119-item self-report inventory designed to assess both the broad band externalizing and internalizing domains in children and adolescents aged 11-18 (Achenbach, 1991). The YSR manual reports internal consistency reliability coefficients of .95. Test-retest reliabilities of the YSR, based on total problems scores, have been measured after a 1-week interval (.70 to .91) and after a 7-month interval (.45 to .64). Evidence of convergent validity has been found between the internalizing broad band score of the YSR and Internalizing Symptoms Scale for Children Total Score (.86) (Merrell et al., 1997). In addition, the YSR internalizing scale has been found to correlate highly with a self-report measure of depression (Merrell, 1994), in addition to select scales of the MMPI (Belter, Foster, & Imm, 1996). The YSR was normed on a sample representative of the U.S. population.

**Behavior Assessment System for Children**

The Behavior Assessment System for Children (BASC) is a 186-item self-report measure that was also designed to assess both internalizing and externalizing problems in
children and adolescents within the 4-18 age range (Reynolds & Kamphaus, 1992). Norms are reported to be characteristic of the U.S. population; however, there appears to be an overrepresentation of males, Whites, and Catholics. The BASC appears to be psychometrically sound for older children and adolescents (Sandoval, 1998) with internal consistency reliability coefficients in the .80s and .90s and 1-month test-retest reliability coefficients also in the mid .80s and .90s. Validity studies reveal that the BASC correlates fairly highly with other internalizing/externalizing measures, including the Social Skills Rating System, Achenbach’s Teacher’s Report Form, Revised Behavior Problem Checklist, Conners Teacher Rating Scales, Burke’s Behavior Rating Scales, and the Teacher Rating Scale of the Behavior Rating Profile (Flanagan, Alfonso, Primavera, Povall, & Higgins, 1996; Sandoval & Echandia, 1994).

As mentioned above, the assessment of internalizing disorders presents several difficulties. Not only are internalizing disorders subjective in nature, the narrow band disorders that make up internalizing disorders tend to have a high rate of comorbidity. Although current self-report inventories are a valuable component of the multiaxial assessment process, helping “objectify” the subjective nature of internalizing disorders, most self-report inventories are domain specific and lack the ability to discriminate between narrow band internalizing disorders such as anxiety and depression. The YSR and the BASC purport to assess broad band internalizing disorders; however, they, along with the domain specific self-report inventories, fail to incorporate the concept of negative affectivity and positive affectivity and thus do not incorporate some of the current research on the theoretical relationship between anxiety and depression. Thus, they will pick up broad band problems, but give less information about whether problems
are more anxiety or depression or mixed in nature. In addition, given the length of these measures, they are not well suited as brief screening instruments, requiring a longer time to administer, score, and interpret. A literature review failed to locate any published research on Native American adolescents utilizing those self-report inventories presented.

Internalizing Symptoms Scale for Adolescents

The ISSA is a recently developed self-report inventory designed in response to the need for a measure that assesses the broad band internalizing disorders domain while incorporating positive and negative affectivity. The ISSA is the main assessment instrument of this research project and will be described in detail in the Methods section.

Summary

In summary, internalizing disorders in children and adolescents are a serious mental health concern with both immediate and long-term negative effects. Risk factors such as abuse, loss, and trauma may put Native American children and adolescents at increased risk for the development of psychological disorders.

Because internalizing symptoms are often covert in nature, they often go undetected by others. As such, self-report inventories are an important part of the assessment process. Currently there are several self-report inventories designed to assess for internalizing symptoms. However, most of these assessment measures are syndrome-specific and thus not designed to assess for broad band internalizing symptoms. Further, those designed to assess broad band internalizing symptoms fail to incorporate the
concepts of PA and NA. In addition, adequate Native American representation in the normative sample of these measures is in question. Based on the potential high rates of internalizing symptoms within Native American children and adolescents, Native American representation in the normative sample is imperative to more accurately assess internalizing symptoms within this minority population. Thus, there is the need for a self-report measure designed to assess for broad band internalizing symptoms, that has incorporated the latest research on internalizing symptoms, and has been normed with a Native American sample.

Purpose and Objectives

The purpose of this study was to determine the rate of self-reported internalizing symptoms in a group of Native American adolescents. The objective was to answer the following questions:

1. What is the rate of self-reported internalizing symptoms in a sample of Native American adolescents as measured by the ISSA, the RADS, the STAIC, and the RCMAS?

2. What evidence of concurrent validity is provided by the relationship between commonly used syndrome specific measures, the RADS, the STAIC, and the RCMAS, and the ISSA?
CHAPTER III

METHODS

Participants

The participants for this investigation were 172 Native American adolescents in Grades 9 through 12 from a Northern Plains Indian Reservation in Montana. The subjects ranged in age from 14 to 19, with a gender breakdown of 73 boys (42%) and 99 girls (58%). The target population consisted of approximately 450 youth. A breakdown of the sample by grade and gender is presented in Table 1.

The tribal group represented in this sample varies in degree of acculturation among its members. However, English is the primary language spoken by the students in the sample and with that, translation into their traditional language was not necessary.

Instruments

Internalizing Symptoms Scale for Adolescents

The Internalizing Symptoms Scale for Adolescents (ISSA) is a new self-report

Table 1

Grade and Gender Breakdown of Sample

<table>
<thead>
<tr>
<th>Grade</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>% of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>25</td>
<td>32</td>
<td>57</td>
<td>33</td>
</tr>
<tr>
<td>10</td>
<td>17</td>
<td>16</td>
<td>33</td>
<td>19</td>
</tr>
<tr>
<td>11</td>
<td>7</td>
<td>8</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>12</td>
<td>24</td>
<td>43</td>
<td>67</td>
<td>39</td>
</tr>
</tbody>
</table>
measure designed to assess broad band internalizing symptoms in adolescents aged 12 to 19 (Merrell & Crowley, 1997). The ISSA was designed as an upward extension of the Internalizing Symptoms Scale for Children (ISSC). A self-report internalizing symptoms screening measure for children in Grades 3-6, the ISSC was designed in response to the high rate of comorbidity within the internalizing domain and the syndrome specific nature of most self-report measures for internalizing problems (Brady & Kendall, 1992; Merrell, 1994).

The 63 items that make up the ISSA were designed to assess either the presence of a number of internalizing symptoms or the presence of PA, found to be incompatible with specific internalizing symptoms. Adolescents are asked to respond to each item by choosing how true each item is for them, with the following options available: “never true,” “hardly ever true,” “sometimes true,” or “often true.” Most adolescents complete the protocol in an average of 15 - 20 minutes. Items are scored on a 4-point scale ranging from 0 to 3, with reverse scoring on positively worded items, such as “I feel cheerful.” Thus, scores range from 0 to 189 with higher scores indicating the presence of more internalizing symptoms.

Development of the ISSA test items was based on methodologically rigorous procedures to ensure an adequate representation of the four general domains of internalizing syndromes (depression, anxiety, social withdrawal, and somatic complaints). In addition to current theories and empirical evidence regarding childhood psychopathology (Achenbach & Edelbrock, 1983; Cicchetti & Toth, 1991; Quay, 1986), a panel of experts was consulted to ensure content validity of items. Also examined was literature on PA and NA. Research indicates that NA or general distress is a common
feature of internalizing disorders and PA is incompatible with certain internalizing disorders (Merrell & Dobmeyer, 1996; Watson et al., 1988).

Data collection for the ISSA is currently in the formative stages. A large national standardization of the ISSA is in progress, along with various reliability and validity studies. Limited psychometric information is currently available. A copy of the ISSA is located in Appendix C.

Reynolds Adolescent Depression Scale

Designed to assess symptoms of depression in adolescents, the RADS contains 30 items appropriate for the assessment of 13- through 18-year-olds (Reynolds, 1986). See the literature review section for a detailed discussion of the RADS.

Revised Children’s Manifest Anxiety Scale

The RCMAS is a self-report inventory designed to measure level and nature of trait anxiety. The RCMAS was also discussed in detail in the literature review section.

State-Trait Anxiety Inventory for Children

The STAIC is designed to assess both state anxiety and trait anxiety in children (Speilberger, 1973) and was discussed more fully in the literature review section.

Procedures

The Institutional Review Board at Utah State University granted approval to conduct this research as part of a larger study on the ISSA. Approval to conduct this
research project with the identified population was also obtained from the local school board and the high school principal. A copy of IRB approval is located in Appendix A.

With approval to conduct this study, it was decided that all consent and data collection procedures would be conducted during English class. English class was chosen to reduce the number of teachers participating and to ensure access to all students in the target population. Consent forms were given to the students one week prior to testing with instructions to return the forms within that one-week period. The students were informed that four $25 cash drawings would be held for those students returning their consent forms in the allotted time, regardless of whether or not the student was given consent to participate. A copy of the consent form is located in Appendix B.

In an attempt to alleviate disruption to the class, the English teachers requested and subsequently conducted the data collection using standardized instructions for each measure. Testing packets were distributed to those students having consent to participate, with the remainder of the class given a reading assignment to prevent their disrupting those students testing. Consent forms and testing packets were picked up at the end of the testing day.

In the initial data collection, only 92 of the 450 students responded and were tested. The majority of these students were legal adults who could sign their own consent form. Because the low rate of returned consent forms significantly decreased the number of students for which data could be collected, a second attempt at data collection was made. Because all parents are required to enroll their youth at the start of a new school year, consent forms were included in the majority of the enrollment packets for the following school year. This procedure significantly increased the number of consent
forms received. With a target population of approximately 450 youth, 302 consent forms were returned, with 254 adolescents allowed to participate in data collection. Thus, 84% of those students returning consent forms agreed to participate, accounting for approximately 56% of the target population.

A list of all students with consent to participate in the research project was given to all teachers. The teachers were given instructions to release these students at the time designated for data collection. Data collection was conducted in the high school cafeteria. Four employees from the local social services agency, along with two high school counselors, volunteered to assist with data collection.

The procedure used during both testing sessions consisted of administering a packet of two self-report social-emotional measures to each participant. Each student received the ISSA along with one of the following measures: the RADS ($N = 59$), the RCMAS ($N = 58$), or the STAIC ($N = 54$). The three supplementary scales were chosen for inclusion based on their psychometric properties, available research, and their frequent use as part of the psychoeducational assessment battery among the identified population.

With the completion of both testing sessions, a total of 172 Native American adolescents was tested for a total of 38% of the target population. Potential factors attributing to the relatively low rate of responding are discussed more fully in the discussion section.
CHAPTER IV

RESULTS

Data analysis and results were guided by the two research questions in the present study. First, to determine the rate of self-reported internalizing symptoms in this Native American adolescent sample, descriptive statistics were calculated for ISSA scores and supplementary self-report scale scores. Second, correlations between the ISSA and the supplementary self-report scales used in the present study (RADS, RCMAS, and STAIC) were analyzed.

Preliminary Analyses

Prior to addressing analyses on the research questions, preliminary analyses consisting of internal consistency reliability and mean scores for each measure were computed. The ISSA total score mean was 64.37 (SD = 24.93) and internal consistency reliability (Chronbach’s alpha) was .94. The total score mean for the RADS was 52.51 (SD = 13), while the internal consistency reliability was .91. For the anxiety measures, the total score mean for the RCMAS was 13.86 (SD = 5.69), with an internal consistency reliability of .79. The trait scale of the STAIC had a total mean score of 33.54 (SD = 8.84) and an internal consistency reliability coefficient of .93.

Rate of Self-Reported Internalizing Symptoms

To determine the rate of self-reported internalizing symptoms in this Native American adolescent sample, as measured by the ISSA, means and standard deviations
were computed for the total group, and then by grade and gender. These results are presented in Table 2. To determine if the grade and gender differences were meaningful, standard mean difference effect sizes were computed using a method suggested by Cohen (1988). According to this method, the mean of one group is subtracted from the mean of a second group. This score is then divided by the pooled standard deviation for the two groups. Based on comparisons between grade levels, the effect size estimates were generally small with the exception of comparisons made to the sophomores. The effect size estimates between the sophomores and the seniors was moderate but potentially meaningful (.47), while comparisons made to the freshman and juniors was moderate at .60 and .67, respectively. By gender, comparison of the mean score for males and the mean score for females resulted in a moderate effect size (.68).

Table 2

Descriptive Statistics: ISSA

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>172</td>
<td>64.37</td>
<td>24.93</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>57</td>
<td>69.39</td>
<td>26.97</td>
</tr>
<tr>
<td>10</td>
<td>33</td>
<td>54.27</td>
<td>21.90</td>
</tr>
<tr>
<td>11</td>
<td>15</td>
<td>70.20</td>
<td>28.18</td>
</tr>
<tr>
<td>12</td>
<td>67</td>
<td>63.76</td>
<td>22.60</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>73</td>
<td>55.12</td>
<td>20.07</td>
</tr>
<tr>
<td>F</td>
<td>99</td>
<td>71.18</td>
<td>26.03</td>
</tr>
</tbody>
</table>
In absence of normative data providing clinical cut-off scores with which to make comparisons, scores falling within one standard deviation of the sample mean were considered the “normal” range, while scores falling between one and two standard deviations from the sample mean received “symptomatic” status. The “clinically significant” status included those scores falling at least two standard deviations above the sample mean. As presented in Table 3, based on ISSA self-report, 84% of the adolescents scored within the normal range, 12% of the adolescents received “symptomatic” status, and the number of adolescents endorsing clinically significant levels of internalizing symptoms totaled 4% of the sample.

With comparisons made to peers rather than based on normative data, the clinical status of the study sample is distribution based. As such, a percentage of the sample will always endorse internalizing symptoms greater than one and two standard deviations above the sample mean. Thus, the “clinical” status of the study sample is not absolute.

Although ISSA data collection for the national normative sample is incomplete, some preliminary data with a predominantly majority sample are available and included

Table 3

<table>
<thead>
<tr>
<th>Clinical Status of Adolescents: ISSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
</tr>
<tr>
<td>Normal</td>
</tr>
<tr>
<td>Symptomatic</td>
</tr>
<tr>
<td>Clinical</td>
</tr>
</tbody>
</table>
in Table 4, along with the means and standard deviations of the Native American sample for comparative purposes. The preliminary data were collected from a sample of 460 adolescents in Grades 9 through 12 residing in a small city in the midwest.

Scores from the available preliminary data indicate scores similar to those from the present Native American sample. To determine if the differences between the samples were meaningful, standard mean difference effect sizes were computed between the Native American sample and the available preliminary data, again using the method suggested by Cohen (1988). The effect size estimates between the ISSA total scores of the two groups was small (.11). Effect sizes generally were small when comparisons were made by grade. The exception was the sophomores with an effect size of .57, indicating that the sophomores within the Native American sample were less likely to report internalizing symptoms than their sophomore counterparts in the comparison group. By gender, the comparison of the female groups was near zero (.001) while the

| Table 4
| Descriptive Statistics of Native American Sample and Preliminary Data Sample |
|-------------------------------|-------------------------------|----------------------|
|                               | Sample mean (SD) | Comparative mean (SD) | Effect size |
| Total score                    | 64.37 (24.93)     | 67.28 (27.99)         | .11         |
| Grade                         |                  |                      |             |
| 9                             | 69.39 (26.97)     | 65.13 (27.14)         | .16         |
| 10                            | 54.27 (21.90)     | 70.04 (29.06)         | .57         |
| 11                            | 70.20 (28.18)     | 69.22 (28.11)         | .03         |
| 12                            | 63.76 (22.60)     | 61.33 (26.81)         | .10         |
| Gender                        |                  |                      |             |
| M                             | 55.12 (20.07)     | 62.22 (26.49)         | .29         |
| F                             | 71.18 (26.03)     | 71.21 (28.25)         | .001        |
effect size between the male groups was .29. These effect size estimates indicate that males within the Native American sample reported fewer internalizing symptoms than the comparative group from the primarily majority sample.

Although syndrome specific and not designed to assess overall broad band internalizing symptoms, the supplementary scales used in the present study provide standardized guidelines for determining clinical levels of depression or anxiety, and provide additional information regarding internalizing symptoms in Native American adolescents. According to criteria set forth in the RADS manual, 6.8% of the 59 students having taken the RADS scored in the clinical range of depression (clinical cut-off score = 77). The RCMAS manual recommends identifying those students with scores falling greater than one standard deviation above the mean. Based on this recommendation, 43.1% of students having taken the RCMAS (N = 58) endorsed high levels of anxiety, while 14.8% endorsed high levels as measured by the trait scale of the STAIC (N = 54). Using a more conservative cut-off based on two standard deviations above the mean, 10.34% of Native American students endorsed clinically significant levels of anxiety as measured by the RCMAS and 7.4% endorsed clinically significant levels of trait anxiety when measured with the STAIC.

Convergent Validity of Internalizing Symptoms Scale for Adolescents

To determine convergent validity, relationships between the ISSA and the supplementary self-report scales used (RADS, RCMAS, and STAIC) were analyzed by computing bivariate Pearson product-moment correlations. These correlations were
computed between the ISSA total score and the RADS total score, RCMAS total score, and the STAIC trait scale score.

As presented in Table 5, correlations between the ISSA and the supplementary self-report scales used were statistically significant \( (p < .01) \). The ISSA and the RADS were found to correlate at .80. Strong correlations were found when comparing the ISSA and the anxiety inventories, ranging from .76 with the RCMAS to .83 with the STAIC.

Table 5

Correlations Between the ISSA and the Supplementary Scales

<table>
<thead>
<tr>
<th>Total</th>
<th>ISSA total</th>
</tr>
</thead>
<tbody>
<tr>
<td>RADS</td>
<td>.80**</td>
</tr>
<tr>
<td>RCMAS</td>
<td>.76**</td>
</tr>
<tr>
<td>STAIC trait</td>
<td>.83**</td>
</tr>
</tbody>
</table>

** \( p < .01 \).
CHAPTER V
DISCUSSION

Research suggests that the immediate and long-term negative effects of internalizing disorders are a serious concern. With risk factors for the development of childhood psychological disorders including abuse, loss, and trauma, Native American children and adolescents may be at increased risk for developing internalizing disorders. Yet, little research has been conducted with this potentially high-risk group. With that, the present study examined the prevalence rate of internalizing disorders within a sample of Native American adolescents residing on a northern plains Indian reservation. Presented in this chapter will be a review of the research findings, limitations of the study, and implications and recommendations for future research and clinical practice.

Review of Research Findings

In order to answer the first question, "What is the rate of self-reported internalizing symptoms in a sample of Native American adolescents as measured by the ISSA," the ISSA was administered to the Native American sample. Analyses were conducted to determine the overall mean and standard deviation of the Native American sample, along with age and grade breakdowns, with comparisons, including effect size estimates, made to the other preliminary data available for the newly developed ISSA. Scores for the Native American and comparison samples were relatively similar with small effect size estimates that ranged from .001 to .16. Two exceptions were among the tenth graders and the male groups wherein the Native American sample was less likely to
report internalizing symptoms than comparison groups from the primarily majority sample.

The Native American sample of sophomores scored lower than the comparative group (effect size = .54). It was hypothesized that the lower score among the sophomores might be due to an overrepresentation of males within this grade level; however, gender breakdowns by grade indicate a fairly equal male (16) to female (19) ratio. A second hypothesis is that the sophomore year of high school is a relatively less stressful period in the lives of this particular group of Native American adolescents, having successfully completed their first year in high school and not yet facing the stress of impending adulthood. The results found may be idiosyncratic to the sample, thus supporting the need for additional research to determine patterns of responding.

The Native American male group scored slightly lower than the male comparison group (effect size = .29). This comparison resulted in a relatively small effect size; however, further comparison of the Native American male sample with the Native American female sample resulted in a relatively large effect size of .68. These results certainly support current literature findings wherein males tend to report fewer internalizing symptoms than females. However, the endorsement of fewer internalizing symptoms among the Native American male group, relative to the Native American female group and the comparison group, may also be historically based. Information from traditional members of this northern plains Indian community indicates that emotional expression was common practice among tribal members prior to their contact with non-Indians (Wilbert Fish, personal communication, November 2000). Tribal members physically demonstrated their love for one another. In addition to hugging their
children, a hug upon greeting was common among adults. Crying was acceptable, even among the men, and was considered an important part of the grieving process. However, throughout the mission and boarding school eras (late 1800s through mid-1900s), periods of forced assimilation of Native American children, Native American children were physically abused for expressing their emotions. Thus, denying or withholding their emotions became a survival mechanism—a learned behavior that continues to be passed on to Native American children, particularly boys, wherein certain emotions such as crying are equated with weakness.

In sum, with the two exceptions mentioned above, results indicate a relative similarity in self-reported internalizing symptoms between the Native American sample and the primarily majority sample as measured by the ISSA.

In absence of clinical cut-off scores based on ISSA normative data with which to compare the Native American sample, comparisons made to peers indicates that 12% of the Native American sample scored in the “symptomatic” range based on scores falling between one and two standard deviations above the sample mean. Four percent of the sample received “clinical” status with scores falling greater than two standard deviations above the sample mean. Based on the theoretically normal curve, it is estimated that approximately 13.5% of the sample will score between one and two standard deviations above the sample mean, while an estimated 2.5% will score greater than two standard deviations above the sample mean. As such, it appears that the Native American sample may be slightly skewed, particularly with regard to those scores falling greater than two standard deviations above the sample mean. The Native American group appears to be endorsing clinically significant levels of self-reported internalizing symptoms at a rate
slightly higher than expected according to the theoretically normal curve. However, because comparisons are made to peers, they are distribution based and not absolute. These results may be of particular use for ISSA score comparisons when working with other Native American samples.

Due to minimal normative data available for the newly developed ISSA, along with the absence of standardized guidelines for determining clinical levels of internalizing symptoms, three additional syndrome specific measures (RADS, RCMAS, STAIC) were administered to provide a basis for comparisons of the Native American sample to a normative sample.

Designed to measure depressive symptomatology, 59 Native American adolescents completed the RADS self-report inventory, with 6.8% scoring in the clinical range of depression. These findings are consistent with current literature in which prevalence rates for adolescents have exceeded 6% (Reynolds, 1990b).

It has been estimated 7 - 8% of children and adolescents experience clinically significant levels of anxiety (Strauss, 1990). Scores obtained by the Native American adolescent sample, as measured by the trait scale of the STAIC, indicate a relative similarity with 7.4% of the sample endorsing clinically significant levels of anxiety based on scores that exceed two standard deviations above the mean. Higher scores, however, were obtained when measured by the RCMAS, with 10.34% of the Native American sample scoring in the clinically significant range, again based on scores higher than two standard deviations above the mean. The difference in scores among these anxiety measures may be idiosyncratic to the measures wherein the STAIC provides three choices ("hardly ever," "sometimes," and "often") that best describe one’s feelings while
the RCMAS provides only two ("yes" or "no"). Forced choice among two options may have inflated the number of students in the clinically significant range.

In summary, it appears that the Native American sample of adolescents are endorsing clinically significant levels of depression, anxiety, and the broad band internalizing symptoms at rates similar to those found in the general population. However, Native American adolescent rates tend to be at the high end of the rate distributions for these disorders as reported in the literature. Given the higher level of psychosocial stressors experienced by Native American adolescents, it was suggested that they may experience internalizing symptoms at rates exceeding those found among adolescents within the majority population. The data do not support this hypothesis. One possible explanation for these findings may be that within the Native American culture there are certain resiliency factors that serve to buffer the negative effects of psychosocial stressors. For example, many Native American people maintain strong ties with extended family. These ties may serve as additional sources of support, helping to more successfully deal with stressful circumstances (e.g., single-parent family, alcohol abuse, etc.). A second possibility is that Native American adolescents may respond to psychosocial stressors primarily by externalizing, such as abusing drugs and alcohol, fighting, and so forth. These results further support the need for additional research.

The second research question asked, “What evidence of concurrent validity is provided by the relationship between commonly used syndrome specific measures, the RADS, the STAIC, the RCMAS, and the ISSA?” To answer this question, bivariate Pearson product-moment correlations were computed between the ISSA total score and the RADS total score, RCMAS total score, and the trait scale score of the STAIC. Strong
correlations were found between the ISSA and the syndrome specific self-report scales. The ISSA correlated at .80 with the RADS, at .76 with the RCMAS, and at .83 with the trait scale of the STAIC. The results of this study indicate that the ISSA and the syndrome specific self-report measures are measuring similar, yet slightly different theoretical constructs. These results are promising and as expected in that the ISSA was designed to assess a broader theoretical construct than the syndrome-specific measures, assessing symptoms of depression, anxiety, somatic symptoms, social withdrawal, and positive affectivity.

Limitations of the Study

Throughout the course of this study, several limitations were identified, the most notable of which was with regard to the procedural aspects of data collection. In addition to the recruiting of participants, the testing location proved to be a procedural limitation of the study.

During the first phase of data collection, recruitment procedures limited the number of participants in the study. These procedures, wherein students were asked to bring consent forms home, seek parental consent, and return the signed consent form to their English teacher, resulted in a limited number of students authorized to participate in the study, particularly in the lower class levels (36 students in Grades 9 - 11). However, data were collected from nearly all students with consent to participate due to a portion of English class being allotted to data collection.

During the second phase of data collection, testing location proved to be a hindrance to data collection. In an attempt to overcome the limitations of the first phase
of data collection, consent forms were included with the registration packets that all parents were required to complete prior to their adolescent(s) entering a new school year. This procedure significantly increased the number of consent forms granting permission to participate, accounting for approximately 56% of the target population. However, due to various activities going on within the school, a 90-minute time block was allotted for data collection. With that, a list of students with permission to participate in the study was distributed to all teachers, along with instructions to release those students at a specified time, to meet in a specified location. Instructions were again provided in a schoolwide verbal announcement, just prior to the time designated for data collection. It is theorized that a significant portion of the students with authorization to participate chose not to, possibly electing to leave school grounds during this time period instead. This speculation is based on classes being released within minutes after participants were instructed to meet in the cafeteria, students coming and going in the cafeteria, and the observation of students leaving the school building. Although anecdotal, teachers may have neglected to inform students of their authorization to participate. Feedback from one parent indicates that her adolescent reported not being released for participation.

A second limitation was with regard to the study sample. Although data were collected from 38% of the target population, those participating were a volunteer sample. In addition to the possibility of parents authorizing their adolescents’ participation being quite different than those parents who refused consent, among those adolescents with authorization to participate, those choosing to do so may be qualitatively different than those choosing not to participate. Of interest was the fact that several parents gave authorization for one adolescent to participate, yet refused to grant consent for a second
adolescent member of the same family, selecting "I do not wish for my child to participate" on the Consent for Participation form.

Lastly, the assessment method utilized in this study consisted of a single assessment method. Although self-report of symptoms is an important aspect of accurate assessment, particularly in light of the covert nature of internalizing symptoms, accurate assessment cannot be based solely on self-report. Thus, in absence of multisource, multimethod assessment procedures, the results found do not provide a complete picture of the overall rate of internalizing symptoms experienced by these Native American adolescents.

Recommendations

In absence of research on internalizing symptoms and internalizing disorders in Native American adolescents, the results of this research project clearly support the need for additional research in this area. Several recommendations have been identified to improve upon further research with Native American children and adolescents.

For future research utilizing a volunteer sample, it is recommended that consent forms be included as part of the registration process to maximize the number of participants in the study and eliminate reliance on students to seek parental consent to participate and return signed consent forms. It is further recommended that data collection take place during the regular class period to minimize disruption. Taken together, these procedures may increase sample size, thus increasing the validity and generalizability of the results.
A second recommendation that would further increase the validity of the results would be the use of a more in-depth assessment procedure. More specifically, the use of additional sources (parents, teachers), along with multiple methods of assessment (clinical interview, behavior rating), would provide more information about each subject. To further increase the ability to generalize results, additional demographic information, such as SES and level of acculturation, would be valuable.

In addition to variability within tribes, there is significant variability between tribes. As such, similar research with additional tribes would allow for comparisons to be made between tribes, provide stronger conclusions about internalizing symptoms/disorders in Native American children and adolescents generally, and increase the ability for these conclusions to be generalized to a larger population.

In addition to supporting the need for additional research, the results of this study further support the need for educational and intervention services for Native American adolescents and their families, for example, a psychoeducational program implemented within the schools that is designed to educate teachers, students, and parents on the (a) the identification of internalizing symptoms, (b) the process of referral to the school counselor/school psychologist for assessment, and (c) treatment options within the school and/or community. Treatment options may include individual or family therapy, social skills training groups, along with bereavement support groups that are developmentally and culturally appropriate. Such a program may eliminate many Native American children and adolescents from going undiagnosed and thus untreated in an environment with a proven need for such intervention.
REFERENCES


Washington, DC: Author.


APPENDICES
Appendix A:

Institutional Review Board Letter of Approval

MEMORANDUM

March 2, 1998

TO: Susan Crowley

FROM: True Rubal, Secretary to the IRB

SUBJECT: Developing, Norming and Psychometric Characteristics of the Internalizing Symptom Scale for Adolescents

The above referenced proposal was reviewed and approved by the IRB. You may consider this letter to be your approval for your study.

Any deviation from this protocol will need to be resubmitted to the IRB. This includes any changes in the methodology of procedures in this protocol. A study status report (stating the continuation or conclusion of this proposal) will be due in one year from the date of this letter.

Please keep the committee advised of any changes, adverse reactions or the termination of this study. I can be reached at x71180.
Appendix B:

Consent Form

Dear Parent:

In the next few weeks, students in grades 9 - 12 at your child’s school will be asked to participate in a screening activity for the purpose of developing and improving a new psychological test for adolescents. This new test will ultimately be used to help identify depression and anxiety problems of children in grades 9 - 12. For the screening activity, each child will be asked to take approximately 30 minutes to respond to a number of written questions regarding his or her mood, the way he or she feels about himself or herself, and certain behaviors he or she may display that are related to depression and anxiety. Examples of actual statements in the screening include “I am shy,” “I worry about things,” “I am cheerful,” “I feel very tired,” and “I am happy.” The children will respond to the items by indicating how often each item is true for them. Participation will be completely voluntary, and any child who does not wish to participate will be excused from the activity without consequence. We believe that there is very minimal risk in this activity. Therefore, we would appreciate your informed consent for your child to participate. If you agree that your child can participate in this activity, please fill out the bottom portion and return it to your child. He or she will bring it to class with them. If you do not wish your child to participate, please indicate that and your child will be excused from the activity without consequence. If you have any questions about this project, please feel free to contact Georgi Matt at the Indian Child Welfare Act office at 338-7806 or Dr. Susan Crowley at (435) 797-1251.

Thank you for your cooperation,

Susan L. Crowley, Ph.D.
Principal Investigator and Associate Professor
Department of Psychology, Utah State University

Georgia Matt
Student Investigator
Utah State University

I, ____________________, do not wish for my child, ____________________, to participate in the screening activity.

I, ____________________, allow my child, ____________________, to participate in the screening activity.

Parent Signature ____________________ Date ____________________
Appendix C:

Internalizing Symptoms Scale for Adolescents

**ISSA Research Form**

*Please Provide The Following Information About Yourself*

- **My Sex (check one):**
  - [ ] Male
  - [ ] Female

- **My Age**  
- **The Grade I Am In At School**

- **My Race or Ethnic Group (check all that apply):**
  - [ ] African American/Black
  - [ ] American Indian, Eskimo, or Aleut
  - [ ] Asian or Pacific Islander
  - [ ] Hispanic
  - [ ] White/Caucasian
  - [ ] Other

**Directions**

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

<table>
<thead>
<tr>
<th>Example</th>
<th>Never True</th>
<th>Hardly Ever True</th>
<th>Sometimes True</th>
<th>Often True</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel like reading a book</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**How true is this for me?**

<table>
<thead>
<tr>
<th>1. I am shy</th>
<th>Never True</th>
<th>Hardly Ever True</th>
<th>Sometimes True</th>
<th>Often True</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. I worry about things</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. I feel cheerful</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. I have bad dreams</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. I feel important</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Things are hard for me</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. I feel lonely</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. I worry that I will hurt someone</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. I have lots of energy</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10. I have trouble sleeping</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How true is this for me?</td>
<td>Never True</td>
<td>Hardly Ever True</td>
<td>Sometimes True</td>
<td>Often True</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>11. I feel like I might faint</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I get upset easily</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I am good at lots of things</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I feel like I have made too many mistakes</td>
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</tr>
<tr>
<td>15. Lots of things scare me</td>
<td></td>
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<tr>
<td>16. Other people like me</td>
<td></td>
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<tr>
<td>17. I feel like crying</td>
<td></td>
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<tr>
<td>18. When there is a problem it is my fault</td>
<td></td>
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<tr>
<td>19. I have a difficult time breathing</td>
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<tr>
<td>20. I do things as well as other people my age</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>21. I worry that something bad will happen</td>
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<tr>
<td>22. I am comfortable with the way I look</td>
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<tr>
<td>23. I feel sad</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>24. I get scared for no reason</td>
<td></td>
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<tr>
<td>25. I feel sick to my stomach</td>
<td></td>
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<td></td>
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<tr>
<td>26. I laugh and smile as much as other people</td>
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<tr>
<td>27. I feel restless</td>
<td></td>
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<tr>
<td>28. I would rather be alone than with other people</td>
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<tr>
<td>29. I have a hard time concentrating on things</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>30. I feel sorry for myself</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>31. My feelings get hurt easily</td>
<td></td>
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</tr>
<tr>
<td>32. I don’t enjoy anything</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>33. I have a hard time making up my mind</td>
<td></td>
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</tr>
<tr>
<td>34. I think about hurting myself</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>35. I do well in school</td>
<td></td>
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</tr>
<tr>
<td>36. It seems like no one cares about me</td>
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<tr>
<td>37. I feel happy</td>
<td></td>
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<tr>
<td>38. I feel very tired</td>
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<tr>
<td>39. I don’t feel like doing anything</td>
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<tr>
<td>40. I like myself</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
### How true is this for me?

<table>
<thead>
<tr>
<th></th>
<th>Never True</th>
<th>Hardly Ever True</th>
<th>Sometimes True</th>
<th>Often True</th>
</tr>
</thead>
<tbody>
<tr>
<td>41. I worry that other people will not like the way I do things</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>42. I hate it when I am the center of attention</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>43. Bad things happen to me</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>44. I think about dying</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>45. My hands and feet feel sweaty</td>
<td>☐</td>
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</tr>
<tr>
<td>46. I feel like doing things with other kids my age</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
</tr>
<tr>
<td>47. I can't do anything right</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>48. I feel nervous</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>49. I get embarrassed easily</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>50. I have lots of aches and pains</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>51. Sometimes I feel like I am going to explode</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>52. I feel confused</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>53. I feel great</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>54. I believe things will turn out okay for me</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>55. I feel guilty</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>56. I feel terrible when I make mistakes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>57. I don't give up when things get tough</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>58. Things I used to like aren't fun anymore</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>59. I'm afraid that I will fail</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>60. I'm not as good as my parents want me to be</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>61. I try again when I lose</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>62. It feels like I have a lump in my throat</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>63. I feel calm and relaxed</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

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