5-1998

Characteristics of Internalizing Social-Emotional Behaviors of Southwestern Native American Children

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CHARACTERISTICS OF INTERNALIZING SOCIAL-EMOTIONAL BEHAVIORS OF SOUTHWESTERN NATIVE AMERICAN CHILDREN

by

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

of

DOCTOR OF PHILOSOPHY

in

Psychology

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

1998

ABSTRACT

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Utah State University, 1998

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The knowledge base targeting internalizing symptomatology in Native American children is surprisingly limited. As yet, it is not clear if the process and symptoms of internalizing disorders are the same across cultures. The need for further investigation is heightened by the fact that, compared to the majority population, Native Americans are believed to be at greater risk for psychological problems because of impoverished conditions, high unemployment, and high numbers of traumatic events on the reservations. Additionally, the losses of traditional culture and language are considered risk factors for greater psychopathology. The negative ramifications of internalizing disorders (e.g., depression and anxiety) include academic failure, lowered social skills and self-esteem, and greater risk for substance abuse and suicide. Furthermore, evidence suggests that all children with mental disorders are at high risk for severe psychopathology when left unidentified or untreated. It seems clear that additional research is needed to better understand internalizing symptoms among members of this cultural group.

To help meet this need, the present study focused on internalizing disorders among

Native American children from the southwest, utilizing a portion of extant data from the Flower of Two Soils Project. This project was one of very few methodologically sound studies that have been successful in obtaining multisource, multimethod data on social, emotional, and behavioral functioning of Native American children. Data were collected using a modified version of the Child Behavior Checklist (CBCL), Youth Self-Report (YSR), and Teacher's Report Form (TRF) assessment instruments for parents, teachers, and children.

Findings with respect to elementary school-aged children found relatively high rates of depression, anxiety, somatization symptoms and, potentially, disorders. These findings are a cause for concern among parents, teachers, and all agencies responsible for children's mental health. Across all three informant groups a consistent pattern of negative correlations was observed between internalizing symptoms and child competencies. This finding is consistent with previous findings for the general population. However, competitiveness and academic achievement were positively correlated with internalizing symptoms, perhaps indicating that an emphasis on competitiveness and individual achievement is stressful for children from a collectivistic Native American culture.

This was a descriptive study providing broad exploratory information, but there remains a need for more focused research identifying mutivariate relationships among relevant variables. These findings should be cautiously interpreted and with due consideration for the specific cultural and historical context of children and families. Recommendations are included for research and practice.

(125 pages)

DEDICATION

In memory of my father and my mother. Shi shazaai doo shi maa', Carl Thomas doo Alberta Tutt Thomas.

ACKNOWLEDGMENTS

I would like to thank my late parents, Carl Thomas and Alberta Tutt Thomas, for providing me with the basic foundation of life, support, guidance, and believing in being successful through hard and tough times. They always said, "Don't let the sun go down on you." Many times during my life as a student at Utah State University, I almost gave up. I always remembered my parents' ideals and beliefs in never giving up, and this kept me going.

There are other important people who have been supportive and stood by me when times were difficult and I would not have been successful in completing my studies and dissertation if it were not for them. They are my husband and friend, Chris, and my daughter, Christina, for their unconditional love; my brothers and sisters, Rosalyn, Leroy, Evelyn, Tommy, Henry, Brenda, Lea, Bernie, Stella and Jim; my nieces and nephews; and other extended family members.

I would also like to thank my mentor and friend, Dr. Carolyn Barcus, for her support and guidance, and Dr. Susan Crowley, my dissertation chair, for her energy, patience, and perceptiveness. I appreciate my other dissertation committee members, Drs. Gretchen Gimpel, Richley Crapo, and Carla Reyes, taking the time to read my work and provide their recommendations. Thanks also to Dr. Morton Beiser, principal investigator for Flower of Two Soils Project; Mike, Phyllis, Norman, Gail; old friends from the Navajo Reservation; and many others who have touched my life while at Utah State University. A special thank you to Karen Ranson for helping me put the final touches on my manuscript.

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CHAPTER I

INTRODUCTION

Statement of the Problem

The prevalence and overall seriousness of emotional and behavioral disorders of children are becoming progressively greater (Bickman & Rog, 1995). An estimated 12% of all children have a diagnosable mental health disorder (approximately 7.5 million children), half of whom are estimated to have a serious mental health disorder (Saxe, Cross, & Silverman, 1987). Children with mental health problems are at high risk for later adult psychopathology when left unidentified or untreated (Quay, 1986a).

Behavioral and emotional problems in children are usually grouped into two broad classes identified as internalizing and externalizing domains (Cicchetti & Toth, 1991). Internalizing symptoms entail excessive emotional distress and responses directed against the self, resulting in anxiety, depression, social withdrawal, and self-deprecation (Achenbach, 1982; Achenbach & Edelbrock, 1984; Quay, 1986a; Quay & LaGreca, 1986). Conversely, symptoms of externalizing problems include hyperactivity and delinquent and aggressive behavioral patterns that are characteristic of violating the norms of society (Achenbach, 1966).

Internalizing problems are the most common pattern of psychopathology found in children and are considered to be an "overcontrolled" form of psychopathology (Achenbach, 1982; Achenbach & Edelbrock, 1984; Quay, 1986a). Because of their covert, subjective nature, internalizing disorders are difficult to study and are often overlooked by children's caregivers and teachers (Cytryn & McKnew, 1996). In short, internalizing disorders among children represent an extensive and serious problem that is difficult to address. For these reasons, the present study will focus on internalizing disorders.

The question naturally arises as to what extent and whether types of symptoms found in the internalizing dimension are similar across diverse cultures. Many ethnic minority youth have unique mental health issues, partly because of being culturally different and living under disadvantaged conditions (Rivers & Morrow, 1995). Although internalizing symptoms and related psychological disorders are a problem for all children, with minority children these problems may be even greater. The National Center for Health Statistics (1991a, 1991b) reports psychological problems have a greater impact on minority members than on Caucasian children. These psychological problems continue to increase as ethnic populations grow, primarily within the younger age groups (Aponte & Crouch, 1995).

Research studies conducted with African Americans suggest higher rates of depression in this population than are found among European Americans, and these disorders are frequently undetected, undiagnosed, and untreated (Dembo, 1988; Gibbs, 1982). Other studies suggest that Hispanic, Asian American, and Native American youth present high frequency of mental health problems because minority group status is associated with higher overall stress level and psychological maladjustment (Gibbs, 1984; Myers, 1989; Tolmach, 1985). Additionally, Canino and Spurlock (1996) found in a group of Puerto Rican children that the most common internalizing symptoms were sleep disturbances, anxiety, and fears. Furthermore, some evidence suggests that psychopathology is associated with low socioeconomic status, male gender, young age, poor medical history, and living in a stressful environment (Bird, Gould, Yager, Staghezza, & Canino, 1989). Children from disadvantaged or disturbed families were often found to have low self-esteem. Additionally, internalizing symptoms such as sleep disturbance, somatic complaints, fearfulness, and withdrawal are commonly found in these groups of children (Beitchman, Zucker, Hood, DaCosta, & Akman, 1991). A review of the literature (McShane, 1988) indicates there is little empirical research describing internalizing disorders among Native

American children. Therefore, the present study will focus on internalizing problems (such as depression, anxiety, and somatization) in Navajo children.

Internalizing Disorders and Native American Children: An Overview

The research on majority children indicates that internalizing disorders affect between 7% and 33% of children depending on the definition and severity of symptom criteria used to identify cases (Petersen et al., 1993). The prevalence of internalizing disorders in children varies depending on the disorder studied and diagnostic criteria utilized. Childhood depression has been identified as one of the leading mental health disorders among all children. Both anxiety and depression may lead to psychopathology when left unidentified or untreated in children (Quay, 1986a). Children who have a notable depressive syndrome are likely to have continuous or recurrent bouts of depression, as well as other persistent psychiatric difficulties (Kovacs, Feinberg, Novak-Crouse, Paulauskas, & Finkelstein, 1984).

Prevalence estimates for the most common internalizing problems in childhood (i.e., depression and anxiety) have ranged from 2% to 7.3%, with a median prevalence estimate of 3.9% (Walters, 1996). Generalized and specific fears are also very common in childhood (Morris & Kratochwill, 1990). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, 1994), separation anxiety disorder is common in children and adolescents with prevalence estimates averaging about 4% in this population (DSM-IV, 1994). The research on internalizing disorders to date has focused primarily on majority children with few prevalence estimates available for minority children.

There is little information on internalizing disorders among Native children in the literature. Therefore, an examination of related research on Native American child and adolescent mental health and disorders may be informative. American Indian adolescents have

more serious mental health problems than the overall U.S. population (U.S. Office of Technology Assessment, 1990; USOTA). This finding was supported by Indian Health Services (IHS) suggesting Native American adolescents living on Indian reservations display excessive mental health problems in comparison to the general population (Nelson, 1989). Berlin (1986) found emotional and behavioral problems among Native American adolescents similar to the majority adolescent population. However, the prevalence of psychological problems was greater, problems were more severe, and treatment was more challenging in a Native American population as compared to the majority culture. Furthermore, a national survey of 14,000 Native American youth found that 11.4% experience hopelessness, 6.6% worry about losing their mind, and 18.3% experience constant sadness (University of Minnesota Adolescent Health Program, 1992). Other findings report that Indian youths have more serious problems than youth of other ethnic minority groups with respect to posttraumatic stress disorder (PTSD), depression, suicide, anxiety, substance abuse, adjustment and behavior disorders, and issues related to cultural identity (USOTA, 1990).

In the same vein, reports from the Navajo Children's Summit (Joe, 1996; Smithson, 1996) suggest that children of the Navajo tribe face greater risks than majority children due to having to synthesize ways of life from two different cultures and often contending with family violence, being in a single-parent family, alcoholism, child sexual abuse, child physical abuse, and poverty. This was also evident in empirical findings suggesting that the high rates of behavioral and emotional problems may possibly emerge from dysfunctional families, alcoholism, abuse, violence, neglect, and loss of cultural and social supports (Nelson, 1989; Dinges & Duong-Tran, 1993).

Mental health researchers have devoted their energies to the study of patterns of maladaption and incompetence (Garmezy, 1983). With ethnic minority populations growing

(Rivers & Morrow, 1995), the sheer numbers of internalizing disorders and related psychological disorders among minority youths, including Native Americans, may increase in the future. These circumstances have generated a serious need for accurate information describing positive aspects of children's social, emotional, and behavioral functioning. In particular, information regarding social and behavioral competencies is critical for effective mental health promotion, for prevention of specific internalizing problems, and for treating such problems when they arise.

Mental health professionals have identified the need to improve quality of mental health services for Native American families and children (Shore, 1989). However, empirical research on mental disorders among Native American children, in particular childhood depression and anxiety of Navajo children, has been meager. In recent years, few studies have been conducted, due to the tedious approval process with tribal governments. The negotiation and approval process for community research on any Indian reservation involves significant time, preparation, and expense (Norton & Manson, 1996). The dilemma of the need for community based research, combined with the difficulties of doing such research, has been a long-standing challenge for many in the field of Native American mental health. The ambiguity of findings from the few studies makes it challenging to understand the incidence, prevalence, and significance of internalizing disorders in children in all Native American communities, including the Navajo Reservation.

Study Purpose and Research Questions

The purpose of the study was to determine the prevalence of internalizing symptoms, and the relationships among internalizing symptoms, competencies, and family variables, as defined within a Western culture, with a sample of Native American children and families who live on a reservation. The lack of information and sparse empirical studies on internalizing disorders

among Native American youth clearly show the need for additional research in this area. The current project will focus on a sample of elementary school-age Navajo children from the Flower of Two Soils Project (Beiser, 1989; Sack, Beiser, Phillips, & Baker-Brown, 1993). The Flower of Two Soils Project was an epidemiological study jointly funded by the National Institute of Mental Health (NIMH), the National Health Research Development Program of Canada, and the W.T. Grant Foundation.

The wealth of data collected from the sample of Navajo children and families who participated in the Flower of Two Soils Project has not yet been fully analyzed. Therefore, to help meet this need, the present study utilizes a portion of the extant data set from the Flower of Two Soils Project (Beiser, 1989; Sack et al., 1993), a longitudinal study of mental health and competencies across Native American groups. The extant data set from the Flower of Two Soils is now 10 years old, and this constitutes a limitation of the present study. However, this project has been the only methodologically rigorous study that has been successful in obtaining information on social, emotional, and behavioral functioning from Navajo caretakers, children, and teachers. The following research questions will serve to guide the study:

1. What is the prevalence rate of internalizing symptoms as reported by parents, teachers, and children?

2. What is the relationship among internalizing symptoms, social competence, instrumental competence, language ability, community mindedness, competitiveness, and academic achievement, within and across information sources?

3. What is the relationship between internalizing symptoms and family characteristics?

CHAPTER II

REVIEW OF THE LITERATURE

In the literature review that follows, topics relevant to understanding the history of internalizing disorders in school-age children, specifically depression and anxiety, will be outlined. These topics include: (a) taxonomies of childhood psychopathology, (b) behavioral dimensions and the Child Behavior Checklist, (c) specific types of internalizing disorders, (d) comorbidity of depression and anxiety symptoms, (e) competencies and protective factors, (f) correlates of internalizing disorders, (g) internalizing disorders and Native Americans, (h) Navajo culture, (i) acculturation, (j) health and mental disorders among Navajo, and (k) cultural shaping of etiology and symptomology.

Taxonomies of Childhood Psychopathology

The continuous movement in developing empirically sound taxonomies of child psychopathology has resulted in the classification of behavioral and emotional problems into two broad global syndrome areas, most commonly referred to as internalizing and externalizing disorders (Achenbach, 1966). The broad dimensions of classification are based on factor analytical studies identifying two general classification areas in what has been called the behavioral dimensions approach (Merrell, 1994). This approach is an empirically sound method for categorizing behavioral, social, and emotional problems exhibited by children and youth. The paradigm used in the behavioral dimensions approach is rooted in empirical methods of measuring behavior and complex statistical procedures that allow for the identification of behavioral clusters; that is, clusters of intercorrelated behaviors. The use of these techniques in classification became prominent between the late 1960s and 1980s, mainly through the work of

Thomas Achenbach and his colleagues (Achenbach, 1982; Achenbach & Edelbrock, 1978, 1981, 1984) and by Herbert Quay and his colleagues (Quay, 1977, 1986b; Quay & Peterson, 1967, 1987). These investigators developed and enhanced classification of behavioral problems through the use of sophisticated rating scales with empirically derived factor structures.

The broad band approach developed by Achenbach has been useful in showing commonalities across a wide range of internalizing disorders. For instance, Reynolds (1990) indicated that aspects of multivariate behavioral dimensions can be found in the Diagnostic and Statistical Manual of Mental Disorders (3rd ed.; American Psychiatric Association, 1980). These patterns continue to be evident in the recent DSM-IV (1994).

Behavioral Dimensions and the Child Behavior Checklist System

In the process of developing a classification system for identifying behavior problems Achenbach (1966) began with a behavior problem checklist obtained from a survey of existing literature and case histories of 1,000 child psychiatric patients. The checklist was later transformed into the Child Behavior Checklist, or CBCL (Achenbach, 1978). The CBCL encompassed a diverse array of behavior problem items and items reflecting adaptive competencies, including participation in various activities, social relationships, and school success. The CBCL is filled out by the parent or parent surrogates. The CBCL led to the development of the Youth Self-Report (YSR) and the Teacher's Report Form (TRF), as additional sources of information from children and teachers on social and emotional problems and adaptive behavioral competencies. The YSR is a self-report instrument. The TRF is filled out by teachers rating students on items related to emotional functioning, school performance, and adaptive functioning. The CBCL, YSR, and the TRF are all a part of the multiaxial CBCL system, intended for use as a "cross-informant" assessment instrument (Achenbach, 1991;

Merrell, 1994), and for identifying patterns of reported problems that characterize symptoms into either internalizing or externalizing dimensions, with a separate factor that includes behavioral indicators of thought problems. There's also subscales for social problems and attention problems that don't fall in the internalizing or externalizing scale

In the various stages of development of both parent and teacher rating scales of the CBCL, Achenbach and his colleagues utilized a factor analytic methodology in identifying two general classification dimensions referred to as broad band syndromes that accounted for many related emotional and behavioral problems in children and adolescents (Achenbach, 1991; Reynolds, 1990).

The two broad band syndromes utilized in the CBCL system are internalizing behavioral problems that relate to overcontrolled behavior, and externalizing problems that relate to undercontrolled behaviors, with a separate factor that includes behavioral indicators of thought problems. Internalizing types of behavior or symptoms may include excessive emotional distress such as crying, or other responses directed against the self resulting in anxiety, depression, social withdrawal, and self-deprecation (Quay & LaGreca, 1986). The broad band internalizing dimension encompasses several narrow band syndromes. The narrow band syndromes are smaller behavioral clusters indicating specific types of behavioral, social, or emotional problems. The narrow band syndromes that form the internalizing grouping are withdrawn, somatic complaints, and anxiety/depression. Specific examples of internalizing narrow band symptoms include problem areas related to anxiety, fear, shyness, low self-esteem, sadness, suicide, and depression (Reynolds, 1990; Ollendick & King, 1994).

Internalizing symptoms are particularly in need of further research because they are often difficult to detect and can be mingled with other sociocultural conditions. Poznanski and Zrull, (1970), suggested depressive symptoms such as guilt, feelings of rejection, lethargy, low

self-esteem, and negative self-image are difficult to observe, making an assessment more difficult in detecting internalizing problems in school children. Some consensus has emerged among educators in the field that internalizing disorders are not detected early in the elementary schools because teachers are often busy with disruptive children (Seppa, 1997). Internalizing symptoms are often more disturbing for a child than others around him or her, given the self-directed nature of these disorders, making it difficult for school personnel and parents to recognize problematic internalizing symptoms in children (Cytryn & McKnew, 1996).

Specific Types of Internalizing Disorders

This section of the literature review will focus on narrow band internalizing disorders such as depression, anxiety, somatic complaints, and social withdrawal in school-age children. These topics include: (a) historical perspectives on depression, (b) childhood depression, (c) prevalence of depressive disorders, (d) childhood anxiety, (e) phobias, (f) separation anxiety, (g) overanxious disorder of childhood, (h) posttraumatic syndrome, (i) prevalence of anxiety disorders, (j) somatic complaints, and (k) social withdrawal.

Historical Perspectives on Depression

Recognition of depression as a form of psychopathology has been documented since ancient Greece (Horthersall, 1990; Weller & Weller, 1984). Hippocrates is cited (470-360 BC) as among the earliest to identify and define melancholia as one of the primary forms of mental disorders (Horthersall, 1990; Weller & Weller, 1984). Robert Burton noted in his 1621 paper, "The Anatomy of Melancholy," that children can become "so disheartened and cowed, that they never after have any courage, a merry hour in their lives, or take pleasure in anything" (Burton, cited in Weller & Weller, 1984, p. 38). Recent history suggests that for some years

children were considered never to be depressed; however, in recent literature there appears to be agreement regarding the existence of childhood depression and basic symptoms of depression that are the same from child to child, no matter their social class or family environment (Cytryn & McKnew, 1996).

Childhood Depression

Childhood depression has been generally recognized as a distinct illness for over 20 years (Cytryn & McKnew, 1996). It is marked by mood and behavioral signs which may include sadness of facial expression, crying, slowness of movement, emotional reactions such as irritability, disturbances of appetite or sleep, school failure, and/or physical complaints for which no physical cause can be found. In verbal expression of depression through talking or writing, the child may reveal feelings of hopelessness, helplessness, unattractiveness, being unloved, guilt, suicidal ideation, sadness, a feeling of worthlessness, and a conviction that nothing one can do matters. If left untreated, children who are significantly depressed have an unfavorable prognosis, at least in adolescence (Apter et al., 1982; Poznanski, Krahenbuhl, & Zrull, 1976).

Cantwell (1990) noted three common terms used in explaining depression: depression as a symptom, depression as a syndrome, and depression within the framework of a depressive disorder. Firstly, depression as a symptom is a state that is common to all mankind. It is marked by feeling unhappy, sad, low, or being "down in the dumps," blue, or despondent (Hammen & Zupan, 1984; Merrell, 1994). These subjective markers are usually transitory, lasting a few hours or a few days, generally have minimal impact on the functioning of the individual, and are only a small part of the full-blown depressive syndrome or disorder (Cytryn & McKnew, 1996). Under many circumstances, a depressed mood may be an appropriate

reaction, for example, when a loved one dies or when a person suffers other losses. Transitory depressive moods are not usually a cause for concern or intervention.

Secondly, depression as a syndrome, or depressive sympotomology, is described as a constellation of problems or a grouping of signs and symptoms that occur together to constitute a recognizable condition. A depressive syndrome commonly involves not only mood changes but additional changes in psychomotor functioning, cognitive performance, and motivation (Cantwell, 1990). According to the DSM-IV (1994), a syndrome is less specific than the disorder or disease. For example, a child may show both an unhappy mood and a sense of self-deprecation. Other symptoms associated with the syndrome of depression include sleep disturbance, lessened desire to socialize with peers, change in attitude toward school, change in school performance, physical complaints, loss of usual energy, and unusual change in appetite or weight. Certain symptoms such as somatic complaints, irritability, and social withdrawal have been identified as particularly common in children (DSM-IV, 1994). Although multiple depressive symptoms within the syndrome may be present, a child may not meet criteria for any of the diagnoses subsumed under the DSM-IV (1994) general category of mood disorders.

Thirdly, depression as a disorder includes a set of symptoms which meet specific diagnostic criteria as within the context of the DSM-IV (1994) classification system. The criteria used for adults are also used for children. DSM-IV (1994) lists three types of depression: (a) major depressive disorder, single episode; (b) major depressive disorder, recurrent; and (c) dysthymic disorder.

Major depressive disorder, single episode, corresponds to what is often called acute depression, and major depressive disorder, recurrent and dysthymic disorder correspond to what is often referred to as chronic depression (Cytryn & MCNEW, 1996). To meet the criteria for major depression, adolescents and children, like adults, must have experienced at

least five or more symptoms during the same 2-week period. For children and adolescents, at least one of the symptoms must be either a depressed (or irritable) mood or loss of interest or pleasure. The other symptoms must be from among the following: (a) changes in weight or failure to make anticipated weight gains, (b) disturbance of sleep, (c) slowness of movement or psychomotor agitation, (d) loss of pleasure and energy, (e) feelings of worthlessness or abnormal amounts of guilt, and (f) thoughts of death, including repeated suicidal ideation or plans for suicide, as well as attempts. All of these may not be present in one individual, but at least five must be present for a diagnosis of major depression.

Prevalence of Depressive Disorders

The prevalence of major depressive disorder in children ages 4 to 15 years approaches 3% and more than doubles in adolescence (Fleming & Offord, 1990). Costello (1989) suggested that the prevalence rate of depressive disorders in children and adolescents ranges from about 1% to 5.2%. Depressive disorders are not very common among prepubertal children but often become more common in adolescents. Some research findings suggest controversy about male-to-female ratio of depressive disorders among prepubertal children (Beitchman, Inglis, & Schachter, 1992). In prepubertal children, boys and girls are equally affected (APA, 1994), but some studies indicate that depressive episodes occur twice as frequently in girls as in boys (Beitchman et al., 1992). Other findings suggest that depressive disorders are equally common in girls and boys (Fleming, Offord, & Boyle, 1989; Kashani, McGee, Clarkson et al., 1983; Velez, Johnson, & Cohen, 1989), while others suggest depression is more common in boys than girls (Anderson, Williams, McGee, & Silva, 1987). At this time, there is no information regarding prevalence of depression with regard to Native American children.

Childhood Anxiety

Anxiety in children has increasingly become the focus of research and clinical efforts over the past several years (Strauss, 1990). Prior to looking at anxiety as a disorder for children, the symptology was overlooked, simply because symptoms were common and transient (Wolfson, Fields, & Rose, 1987).

Childhood anxiety can also be considered as a symptom, as a syndrome, and as a disorder. Firstly, anxiety as a symptom is a state that is common to all human beings. It is marked by internalizing responses that may involve subjective feelings or behavioral responses characterized by disturbances in four main areas: motor tension, autonomic hyperactivity, apprehensive expectation, and vigilance and scanning. Motor tension may be manifested by subjective feelings of shakiness, jumpiness, actual trembling, gritting of teeth, clenching of fists, tension, muscle aches, fatigability, inability to relax, fidgeting, restlessness, and an easy startle response (Mandos, 1993; Merrell, 1994; Roy-Byrne, Wingerson, Cowley, & Dager, 1993). Finally, the vigilance and scanning component may lead to difficulty in concentrating, insomnia, feeling "on edge," irritability, and impatience (Mandos, 1993; Merrell, 1994). The symptoms of autonomic hyperactivity may include sweating, racing or pounding of the heart, cold clammy hands, dry mouth, lightheadness, dizziness, paresthesia, upset stomach, hot or cold spells, frequent urination, diarrhea, sensation of a lump in throat, flushing, pallor, and/or a high resting pulse and respiration rate (Mandos, 1993; Roy-Byrne et al., 1993). Apprehensive expectation may be expressed as anxiety, worry, fear, and rumination on, or anticipation of, misfortune to self and others. These subjective markers are usually transitory (lasting a few hours or a few days), generally have minimal impact on the functioning of the individual, and are only a small part of the full-blown anxiety disorders. Transitory anxiety symptoms do not cause significant clinical distress or impairment in social, academic, or other important areas of functioning.

Secondly, anxiety as a syndrome is generally described as a constellation of problems or a grouping of signs and symptoms that occur together that constitute a recognizable condition. An anxiety syndrome commonly involves not only excessive anxiety and worry or sleep disturbance but additional changes in psychomotor functioning and cognitive performance. Some specific symptoms associated with the syndrome of anxiety found in children are agitation, fears, excessive anxiety and worry, which are characterized by intense subjective distress and accompanied by maladaptive patterns of thinking and behavior (Strauss, 1990). Although multiple anxiety symptoms may be present as a syndrome, a child may not meet criteria for any of the diagnoses subsumed under the DSM-IV (1994) general category of anxiety disorders.

Thirdly, anxiety as a disorder includes a set of symptoms which meet specific diagnostic criteria based on the DSM-IV classification system (1994). The disturbance causes clinically significant distress or impairment in social, academic, or other important areas of functioning for the child or adolescent. The DSM-IV (1994) lists four different disorders applying to children in where anxiety is the major feature. The remainder of this section on childhood anxiety will be broken down into the four childhood disorders categories: phobias, separation anxiety, overanxious disorder of childhood, and PTSD.

Phobias

A phobia is described as an intense and constant fear of situations, objects, environment, or people (e.g., fear of being in an enclosed space or fear of clowns). Phobias are described as maladaptive and can lead to crippling effects. Fear of animals, blood, and other common objects in the natural environment such as thunderstorms, lightning, heights, and water are particularly common and are usually transitory in childhood. Additionally, a child

may experience intense fear of social or performance situations resulting in possible embarrassment that is referred to as a social phobia.

Anxiety is closely related to fears and phobias, overlapping in many areas, but, historically, some differences have been drawn among these categories. A phobia is thought to be different from anxiety. Fear refers to an individual's fear of a very specific stimulus (e.g., noise or darkness), whereas anxiety is a more dispersed type of reaction (apprehension) to stimuli that is not as specific or clear in nature. Phobias and fears are associated in that both involve intense reactions to specific stimuli, but phobias are more consistent, maladaptive, and crippling (Barios & Hartmann, 1988; Morris & Kratochwill, 1983).

Separation Anxiety Disorder

Separation anxiety disorder is distinguished from the normal response experienced by children with their caretakers as a more "intense and persistent" anxiety. The essential feature of separation anxiety disorder is distress about separation from home or from a major attachment figure (usually the parents or primary caretakers), with the anxiety beyond an individual's expected developmental level. Additionally, other possible features are unrealistic and persistent worry about attachment figures being the victims of major harm or death, refusal to attend school or day care to stay close to caretaker, persistent avoidance of being out of sight of attachment figure (e.g., "clinging" and "shadowing"), and persistent nightmares (DSM-IV, 1994; Merrell, 1994). Children with this disorder must demonstrate at least three of the nine diagnostic criteria for a minimum of 2 weeks, and the disturbance must cause significant distress or impairment in social, academic, or other important areas of functioning of the child or adolescent's life (APA, 1994).

Overanxious Disorder of Childhood

Overanxious disorder is characterized by intense subjective distress and accompanied by maladaptive patterns of thinking and behaviors (Strauss, 1990). The generalized anxiety is not focused on a specific object or situation, but instead overanxious children are described as "worriers" and display excessive or unrealistic worry about multiple situations and events. Children diagnosed with overanxious disorder show evidence of at least four of the seven diagnostic criteria for a period of 6 months or longer, that may involve excessive or unrealistic worry about future events, past behavior, personal competence, a variety of somatic complaints, marked self-consciousness, excessive need for reassurance, and marked feelings of tension. Symptoms of overanxious disorder are identical to those of the adult generalized anxiety disorder (DSM-IV, 1994).

Posttraumatic Stress Disorder

Posttraumatic stress disorder (PTSD) is described by DSM-IV as development of characteristic symptoms following exposure to extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate (APA, 1994). In children, distressing dreams of the event may occur within several weeks, changing into generalized nightmares of monsters, of rescuing others, or of threats to self or others. Children's response to the traumatic events may involve intense fear, helplessness, headbanging, and disorganized or agitated behavior. Sexually traumatized children may have had developmentally inappropriate sexual experiences without threatened or actual violence or injury. Unlike adults, young children usually do not have the sense that they

are reliving the past; rather, the reliving of the trauma may occur through repetitive play in which themes or aspects of the trauma are expressed (e.g., a child who was involved in a serious automobile accident repeatedly reenacts car crashes with toy cars). Furthermore, children may have the sense of foreshortened future, "life is too short," and may exhibit various physical symptoms, such as stomachaches and headaches.

In addition to these four anxiety disorder subtypes that arise most commonly in children and adolescents, youngsters may also be diagnosed using the DSM-IV (1994) classification system as having any of the adult anxiety diagnoses, including panic disorder and obsessive-compulsive disorder. These disorders will not be reviewed because of the low prevalence rates in young children.

Prevalence of Anxiety Disorders

Bernstein and Borchardt (1991) suggested that anxiety disorders are the most common nervous and emotional problems encountered by physicians and mental health practitioners. In a clinical sample of children ages 7 through 11, 8.9% met the criteria for anxiety disorder (Costello, 1989). It appears that girls generally report some type of anxious symptomology more often than boys (Morris & Kratochwill, 1990). However, recent findings indicate few differences in sex ratios for anxiety disorders in early childhood, except for overanxious disorder, which was found to be more common in girls (Beitchman et al., 1992). Separation anxiety may be the most prevalent anxiety disorder, with 3.5% to 4% of the general child population meeting the criteria for this disorder (DSM-IV, 1994; McGee & Silva, 1987). Although specific rates are unknown (Nagel, 1994), Navajo people are likely to suffer disproportionate incidence and prevalence of anxiety disorders due to high rates of stress and trauma, which appear to be common on the Navajo Reservation.

Somatic Complaints

Narrow band behavior problems of somatic complaints and social withdrawal do not fall as easily under specific DSM-IV (1994) categories applying to children. Nonetheless, they are important to discuss because they have been found to be strongly related to childhood depression and anxiety disorders (Merrell, 1994). Somatization has been defined as any somatic presentations with contributing psychological factors or conflicts that result in communication through somatic symptoms without known medical cause (Garralda, 1992). On the CBCL, somatic problems are indicated by reports of dizziness, fatigue, physical pains including headaches, nausea, vomiting, eye problems, and skin problems. It appears that somatic complaints are a common phenomenon among children because of their limited ability to verbalize emotional distress. A common complaint during childhood is the occurrence of headaches (Blanchard & Andrasik, 1985). Extensive epidemiological studies suggest that almost 40% of children have headaches by age seven with this rate increasing to 75% by age 15 (Sillanpaa, 1983). Other investigators such as Greene and Thompson (1984) suggested that somatic complaints (e.g., abdominal pain, limb pain, backache, tingling sensation on neck, headaches) occur at some point in time in 15% to 20% of all school children, and that in 90% of the complaints there is no identifiable physical origin. Any of these physical symptoms may be reported by children who are experiencing depressive, anxious, or withdrawn symptoms (Merrell, 1994). At the present time, no studies can be found that addressed somatic complaints within Native American populations.

Social Withdrawal

Socially withdrawn children are unresponsive to social interactions initiated by others and lack specific social skills to make and keep friends. On the CBCL, this narrow band is

represented by behaviors such as secretiveness, shyness, sulking, staring blankly, underactivity, unhappiness, refusal to talk, and preferring to be alone (Achenbach, 1991). Social withdrawal is one of the major correlates of depression and anxiety (Merrell, 1994), and is a common problem observed in children who are referred for mental health services (Apolloni & Cooke, 1977). Studies of social withdrawal among Native American populations were difficult to locate, but one study found that children from one Native American reservation responded to frequent traumatic stressors with interpersonal distancing, isolation, sadness, loneliness, and withdrawal (Long, 1983).

Comorbidity of Depression and Anxiety Symptoms

Currently, in the literature there is a large and growing body of evidence that strongly supports the idea of behavioral covariation among characteristics of internalizing disorders such as depression, anxiety disorders, and somatic complaints (Maser & Cloninger, 1990). Among children, estimates of comorbidity of internalizing disorders range from approximately 16% to 62% (Brady & Kendall, 1992). The range appears rather large, but a consensus exists that co-occurring symptoms of anxiety and depression have clinically significant implications (Kendall, Kortlander, Chansky, & Brady, 1992). Other findings indicate that "pure" depression in children and adolescents is a rare entity and that anxiety is the most common comorbid diagnosis, along with substance abuse (Fleming & Offord, 1990), and externalizing disorders (Merrell, 1994).

Internalizing problems in general (Fischer, Rolf, & Cummings, 1984), depressive disorders (Kovacs et al., 1984), and anxiety disorders (Bernstein & Borchardt, 1991) have been found to be quite stable across time, with symptoms frequently persisting into adolescence and adulthood.

Competencies and Protective Factors

The roles of culture and competencies with respect to internalizing symptoms need attention as part of protective systems that may prevent negative consequences of internalizing disorders. Competence has many meanings, but generally refers to a pattern of effective adaption in the environment, in terms of success at the major tasks expected for a person of a given age and gender, in the context of the person's culture (Masten & Coatsworth, 1998). Competencies may be closely defined in terms of specific domains of achievement, such as academics, peer acceptance, or following instructions. Competence results from complex interactions between a child and his or her environment, changing as the child develops and grows. Recent literature suggests that a child's capabilities and the context in which the child lives are both major influences on the development of competence (Oerter, 1986).

A child may be seen as competent when that child lives in a cultural or community context that differs greatly from the larger society in which the community or cultural group is embedded (Coll et al., 1996). Children could be judged as competent in one context and incompetent in another because they have to live and survive in a number of systems, embedded within many other systems, such as families, community, and school. As children grow up, the contexts in which they must function may change, and the challenges they must negotiate to demonstrate competence will differ (Masten & Coatsworth, 1998).

Competence, whether instrumental (Compas, 1995), social (Harter, 1990) or emotional (Saarni, 1997), is indicated by coping styles and behaviors that are effective within a community for individuals to reach desirable goals or outcomes. Competencies have as great an impact on children's adaptive functioning as behavioral problems, and self-perceived competence has been positively associated with school achievement and stress coping (Harter,

1990). However, criteria used in deciding whether a child is competent can be different when a child lives in a cultural or community context that differs markedly from the larger society in which the community or cultural group is embedded (Oerter, 1986). For example, Navajo parents may have different values and expectations about competencies that may be important for the prevention of internalizing disorders in Navajo children.

Correlates of Internalizing Disorders

The term "correlate" is used to denote those factors which may have a high degree of relationship to internalizing symptoms of children. Internalizing disorders share a number of common risk factors and consequent impairments. A number of correlates will be examined with regard to the various internalizing problems of childhood.

In the general population, childhood depression has been associated with parental influence, life events, and family interactions patterns (Miller, Birnbaum, & Durbin, 1990). Numerous studies have also shown family dysfunction and stressful life events, high rates of parental stress, death of mother or father, family separation, and family conflicts to be associated with childhood depression (Fleming & Offord, 1990; Merrell, 1994). Additionally, there appears to be a relationship between a "loss" (identified as the loss of an animal or person that is close to the child) and childhood depression.

Other findings suggest marital instability and parental conflicts before and after divorce are associated with increased risk of internalizing disorders in children (Emery, 1982; Emery, Joyce, & Finchman, 1987; Grych & Finchman, 1990; Rutter, 1989; Wallerstein, 1991). Psychological maltreatment, whether perpetrated by parents or others, also tends to be associated with internalizing symptoms (Seagull, 1997). Additionally, some evidence suggests that negative events outside the family context, such as school problems, acculturation stress,

and friendship problems, may be associated with childhood depression and anxiety (Merrell, 1994; Rogler, 1993).

Children sexually abused at a young age may be at high risk for internalizing symptoms. Sexually abused young girls are likely to report or show depressive symptoms, emotional problems, low self-esteem, predominately negative self-image, and other internalizing difficulties (Cohen & Mannarino, 1988; Friedrich, Urquiza, & Beilke, 1986; Goldston, Turnquiest, & Knutson, 1989; Kalko, Moser, & Weldy, 1988; Tong, Oates, & McDowell, 1987). School-age children who have been sexually abused for more than 2 years tend to show the most severe depressive symptoms (Johnston, 1979). Children who have been abused by father figures are the most disturbed, with depression and withdrawal as the most common sequelae (Adams-Tucker, 1982).

Cytryn and McKnew (1996) stated that children under age 14 rarely commit suicide. However, suicide in this age group appears to be on the rise (Cytryn & McKnew, 1996). There is strong evidence that suicidal thoughts or behaviors are common, especially among depressed children 6 to 12 years old. They worry about school failure, disturbed friendships, fears of parental punishment, or changes in the family or school (Kovacs, Goldston, & Gatsonis, 1993; Pfeffer, Conte, Plutchik, & Jerrett, 1980).

Internalizing Disorders and Native Americans

Symptomology

A review of literature indicates there is no empirical research describing internalizing disorders among Native American children. Therefore, broader reviews of internalizing symptoms in minority children will be examined.

Studies of cross-cultural generality show the two dimensions of internalizing and

externalizing types of behaviors to have emerged very clearly in studies of Hawaiian American adolescents (Gordon & Gallimore, 1972), American Indian adolescents (O'Donnell & Cress, 1975), and Mexican American elementary (Touliatos & Lindholm, 1976) and preschool-aged children (O'Donnell, Stein, Machabanski, & Cress, 1982). However, recent studies with various ethnic groups and Native American populations which examine similarities and differences of internalizing symptoms between the various ethnic groups have not been conducted.

Depression and anxiety are frequently cited as commonly experienced distress by Native American youth. McShane (1988) sought to identify research studies focusing on internalizing disorders of Native American Indian children and found a complete absence of studies. There were virtually no research studies that attempted to explore etiology, characteristics, course, incidence, prevalence and effects of internalizing disorders among Indian children. Additionally, tribally specific correlates of internalizing disorders have not been investigated (McShane, 1988). A study conducted by Development Associates in 1983 used a screening instrument to screen for depressive symptoms in a school population of Native American first through twelfth grade students, and found 56% of students frequently were troubled by depression (USOTA, 1990). In another similar study in 1981, Indian Health Services used a mental health service utilization review and found 3.3% of children reported depression (USOTA, 1990). Anxiety, fear, and social withdrawal have not yet been investigated in Native American children. However, these symptoms have been identifed to have strong relationships to poor self-concept, low self-esteem, identity conflicts, suicide, substance abuse, school failure, sexual abuse, child abuse, and emotional abuse (McShane, 1988).

Correlates

In many Native American communities, it appears that risk factors for the development of internalizing disorders are often multiple and interlocking. Some preliminary findings from the Flower of Two Soils study suggest risk factors for depressive symptoms appear to be multifaceted and nonspecific. The nonspecific factors include themes of loss, poor self-esteem, parental use of alcohol, single-parent family, number of stressors in past year, and family dysfunction (Beiser, 1989). Furthermore, other risk factors such as family disorganization, multiple arrests of caretakers, losses by divorce or desertion, and attending boarding school have been documented to be associated with childhood depression among American Indian children (Dizmang, Watson, & May, 1974).

Because social withdrawal or isolation is a major correlate of internalizing problems (Merrell, 1994), Native American children who experience feelings of rejection, withdrawal, and alienation are likely to have internalizing symptoms and poor social adjustment (Bryde, 1970). Other studies suggest that Native American children respond with interpersonal distancing, isolation, sadness, loneliness, and withdrawal as a result of traumatic losses. These children respond with greater intensity to the traumatic losses than children in the general populations (Long, 1983).

Internalizing symptoms such as depression and depressive thinking have been found to be strong correlates of suicidal behavior (Kashani, Goddard, & Reid, 1989). The rate of suicide varies from one Native American community to the next and appears to vary over time (Berlin, 1986; Shore, 1974; USOTA, 1990). Within many Native American communities, youth suicide rates have risen more rapidly over the past three decades than among nonnatives (USOTA, 1990). Some preliminary findings from the Flower of Two Soils project suggest that 20% of second through fourth grade Indian children endorsed either "sometimes" or "often" to the item

"Life is not worth living." Findings from this study suggest that Indian children evidence less depressive symptoms but more suicidal thoughts than do similar Caucasian children (Sack, Beiser, Baker-Brown, & Redshirt, 1994).

Native American youth have more serious problems than youth from other ethnic minority groups with respect to PTSD. Native children have to deal with harsh living and social conditions on the reservations, including high incidence of accidents and violence, and they hear stories through their parents and/or grandparents who were affected by severe trauma of the past. Native children have to continue experiencing these traumas referred to as having secondary PTSD (Epperley, 1991). Secondary PTSD is described as adolescents and children having to repeat the generational experience of discrimination, unemployment, poverty, anger, depression, traumas, and/or alcoholism (Berlin, 1987; Epperley, 1991).

Assessment

Within the last 10 years, there has been an increase in assessment techniques for use in clinical and research settings to measure depression and anxiety in children (Kaslow & Rehm, 1985; Strauss, 1990). Several assessment instruments have attempted to encompass statistical techniques in identifying behavioral clusters for externalizing and internalizing behavioral problems.

Little of the work on assessment tools measuring depression for children and adolescent populations has addressed American Indian youth populations. However, the last several years have been characterized by a growing number of attempts to develop adequate means of assessing depression and associated symptomatology among Native American adolescents (Manson, Ackerson, Dick, Baron, & Fleming, 1990). These particular efforts have been in the area of self-report measures, especially in the adaptation of adult measures for use with

children. Several issues have impeded these efforts, including problems with depressive criteria, transforming scale scores into meaningful clinical approximations of diagnosis, culturally different presentation of symptoms, and suggestions of cutoff points (Ackerson, Dick, Manson, & Baron, 1990; Manson et al., 1990).

School personnel on the Navajo reservation identify children with disabilties for special education services, but are not trained in identifying children with internalizing symptoms. Futhermore, internalizing disorders are often beyond the scope of typical school-based services on the Navajo reservation (Larrine Manuel, personal communication, June 22, 1997). Non-school-based services will need to continue addressing the increasing number of Native American children with mental health problems who will require assistance by mental health professionals.

Navajo People and Culture

This overview of relevant characteristics of the Navajo people and their culture represents an attempt to provide information that will form an appropriate context for the development of the proposed study and for reporting study findings. Culture involves an integrated pattern of behaviors including thoughts, communications, behaviors, rituals, beliefs, traditions, and values that are all common to a particular group (Cross, Bazron, Dennis, & Isaacs, 1989). These patterns of behaviors address the actions, reactions, conduct, and conditioned behaviors that occur within families. Tradition is the transference of customs and practices from one generation to another. Collectively, these core variables are definitive aspects of culture. There are aspects of culture that are difficult to assess, because deeper levels of cultural values and beliefs cannot be seen or written in some cultures (Denham, 1995).

Navajo Culture

In the Navajo culture, legends of the Navajo people have been handed down from generation to generation. These legends inform Navajo people that they are given a healing science to help themselves and abide within these laws. Many families continue to live in close-knit, matrilineal, matrilocal groups in rural and isolated areas of the reservation. Traditional hogans (six- or eight-sided dwellings) are still a common sight, with no running water or electricity. Yet it is not uncommon to see a mixture of the traditional with the modern, for example, a hogan, house trailer, and television satellite antenna juxtaposed. Family lifestyles follow suit, blending past and present in uncertain harmony.

Acculturation

Acculturation, in essence, refers to the changes in behavior of members of a distinct cultural group, as a result of contact with more than one culture (Birman, 1994). Acculturation is an everyday experience for many Navajo children and families for they have greatly increased social contact with mainstream U.S. society since the early- and middle-1970s. This contact was for employment, improved transportation, communication, and other forms of social development (Van Winkel & May, 1986). As Western ways permeate the traditional Navajo culture in most areas of the reservation, traditional ways of life have become fragmented among Navajo people. Video games and video tapes have invaded even the most remote trading posts. Gatherings of community people at the trading post to discuss current events are rare. Some practices of the traditional medicine have been lost. Many Navajo parents worry that knowledge and respect for Navajo beliefs and values are crumbling because old stories are no longer communicated to children, the Navajo language is being disregarded, and taboos are being broken. Both children and parents are forced into a dominant society

whose values and rewards differ greatly from the Navajo culture, creating ingroup differences between children and parents. The continuing rapid changes are ongoing and believed by many members of the Navajo culture to have created increased levels of acculturation stress, anxiety, and disruption among families and children.

Psychological acculturation stress (Berry & Annis, 1974) varies within groups of families and children, even though they may come from the same tribal group. Acculturation stress results in heightened anxiety, lowered self-esteem, and withdrawn behaviors. These symptoms contribute to such problems as substance abuse, academic underachievement or dropout, teenage pregnancy, delinquency, suicide, and homicide among ethnic minority youth (Berlin, 1987; Rivers & Morrow, 1995). The struggle to achieve balance in the face of diversity, and assimilation to the larger society is mirrored in the personal struggles of many individual members of ethnic groups. Native American children are caught between the pull of their cultural identity and the force of acculturation. By adolescence, the internal stresses of puberty and the external stresses of finding worthiness and acceptance in two conflicting cultures can add up to an unresolvable problem for Native American youth. These adolescents often find themselves faced with conflicting cultural values, acculturation stress, fragmented family structure, and high rates of chemical dependency (Patchell, 1989). The impact of acculturation stress and other external risk factors would seem to have an impact on an individual's development of internalizing symptoms.

Health and Mental Disorders Among the Navajo

There are distinct differences between traditional Navajo and mainstream world views, including conceptions of health and well-being. The Navajo philosophy of life comes from the holy people and the directions of life that are of the earth and sky. The four cardinal directions

and the four sacred mountains surrounding the Navajo Reservation are the basis of the Navajo philosophy of life. The east is associated with the beginning of life, a place of dawn and spring, and all knowledge which determines the clarity and perspective for the mind, permeating every facet of an individual's life. The south cardinal direction is associated with setting goals for the day, self-reliance, and physical and emotional stamina to accomplish work in all areas, including education. The south represents the principles of balance between moderation and excessiveness, awareness of the environment and people. The west cardinal direction is associated with the principles of planning and family cohesiveness. The establishment of interpersonal and family relationships are eminent in the Navajo culture. The concept of K'e hwiinidzin (positive human relationships) and the clanship system help guide individuals in learning how to establish positive interpersonal relationships. K'e guides an individual to learn about the importance of life, relationship with kin, spirituality, and relying on family strength. Lastly, the north cardinal direction is associated with the principles of hope, fulfillment, respect, and reverence that help an individual gain awareness of the interrelatedness and interdependence of everything in life. This direction recognizes the elderly, marking the significance of traveling circular from east to the north direction, signifying birth, adolescence, adulthood, and old age, drawing respect that also comes with death (Benally, 1987).

Cultural Shaping of Etiology and Symptomology

The complexity of culture and its many manifestations makes an integrated understanding of cultural shaping of mental disorders difficult to achieve (Maser & Dinges, 1993). But an attempt to explain how culture can influence the experience and communication of symptoms of depression and anxiety in the Navajo culture will be made. Culture can influence the experience and communication of symptoms of depression (APA, 1994). It seems that

cultural shaping of depression and anxiety symptoms is likely to be expressed in somatic terms. It seems that stronger persistent identification with the traditional culture, which entails adherence to traditional medicine and religious practices, creates greater amounts of depression and anxiety. For example, anxiety disorders are prevalent on the Navajo reservation, with cultural shaping of symptom presentation very evident (Nagel, 1994). Professionals working with Native American clients cannot conveniently say a symptom or syndrome is unique to an American Indian population because they have to deal with subtypes based on cultural differences between tribes.

The Navajo theory of health suggests all sickness begins in the heart, spreading to the stomach, and to all parts of the body including the head (Morgan, 1931; Silversmith, 1994). Therefore, in the Navajo culture, mental health problems may be expressed by physical symptoms rather than through expression of psychological symptoms. In the Navajo culture, physical and mental disorders are usually attributed to wrong or broken alignments (taboos) with outer life. For example, breaking connection with the community, offending an animal spirit, or being in a place that was struck by lightning could make an individual susceptible to physical illness and mental disorder. Physical, mental, and emotional problems are inevitable; but healing is always available in the Navajo culture. Various types of healing herbs and therapies are readily available through traditional Navajo medicine healers. As Navajo ways of life change in many areas of the reservation, so do traditional healing practices. Navajo medicine men (and women) have become fewer in number, and many ceremonies have disappeared.

Internalizing symptoms such as depression and anxiety, as defined in the Western culture, are known and expressed in the Navajo culture but may be conceptualized, expressed, and experienced differently. For example, in the Navajo culture there is no single word to describe either depression or anxiety, as there is in the English language. Presentation of somatic symptoms is regarded by mainstream mental health providers as indicators of depression, anxiety, or somatoform found in DSM-IV (1994). This type of presentation seems to be common among Navajo people.

Some examples of Navajo expressions of depression that appear similar to the mainstream culture are expressed primarily in somatic terms, including "my body does not feel good," or "my stomach hurts all the time," rather than direct expression of sadness or guilt. Complaints of "being lonely," "not being hungry," "can't sleep," "uninterested in activities," "being overly tired," "my heart hurts," "sleep too much," and " I worry," are all common to the Navajo culture in verbally and physically expressing anxiety and depressive experiences. These symptoms or complaints have never been formally labeled as depressive or anxiety symptoms in the Navajo culture, but they appear to fit depression and anxiety criteria.

Members of different cultures may differ in ways of experiencing or expressing dysphoria (Solomon, 1992). For example, physical illnesses may be seen as more credible than irritability, depression, sadness, withdrawal, or anxiety within the Navajo culture, so individuals experience and express symptoms physically rather than psychologically. Or, a distressed person may perceive psychological symptoms as relatively unimportant, and, therefore, minimize the seriousness of the depressive symptoms, mentioning them only briefly in passing.

Fears and anxiety symptoms may be more accepted and tolerated in the Navajo culture as a normal part of life. From earliest childhood, the Navajo child has contact with the fears of witchcraft and taboo through parents, grandparents, and extended family members. Children's fears and anxieties may be culturally shaped (Nagel, 1994) as the child hears family members discuss the circumstances surrounding witchcraft and taboos and begins to feel their fear of individuals, objects, thoughts, and places connected with the witchcraft or taboos.

The belief in witchcraft and taboos is almost universal among the Navajo and may be accepted as a normal part of life in most Navajo families, depending on their acculturation with respect to the majority Anglo culture. Although witchcraft is considered dangerous and evil, taboos are seen more favorably as safety rules having the purpose of protecting people from the

many powerful natural forces that can pose a threat to well being. Because of their wide acceptance, witchcraft and taboos play an important role in the Navajo social structure, and may play a role in the cultural shaping of symptoms. An example of a taboo is when an individual is socialized not to think or talk about bears or owls because of the exceptional significance and power attached to these animals. If an individual talks about a bear while in the mountain, the person is inviting dangerous spirits on himself/herself and family members. If an individual talks about these animals, an individual is not only acting for himself/herself, but might be possibly inviting dangerous spirits, causing something bad to happen to the individual, family members, or members of the extended family. This may not necessarily be pathological; nonetheless, when clinically significant symptoms do develop, they may be largely shaped by such cultural determinants. Additionally, culturally distinctive experiences such as feelings of being hexed or bewitched, vivid feelings of being visited by a "skinwalker," or by an owl, are experiences specific to the Navajo culture. Although reports of these experiences may be symptomatic, care must be taken before identifying them as actual hallucinations or delusions related to a specific disorder.

In summary, symptoms of depression and anxiety may go unnoticed until a Navajo child is stricken physically ill or has physical complaints. Both may be unexpressed symptoms of depression and anxiety. Furthermore, cultural shaping of symptoms may have a strong impact on presentation of mood and anxiety disorders. These factors bring up several interesting points. Depending on the acculturation status of an individual, the symptoms may be conceptualized, expressed, or experienced differently. For example, the symptoms may be seen being a result of some physical illness rather than as depression or anxiety. Additionally, presentation of symptoms, presentation, and determinants of mental health among the Navajo may be significantly different depending on the extent of acculturation to the majority culture.

CHAPTER III

METHODS

Sample

Sites

The Flower of Two Soils project included two sites in the U.S. and two in Canada that represent indigenous tribes of the Northwest Coast, Northern Woodlands, Great Plains, and Southwest desert. The present study will focus on the Navajo sample, which represented the southwest desert region. The Navajo sample was taken from four subsites located in different communities on the Navajo Reservation. These communities were chosen with the assistance of the tribal government, for their representativeness in terms of geography and demographics. A comparison sample of majority group (Caucasian) children and their families was drawn from a school district in a small community neighboring the reservation. The community was selected because of the geographic and demographic similarity to the Navajo Reservation, and willingness of the school districts and community representatives to participate.

Participants

The present sample of Flower of Two Soils participants included 351 Navajo families with a child in Grade 2 or Grade 4. All subjects participated voluntarily, and written parental permission for participation was obtained. Families and children were followed for 3 years with data collected annually, so that at the time of final assessment children were in Grade 4 or 6. Logistical difficulties created some problems with the consistency in following and contacting families, due to remoteness of families. Additionally, often interviewers had no way to contact families because 20% of Navajo families do not have telephones (Beiser, 1989). The difficulties

with follow-up and lack of contact resulted in an overall attrition rate of 20% in the Navajo sample (Sack et al., 1993, 1994). Because different instruments were administered at different times and settings, the specific number of families and children retained varies among the instruments.

Procedures

Community Involvement

Several meetings were conducted with representatives from each community, school officials, and Dr. Morton Beiser, principal investigator, soliciting community interest to actively participate in the research process (Beiser, 1989). The communities who approved the project and chose to participate had varying geography, demographics, and level of acculturation. The advisory board, tribal and local community governments had an active role in the research process. The advisory boards were comprised of local community members whose primary responsibilities were making recommendations for changing and developing project procedures.

Instruments

The Flower of Two Soils project utilized multiple measures of children's social and emotional functioning which were provided by the Student's Observations of Self (SOS), the Teacher Interview Form (TIF), and the Children's Assessment by Parents (CAP). The Biodemographic Interview (BIODEM) was a lengthy structured parent interview used to gather family data.

The measures of children's social and emotional functioning were primarily based on the work of Achenbach and associates (e.g., Achenbach & Edelbrock, 1978). The CBCL

provides a solid basis for the SOS, TIF, and CAP because Achenbach's work has solidly led the field for nearly three decades (Merrell, 1994). The children's social, emotional, and behavioral measures also incorporated some elements of instruments used in the Massachusetts Children's Mental Health Study (Beiser, 1967), the Diagnostic Interview Schedule for Children (DISC; Costello, Edlebrock, & Costello, 1985), Coopersmith's (1967) measure of self-esteem, and items from the Perceived Competence Scales (Harter, 1982). Extensive and methodologically rigorous procedures were utilized during the development of the SOS, CAP, and TIF to ensure a strong representation of the domain of children's internalizing disorders. Items in each subscale of the SOS, TIF, and CAP, along with internal consistency and reliability data for each dimension, are outlined in Table 1.

Instrument development involved extensive literature search procedures, utilized a panel of experts in the project, and relied on local input from the community panels to determine appropriateness and content validity of items. The instruments were modified and piloted through a process of field testing, with the revision process assisted by community advisory boards. Recommendations and input from community boards emphasized the importance of assessing not only problems, but also including indicators of positive mental health, such as self-esteem.

Positive mental health items examine characteristics that indicate the presence of positive affect, and cognition incompatible with emotional distress. Since the format of Achenbach assessment instruments does not tap extensively into positive mental health characteristics, the instruments included items that related to community relations and perception of the environment. Some of the positive items overlap with Harter's Perceived Competence Scales (1982) and Coopersmith's (1967) measure of self-esteem (Beiser, 1989).

Table 1

Properties of Psychopathology and Positive Mental Health Scales Used in Flower of Two Soils Project

Instruments	Descriptive statistics	Depression	Anxiety	Instrumental competence	Social competence
Student's Opinion of Self (SOS)	N of items	11	11	13	9
	Median item/total corr.	0.34	0.31	0.35	0.38
	Coefficient Alpha	0.57	0.54	0.62	0.67
Teacher Interview Form (TIF)	N of items	13	11	12	12
	Median item/total corr.	0.58	0.59	0.75	0.68
	Coefficient Alpha	0.84	0.85	0.94	0.87
Child Assessment by Parent (CAP)	N of items	13	12	13	12
	Median item/total corr.	0.51	0.45	0.45	0.42
	Coefficient Alpha	0.83	0.75	0.84	0.84

Source: Beiser, 1990. Item/total correlations are based on the entire FOTS sample. Alpha coefficients are based on Navajo sample only.

Student's Opinion of Self

The SOS instrument is a 109-item self-report inventory for use in screening internalizing and externalizing symptoms of children in Grades 2 through 6. The SOS format used visual symbols as orienting markers for Navajo children with beginning reading skills. Items were read aloud in Navajo and English by trained Navajo research assistants.

Children responded to each item on the SOS by selecting one of the following statements that most accurately reflected how true they consider the statement to be for them: "never," "some of the time," and "a lot of the time." Completion of the SOS instrument took

most children an average of 25-30 minutes. Approximately one third of the items were worded in a manner that suggested the presence of a particular internalizing characteristic, while approximately two thirds of the items were presented in a manner that indicated either the absence of a specific internalizing symptom or the presence of positive mental health characteristics. Item responses were keyed on a 3-point scale (ranging from 1 to 3), where higher values suggested greater internalizing problems.

Factor analytic studies have indicated that the SOS included three factors of internalizing disorders and three factors of positive mental health (Beiser, 1989). These six factors were obtained using a combination of principal components factor analysis followed by Varimax rotation and the empirical approach based on the work of Achenbach and Edelbrock (1981, 1982). Depression was the first factor, and contained items that indicated the presence of depressive distress or symptoms. Overanxious was the second factor and contained items that indicated the presence of anxious distress or symptoms. Somatic concerns was the third factor and indicated by physical complaints. Instrumental competence was the fourth factor and contained items that included perceptions of instrumental capabilities such as comprehension, task completion, and taking pride in a job well done. Social competence was the fifth factor and included items which related to perceptions of being liked and being able to make and keep friends. Community mindedness was the sixth factor and assessed a group-oriented competence. An additional factor included items asking children about competitiveness with peers.

Some individual items on the SOS did not fit in any of the four psychopathology clusters, (e.g., I want to kill myself, I have stomachaches), but responses were analyzed to provide valuable information on the frequency of suicidal ideation and somatic complaints. SOS scale reliabilities were estimated on Cronbach's (1951) coefficient alpha and subscale

consistency was analyzed with item/total correlations (Beiser, 1989). These data are shown in Table 1.

Teacher Interview Form

The TIF is a 120-item behavior rating scale with specific questions about school performance of the child in academic subjects, as well as known instances of use of alcohol or drugs. The TIF overlaps with items on the SOS and the CAP instruments. The 120 behavioral items were subjected to principal components factor analysis followed by varimax rotation with a total of six factors accounting for 46% of item variance (Beiser, 1989). Only six factors relevant to this study were utilized: three factors from the psychopathology subscales (depression, overanxious, and somatic concerns) and five factors from the positive mental health subscales (community mindedness, competitiveness, language, instrumental and social competence). Item responses were keyed on a 4-point scale (ranging from 1 to 4).

Child's Assessment by Parent

The CAP is a checklist whose items overlap with the TIF and the SOS. The CAP is a behavior rating scale that consists of 189 items with specific questions about social-emotional behaviors, home environment, and school-related activities that provided an overall picture of the child as seen by the parent or caretaker. The 189 items of the CAP were subjected to a principal components factor analysis followed by varimax rotation with 10 emerging factors accounting for 49% of the variance among the items (Beiser, 1989). Eight factors relevant to this study were utilized: three factors from the psychopathology subscales (depression, overanxious, and somatic concerns) and five factors from the positive mental health subscales (instrumental and social competence, academic achievement, language, competitiveness, and community mindedness). Item responses were keyed on a 4-point scale (ranging from 1 to 4).

Biodemographic Instrument

The content of the BIODEM Interview was developed in conjunction with the community panels (Beiser, 1989). The BIODEM was a lengthy, structured interview conducted in the Navajo language with a primary caretaker of the participating child. The format of the questions was force choice, yes/no answers, Likert-type scale, Q-sort,and open-ended response. The BIODEM covered various demographic questions about education, occupation, financial profiles of the family, health and developmental history of the child, family and household composition, family social support, utilization of mental health services, family history of alcohol or mental illnesses, cultural attitudes, and a family stress scale adapted from a study conducted by Coddington (1972). Items used for this study were methods of discipline, family support, family history of alcohol abuse or mental illness, and stressors within the family.

Data Collection

Family interviews were conducted by Navajos who were trained to conduct interviews with families on an annual basis for 3 years. All testing was conducted by trained Navajo pychometricians who were supervised by the Navajo site coordinator or the project principal investigator.

Data Management

The Flower of Two Soils final report and the SPSS portable file of the data were obtained from the project principal investigator, Morton Beiser, M.D., and his staff at the University of Toronto. Dr. Morton Beiser has facilitated the current project, as indicated by the letter found in Appendix A. The data dictionary, along with copies of all instruments, was kept and maintained by this researcher. The data set includes an extemely large number of variables.

Therefore, a subset of variables was selected and retained to make up a data set that would be a more manageable size. Selection of the variables was guided by the research questions.

Institutional Review Board

The project was submitted for review to IRB of Utah State University. Since the project is using extant data, the IRB approved it under the exempt status. A letter of approval is in Appendix B.

CHAPTER IV

RESULTS

The presentation of results for the present study were guided by research questions presented in Chapter I. First, a description of study participants on relevant demographic variables was examined. Second, means and standard deviations of internalizing symptoms (depression, anxiety and somatic concerns) as reported by teacher, parent, and student were calculated. Next, correlations between internalizing symptoms and competencies were examined. Finally, relationships between internalizing symptoms and family social support variables, parental method of disciplinary methods, family stressors subscale, and family history of mental illness were examined.

Characteristics of Participating Children and Families

General Sample Demographics

This section will provide descriptive information of study participants using means or percentages, as appropriate. Sample sizes for demographic information across Navajo families and children vary due to missing data. All possible cases were retained for descriptive analyses to provide the best possible description for parents, teachers, and children. All subjects were from rural areas, and the majority of adult Navajo earn incomes below the poverty level (Beiser, 1989).

As shown in Table 2, the interviewees' average age was 35.8 years, with ages ranging from 22 to 80 years. The average total years of education for the interviewees was the 11th grade. There were 351 children in the sample whose ages ranged from 7 to 11 years. In Table 3, descriptive information of study participants' gender, family role, and employment

Table 2

Characteristics of Interviewees Participating in the Study

Interviewees characteristics	N	Mean (SD)	Median	Mode	Range
Parent average age (yrs.)	343	35.8 (8.24)	34	34	22-80
Parent average years of education (yrs.)	346	11.2 (4.18)	12	12	0-22
Child's average age (years)	351	9 (9.8)	8.9	8.5	7-12

Table 3

Summary of Demographic Variables

Demographic variables	Percent by respondents
Children respondents (N = 351)	
Male child respondents	48
Female child respondents	52
Second grade participants	79
Fourth grade participants	21
Adult respondents:	
Family and caregiver variables (N = 343)	69
Two parent households	
One parent households	31
Biological mothers	71
Biological fathers	8
Other relatives-grandmothers, siblings, aunts, step-parents	21
Adults respondents: Employment status	
Respondents: unemployed	10
Respondents: homemakers	33
Respondents: wage employment	57

are provided. Forty-eight percent of the child respondents were male, and 52% were female. Seventy-nine percent of the children were in second grade and 21% were fourth graders. Ninety-eight percent of the adult interviewees reported being primary caretakers and living in the same household as the child participating in the study. Seventy-one percent of the respondents were biological mothers and 8% of the respondents were biological fathers. Sixteen percent of the interviewees were other relatives (i.e., grandparents, aunts, siblings, stepparents). Sixty-nine percent of the interviewees responded as being married at the time of the interview, and 31% of the respondents reported being single parents. Approximately 10% of the interviewees did not have any type of employment, 33% were homemakers, and 57% held some type of employment within the community or a nearby community.

Student's Opinion of Self, Teacher Interview Form, and Child Assessment by Parent

The first research question asked "What is the prevalence rate of internalizing symptoms as reported by parents, teachers, and children's self-reports?" Analysis conducted to answer this question involved descriptive statistics calculated for participants by informant sources, gender, and grade of students. Depression, anxiety, and somatic concerns subscale scores were calculated through the addition of individual item scores, and the summary raw scores were the bases of all analyses. This strategy follows recommendations by Achenbach (1991), who suggested using raw scale scores for statistical analysis, rather than T scores, in order to capitalize on the full range of variation in the raw scores. Descriptive statistics of internalizing symptoms subscale raw scores by teacher, parent, and student reports are presented. Standardized mean difference (SMD) were computed for mean scores of grade and gender in comparison with each other, to determine the practical nature of the mean differences between grade and gender. The standardized mean difference method, a common metric suggested by

Cohen (1988), was used, wherein the mean score of one group is subtracted from the mean score of the other group, and the resulting difference is divided by the pooled standard deviation of scores for the two groups. To compute the pooled standard deviation the following formula was used:

$$S^2 = \frac{S^2_1 (N_1-1) + S^2_2 (N_2-1)}{N_1+N_2-2}$$

Interpretively, SMD estimates of less than .20 were small and considered to be nonsignificant depending on the topic being studied, SMD estimates between .20 and .49 were considered to have a small effect, SMD estimates between .50 and .79 were considered to have a medium effect, and SMD estimates of .80 and higher were considered to have a large effect (Cohen, 1988).

The comparison of mean scores provided an estimate if reports from the two informant groups with respect to internalizing symptoms were different. To compare the means from the TIF and CAP, t tests were used. The t test was appropriate for comparing the means of two groups, and with subjects randomly assigned to groups without matching or other basis for correlation, the t test for independent means was the appropriate statistic. Because a moderate number of t tests were run, a more stringent alpha level ($p < .01$) was selected as a cutoff for statistical significance. The more stringent alpha helped reduce concern for inflated experiment-wise error and the subsequent increased probability of making a Type I error.

Descriptive statistics and prevalence rates for depression, anxiety, and somatization are presented based on children's clinical status. Prevalence rates were based on subscale scores resulting in the percentage of the population likely having a diagnosable internalizing disorder occurring at a particular point in time.

To review briefly, the three sources of data on internalizing symptoms included children's self-reports, the SOS; teachers' rating, TIF; and parents' rating, Children Assessment by Parent (CAP). These measures were used to obtain data on depression, anxiety and somatic concerns as reported by child, parent and teacher. As discussed in Chapter III, Beiser, Lancee, Gotowiec, Sack, and Redshirt (1993) developed three subscales for each measure based on a principal components factor analysis with varimax rotation. Two of the factors resembled Achenbach's depression and anxious scale. The subscales derived from the factors were labeled depression and overanxious. The third scale was defined as somatic concerns. For purposes of this study, these subscales will be referred to as the depression subscale, anxiety subscale, and somatic concerns subscale. Children's self-report item scale ranged from 1 through 3, and the item scale ranged from 1 through 4 for both teacher and parent report measures. As a result, scores between child and other sources cannot be directly compared.

Depression

Table 4 provides descriptive statistics for the depression subscale scores by reporting source. The overall student self-report group mean score was 18.43 (SD = 3.43), while the overall parent report group mean score was 20.49 (SD = 6.51). The overall teacher report group mean score was 17.01 (SD = 5.02). Overall, the parents reported higher levels of depression than teachers in these children, but there was also greater variability in symptom endorsement. Comparison between genders on the self-report measure found statistically significant difference between gender groups: t (270) = 1.97, $p < .05$. Three effect sizes were obtained for mean differences between male and female groups for each informant source. With respect to self-reported depression, a small effect size of 0.23 was obtained, suggesting the average female child reported slightly higher depression scores than the average male child.

Table 4

Descriptive Statistics for Depression Raw Subscale Scores as Reported Across Multiple Informants and Student Gender

Student gender/informant source	Sample	Mean	(SD)	SMD
Student self-report depression				
Male	131	18.01	(3.51)	
Female	139	18.83	(3.31)	
Overall student sample	270	18.43	(3.43)	0.23
Parent reported depression				
Male	162	20.38	(6.53)	
Female	176	20.59	(6.51)	
Overall parent sample	338	20.49	(6.51)	0.03
Teacher reported depression				
Male	145	17.33	(5.30)	
Female	148	16.71	(4.73)	
Overall teacher sample	293	17.01	(5.02)	0.12

Comparison of gender differences on the parent's and teacher's report resulted in two effect sizes near zero and were statistically nonsignificant.

Mean subscale scores from parent and teacher reporting sources were compared by using t tests and SMD effect sizes. Comparison between parent and teacher measures of depressive symptoms found statistically significant difference between the two measures: $t(629) = 7.52$, $p < .001$. The difference between the two means is an unlikely rare chance occurrence (fewer than 1 times in 1000 would it be expected to occur by chance) under the null hypothesis (assuming H_0 to be true). An SMD of .60 was obtained between parent and teacher reports, indicating that parents are likely to report higher depressive symptoms than teachers. Child self-reports were not compared to parent or teacher reports because SOS item values ranged from 1 through 3, whereas parents and teachers items values ranged from 1 through 4.

Descriptive statistics are provided for participants by multiple informant sources, gender, and grade of students to provide a thorough description of the sample depression symptom scores as reported by each source. Table 5 displays means and standard deviations for depression subscale scores for reporting source, grade, and gender. On the SOS, the second-grade group obtained a subscale raw score of 18.60 (SD = 3.52), while the fourth-grade group obtained a mean subscale raw score of 17.94 (SD = 3.13). A medium SMD of -.43 for self-reported depression was found between the second-grade male and female children, suggesting the average second-grade female is more likely to report higher depressive symptoms than the average second-grade male student. Conversely, fourth-grade male children are more likely to report higher depressive symptoms than fourth-grade female students as indicated by the medium SMD of .42. On the parent-reported depression, the second-grade group showed a subscale mean raw score of 20.70 (SD = 6.60), while the fourth-grade group obtained a mean subscale raw score of 19.72 (SD = 6.18). A small SMD of .21 was found between fourth-grade male and female children, suggesting parents reported higher depressive symptoms for fourth-grade male students than female students.

On the teacher-reported depression, the second-grade group had a subscale mean raw score of 16.45 (SD = 4.75), while the fourth-grade group obtained a mean subscale raw score of 18.83 (SD = 5.44). For the teacher reports, two effect sizes near zero were found when comparisons between gender were made.

Mean subscale scores from each sample of second and fourth grade, as reported by parents and teachers, were compared by using t tests and SMD effect sizes. Comparison between parent and teacher measures of depressive symptoms for second-grade children found statistically significant difference between the two measures: $t(485) = 8.14$, $p < .001$. This difference between the two means was an unlikely chance occurrence (fewer than 1 times in

Table 5

Descriptive Statistics for Depression Raw Subscale Scores as Reported Across Multiple Informants and Student Grade

Student grade/informant source	N	M	SD	SMD
Self-report depression				
Second-grade male	96	17.81	3.52	
Second-grade female	105	19.33	3.37	
Second-grade total	201	18.60	3.52	-.43
Fourth-grade male	35	18.57	3.49	
Fourth-grade female	34	17.29	2.61	
Fourth-grade total	69	17.94	3.13	.42
Parent-reported depression				
Second-grade male	123	20.40	6.36	
Second-grade female	141	20.97	6.81	
Second-grade total	264	20.70	6.60	-.08
Fourth-grade male	39	20.33	7.12	
Fourth-grade female	35	19.05	4.94	
Fourth-grade total	74	19.72	6.18	.21
Teacher-reported depression				
Second-grade male	108	16.68	5.03	
Second-grade female	115	16.23	4.49	
Second-grade total	223	16.45	4.75	.09
Fourth-grade male	37	19.22	5.68	
Fourth-grade female	33	18.39	5.21	
Fourth-grade total	70	18.83	5.44	.15

1000 would it be expected to occur by chance) under the null hypothesis. A medium standardized mean effect size of .74 was obtained between parents and teachers reports, indicating that parents are likely to report higher depressive symptoms for second-grade children than teachers. Significance was not found between TIF and CAP measures for fourth-grade children, t (142) = .90, p = .37, and a small effect size of .15 was found. Child self-reports were not compared to parents or teachers reports because SOS item values ranged from

1 through 3, whereas parents and teachers items values ranged from 1 through 4.

Anxiety

Descriptive statistics for the anxiety subscale by groups are presented in Table 6 by reporting source. Means for the different reporting sources ranged from 19.30 to 23.65. For each informant group, one effect size was obtained for mean differences between male and female gender groups. With respect to self-report and parent-reported anxiety, two small effect sizes, .28 and .24, respectively, were found. It appears that an average female student reports higher anxiety symptoms than the average male student, and similarly, parents reported on the average higher anxiety symptoms for female children than male children. For the teacher-informant group a SMD of nearly zero was found between female and male children.

Mean subscale scores from parents' and teachers' reports were compared by using t tests and SMD effect sizes. Mean item scores were used rather than the sum of item scores, because CAP and TIF anxiety subscales had different numbers of items. Comparison between parents' and teachers' measures of anxiety found a statistically significant difference between the parents' and teachers' measures: $t(634) = 4.40, p < .001$. A standardized mean difference of .35 was found between parents' and teachers' reports, suggesting parents reported higher anxious symptoms for children than teachers.

Descriptive statistics for multi-informant group reporting on anxiety are broken down by grade and gender as shown in Table 7. For self-report data, second and fourth graders had similar means. A medium effect size of -.40 for self-reported anxiety was found between the second-grade male and female students, suggesting that the average second-grade female is more likely to report higher anxious symptoms than the average second-grade male student. An effect size of near zero was found between fourth-grade male and female children. On the

Table 6

Descriptive Statistics for Anxiety Raw Subscale Scores as Reported Across Multiple Informants and Student Grade

Student gender/informant source	Sample	M	SD	SMD
Student self-report				
Male	131	18.77	3.58	
Female	139	19.80	3.67	
Overall student sample	270	19.30	3.66	-.28
Parent reported anxiety				
Male	165	22.85	6.27	
Female	177	24.39	6.49	
Overall parent sample	342	23.65	6.42	-.24
Teacher reported anxiety				
Male	146	19.59	5.98	
Female	148	19.64	6.38	
Overall teacher sample	294	19.62	6.17	.01

parent-reported anxiety, the second-grade children had 23.78 (SD = 6.37), and fourth-grade children scored similarly. On the parents' report, a medium SMD of -.31 was found between second-grade male and female children, indicative of parents reporting higher anxiety symptoms for second-grade female than male students. A near zero effect size was found for fourth-grade male and female children. On the teacher-reported anxiety, the second-grade group had a subscale mean raw score of 18.71 (SD = 5.63), while the fourth-grade group obtained a mean subscale raw score of 22.51 (SD = 6.94). Two near zero effect sizes were found for gender comparisons at each grade level.

Mean subscale scores for the total sample of second and fourth grade as reported by parents and teachers were compared by using t tests and SMD effect sizes. Comparison between second-grade children, parents', and teachers' measures of anxiety symptoms found a

Table 7

Descriptive Statistics for Anxiety Raw Subscale Scores as Reported Across Multiple Informants and Student Grade

Student grade/informant source	N	M	SD	SMD
Self-report anxiety				
second grade male	96	18.42	3.59	
second grade female	105	19.87	3.74	
second grade total	201	19.81	3.73	-.40
fourth grade male	35	19.74	3.42	
fourth grade female	34	19.59	3.49	
fourth grade total	69	19.67	3.43	.04
Parent reported anxiety				
second grade male	126	22.77	6.10	
second grade female	142	24.68	6.50	
second grade total	268	23.78	6.37	-.31
fourth grade male	39	23.11	6.86	
fourth grade female	35	23.25	6.41	
fourth grade total	74	23.18	6.61	-.02
Teacher reported anxiety				
second grade male	109	18.72	5.31	
second grade female	115	18.70	5.95	
second grade total	224	18.71	5.63	.00
fourth grade male	37	22.16	7.10	
fourth grade female	33	22.91	6.84	
fourth grade total	70	22.51	6.94	-.11

statistically significant difference between the two reporting sources: t (490) = 9.28, $p < .001$. An SMD of .84 was obtained between parents' and teachers' reports, indicating that parents are likely to report higher anxiety symptoms for second-grade children than teachers. Statistical significance was not found for fourth-grade children between TIF and CAP anxiety measures, t (142) = .60, p = .56, and a small effect size of .10 was found. Child self-reports were not compared to parents' or teachers' reports because SOS item values ranged from 1 through 3, whereas parents' and teachers' items values ranged from 1 through 4.

Somatic Concerns

As shown in Table 8, descriptive statistics for somatic concerns subscale scores by group indicated that the overall student self-report group mean score was 9.03 (SD = 2.00). The overall parent-report group mean score was 1.40 (SD = .81), and the overall teacher-report group mean score was 1.20 (SD = .54). Effect sizes of nearly zero were found for mean differences between males and females for each informant source. Mean subscale scores from parent- and teacher-reporting sources were compared by using t tests and SMD effect sizes.

Comparison between parents' and teachers' measures of somatic concerns found a statistically significant difference between the two measures: $t(629) = 3.63$, $p < .001$. An SMD of .29 was obtained between parents' and teachers' reports, indicating that parents are likely to report higher somatic concern symptoms than teachers. Children's self-reports were not compared to parents' or teachers' reports because SOS item values ranged from 1 through 3, whereas parents' and teachers' items values ranged from 1 through 4, a disproportionate number of items for each instrument. The SOS somatic concerns scale had seven items, whereas TIF and CAP had only one question asking about somatic concerns.

Table 9 provides descriptive statistics for multi-informant for somatic concerns by grade and gender. The self-reported second-grade somatic concerns group subscale mean for raw scores was found to be 9.02 (SD = 1.94). The fourth-grade group obtained a mean subscale score of 9.04 (SD = 2.19). For the self-report group, a small SMD of .20 was found between second-grade male and female children, suggesting the average female child reports higher somatic concerns than the average second-grade male student. An SMD of near zero was found for the fourth grade.

Table 8

Descriptive Statistics for Somatic Concerns Raw Subscale Scores Reported Across Multiple Informants and Student Gender

Student gender/informant source	Sample	M	SD	SMD
Student self-report				
Male	132	8.89	1.97	
Female	139	9.16	2.02	
Overall student sample	271	9.03	2.00	-.13
Parent reported somatic concerns				
Male	162	1.38	.76	
Female	175	1.42	.85	
Overall parent sample	337	1.40	.81	-.05
Teacher reported somatic concerns				
Male	146	1.23	.64	
Female	148	1.16	.42	
Overall teacher sample	294	1.20	.54	.13

Note: Parent and Teacher Subscale for somatic concerns consist of only 1 item.

On the parent-reported somatic concerns, the second-grade group showed a subscale mean score of 1.36 (SD = .77). The fourth-grade group obtained a mean subscale score of 1.55 (SD = .93), and the overall parent-sample group revealed a subscale mean score of 1.40 (SD = .81). Two SMDs of -.20 and .34 were found, suggesting parents reported second-grade female children complain of physical problems without known medical causes more than male children. On the other hand, parents reported fourth-grade male children complain of physical problems without known medical causes more than female children. With respect to teacher-reported somatic concerns, the second-grade group revealed a subscale raw mean score of 1.16 (SD = .49), while the fourth-grade group revealed a mean subscale score of 1.33 (SD = .68). The teacher-reported somatic concerns sample demonstrated a lower consistency in subscale mean scores ranging from 1.15 to 1.43 (Sds .40 - .80). One medium effect size of .34 was

Table 9

Descriptive Statistics for Somatic Concern Raw Subscale Scores Reported Across Multiple Informants and Student Grade

Student grade/informant source	N	M	SD	SMD
Self-report somatic concerns				
second grade male	97	8.82	1.98	
second grade female	105	9.21	1.88	
second grade total	202	9.02	1.94	-.20
fourth grade male	35	9.06	1.95	
fourth grade female	34	9.03	2.44	
fourth grade total	69	9.04	2.19	.01
Parent reported somatic concerns				
second grade male	123	1.28	.67	
second grade female	141	1.43	.85	
second grade total	264	1.36	.77	-.20
fourth grade male	39	1.69	.95	
fourth grade female	34	1.38	.89	
fourth grade total	73	1.55	.93	.34
Teacher reported somatic concerns				
second grade male	109	1.17	.57	
second grade female	115	1.15	.40	
second grade total	224	1.16	.49	.04
fourth grade male	37	1.43	.80	
fourth grade female	33	1.21	.48	
fourth grade total	70	1.33	.68	.34

found, suggesting teacher-reported fourth-grade male students complain of physical problems without known medical causes more than the average fourth-grade female student.

Participants' Clinical Status for Depression, Anxiety, and Somatic Concerns

This section provides participants' clinical status for depression, anxious, and somatic concerns prevalence rates based on cumulative raw scores obtained from each subscale for

depression, anxiety, and somatic concerns. The present sample provides some of the best available data in an attempt to provide normative distributions of scores for Native American (specifically Navajo) children on which to base cutpoints for discriminating between the normal and clinical range for depression, anxiety, and somatization. Raw subscale scores were used for statistical analysis rather than T scores, in order to capitalize on the full range of variation in the raw scores. Therefore, for the purposes of this study, depression, anxiety, and somatic concerns raw subscale scores means and standard deviations were used to assign all children regardless of age and gender to one of the three clinical status categories. For each informant group mean, those children whose scores were less than one standard deviation above the sample mean were categorized as the "nonclinical" group. "Symptomatic" clinical status was defined as those children who scored between one and two standard deviations above the group mean. These children are likely to report internalizing symptoms, but probably not enough to meet diagnostic criteria for an internalizing disorder. The "clinically significant" status included those children whose scores were at least two standard deviations above the group mean. These children are at the high end of the distribution and are likely to be evidencing noteworthy symptoms that would likely be consistent with a diagnosis (or associated with impairment of function in one or more domains). Clinical status, mean score, range of scores, and percentage of children in each of three categories are presented.

Depression

Table 10 describes the clinical status of children based on depression subscale raw scores for each of the informant groups. Across reporting sources, 82 to 87% of children fell in the nonclinical range. The number of children who were considered "symptomatic" ranged from a low of 6.5% for teacher-reports to a high of 15.2% for self-report. Teachers identified

Table 10

Clinical Status of Children Based on Depression Subscale Mean Raw Scores

Clinical status	Sample size	Mean score (SD)	Range of scores	Percentage of children
Self-reported depression	270	18.43 (3.43)		
Nonclinical			<21	82.2
Symptomatic			21-25	15.2
Clinically Significant			25-33	2.6
Parent reported depression	338	20.49 (6.51)		
Nonclinical			<20	82.2
Symptomatic			20-27	12.7
Clinically Significant			27-52	5.0
Teacher reported depression	293	17.01 (5.02)		
Nonclinical			<22	87.4
Symptomatic			22-27	6.5
Clinically Significant			27-52	6.1

fewer children as having problems with depression compared to parents and children. Based on self-report, 2.6% of the children in the sample avowed clinically significant symptoms of depression. Parents identified 5% of children, and teacher's 6.1%, as having clinically significant problems with depression. Note that while self-report was highest in "symptomatic," it was lower than parents' and teachers' reports for "clinically significant."

Anxiety

Anxiety clinical status for children by reporting source is presented in Table 11. Across reporting sources, 81% to 83% of children fell in the nonclinical range. The number of "symptomatic" children was similarly high across reporting sources, ranging from 12.9% as reported by teachers, to 13.7% for self-report. By self-report, 3.3% of the children revealed significant symptoms of anxiety. Parents and teachers identified 2.9% and 5.4%, respectively, of children as having clinically significant problems with anxiety.

Table 11

Clinical Status of Children Based on Anxiety Raw Subscale Mean Scores

Clinical status	Sample size	Mean score (SD)	Range of scores	Percentage of children
Self-reported anxiety	270	19.30 (3.66)		
Nonclinical			<22	83.0
Symptomatic			22-26	13.7
Clinically significant			26-33	3.3
Parent-reported anxiety	342	23.65 (6.42)		
Nonclinical			<30	83.6
Symptomatic			30-36	13.5
Clinically significant			36-48	2.9
Teacher-reported anxiety	294	19.62 (6.17)		
Nonclinical			<25	81.6
Symptomatic			25-31	12.9
Clinically significant			31-52	5.4

Somatic Concerns

Table 12 provides clinical status of somatic concerns children based on each informant source. Because there is only one item for the parents' and teaches's report, the clinical range scores will be described as "never," "sometimes," and "often" to the item complaining of physical problems without known medical cause. Across reporting sources, 82% to 8% of students fell in the nonclinical range. The number of children who were considered "symptomatic" ranged from a low of 8.3% for parents' report, to a high of 15.2% for self-report. The clinically significant sample of students had clinical scores at least two standard deviations above the mean of the somatic concern subscale score for the self-reported group. Based on self-report, 2.6^ had clinically significant symptoms of somatic concerns. Parents reported 4.2% of children often complained of physical problems without known medical

Table 12

Clinical Status of Children Based on Somatic Concerns Raw Subscale Scores

Clinical status	Sample size	Mean score (SD)	Range of scores	Percentage of children
Self-reported somatic concerns	271	9.03 (2.00)		
Nonclinical			<11	82.2
Symptomatic			11-13	15.2
Clinical somatic concerns			13-15	2.6
Parent reported somatic concerns	337	1.40 (.81)		
Nonclinical			Never	87.5
Symptomatic			Sometimes	8.3
Clinical somatic concerns			Often	4.2
Teacher reported somatic concerns	294	1.20 (.40)		
Nonclinical			Never	85.4
Symptomatic			Sometimes	11.2
Clinical somatic concerns			Often	3.4

causes, while teachers reported 3.4% children often complained of physical problems without known medical cause.

Relationships Between Internalizing Symptoms and Competencies

The second research question was "What are the relationships between internalizing symptoms, social competence, instrumental competence, language ability, community mindedness, competitiveness, and academic achievement within and across information sources?" To evaluate relationships between internalizing symptoms and competencies, bivariate Pearson product-moment correlations were computed between all internalizing symptoms along with competencies from each reporting source. Because a large number of correlations were calculated, a stringent alpha level of $p < .01$ was selected as a cutoff to determine the statistical significance of these correlations. The more stringent alpha level will

help control for experiment-wise error and reduce the probability of making a Type I error. Correlations were not run for somatic concerns subscales of CAP, TIF, and SOS because of problems with reliability of these small or single-item subscales.

Relationships Between SOS Competencies and Internalizing Symptoms

In comparing the SOS and TIF internalizing symptoms with SOS competencies, four correlation coefficients were statistically significant at the $p < .01$ level. Correlations between the internalizing symptoms and competencies subscale scores, shown in Table 13, ranged from -.25 to .17. A small negative correlation of -.22 was found between the SOS depression and SOS social competence, suggesting that children who report positive relationships with peers are less likely to report depression. A positive small correlation of .17 between SOS depression symptoms and SOS competitiveness suggests that children are more likely to report depressive symptoms when they see themselves as competing with other children. There was a pattern of negative relationships between internalizing symptoms and community-mindedness competences subscales. Two small negative correlations of -.25 and -.20 were found between self-reported social competence and teacher-reported depression and anxiety. This finding suggests children who are able to control and regulate their behaviors in the classroom are likely to be socially accepted by peers and are less likely to be reported as depressed or anxious by teachers.

Teacher-reported depression negatively correlated with self-reported instrumental competence ($r = -.24$, $p < .001$), suggesting teachers are less likely to see children who have behavioral skills needed for daily living as depressed. Note that the correlations are, in general, low; for example, only 6% of the variance is accounted for between teacher-reported depression and self-reported social competency. The relationships between parent-reported

Table 13

Relationships Between SOS Competencies and Internalizing Symptoms

	SOS Competencies			
Internalizing subscales	SSOCCOM	SCOMMIN	SCOMPET	SINSCOM
CAP depression	-.06	-.13	.03	-.13
CAP anxiety	-.12	-.08	-.12	-.05
TIF depression	-.25**	-.13	-.06	-.24**
TIF anxiety	-.20**	-.14	-.06	-.14
SOS depression	-.22**	-.00	.17**	.05
SOS anxiety	-.14	-.00	.04	-.07

Note. SSOCCOM = Self-reported social competence; SCOMMIN = Self-reported community mindedness; SCOMPET = Self-reported competitiveness; SINSCOM = Self-reported instrumental competence.
**$p < .01$. ***$p < .001$.

depression, anxiety, and self-reported competencies were much weaker, with small and statistically nonsignificant correlations, ranging from -.13 to .03. Relationships between CAP and SOS scores were generally in the same direction as correlations found for teacher report.

Relationships Between TIF Competencies and Internalizing Symptoms

As shown in Table 14, correlations between internalizing symptoms and TIF competencies subscale scores ranged from -.41 to .50. Children who were perceived by teachers as competent in the community by their conduct with respect to following rules or social norms were less likely to correlations of -.29 and -.20, respectively. Furthermore, children who were able to regulate their behaviors in the classroom or displayed social competence were less likely to be seen as depressed or anxious with correlations of -29 and

Table 14

Relationships Between TIF Competencies and Internalizing Symptoms

	TIF Competencies				
Internalizing subscales	TSOCCOM	TCOMMIN	TCOMPET	TINSCOM	TLANGAB
CAP depression	-.11	-.15	.08	-.10	-.07
CAP anxiety	-.10	-.10	-.06	-.06	-.08
TIF depression	-.41**	-.29**	.50**	-.36**	-.28**
TIF anxiety	-.33**	-.20**	.19**	-.35**	-.37**
SOS depression	-.16	-.08	.04	-.15	.07
SOS anxiety	-.15	-.11	-.01	-.08	.03

Note: TSOCCOM = Teacher- reported social competence; TCOMMIN = Teacher-reported community mindedness; TCOMPET = Teacher-reported competitiveness; TINSCOM = Teacher-reported instrumental competence; TLANGAB = Teacher-reported language skills.
**$p < .01$.

-.20, respectively. Furthermore, children who were able to regulate their behaviors in the classroom or displayed social competence were less likely to be seen as depressed or anxious, according to teachers' reports as found by two negative correlations of -.41 and -.33, respectively. Likewise, teachers are less likely to report children as depressed or anxious when children have good language abilities as found by two negative correlations, -.28 and -.37. Children who were seen as competitive with peers in academics or sports were likely to be reported as depressed or anxious by teachers ($r = .50$ and $r = .19$), respectively. The relationship between parent and children report of internalizing symptoms and teacher-reported competencies was generally small and statistically nonsignificant.

Relationships Between CAP Competencies and Internalizing Symptoms

Correlations between internalizing symptoms and CAP competencies subscale scores ranged from negative -.25 to .43 as shown in Table 15. Two medium correlations of .39 and

Table 15

Relationships Between CAP Competencies and Internalizing Symptoms

	CAP Competencies				
Internalizing subscales	CSOCCOM	CCOMMIN	CCOMPET	CINSCOM	CACAACH
CAP depression	-.14	-.08	.32**	-.10	.43**
CAP anxiety	-.01	.10	.38**	.04	.39**
TIF depression	-.21**	-.25**	-.14	-.18**	.08
TIF anxiety	-.20**	-.15	-.10	-.16	.05
SOS depression	-.08	-.05	.01	-.05	.12
SOS anxiety	-.02	.08	.05	.03	-.03

NOTE: CSOCCOM = Parent-reported social competence; CCOMMIN = Parent- reported community mindedness; CCOMPET = Parent-reported competitiveness; CINSCOM = Parent-reported instrumental competence; CACAACH = Parent-reported academic achievement.
**$p < .01$.

.43 were found between parents' reports of internalizing symptoms and academic achievement. However, correlations between academic achievement and internalizing symptoms reported by teachers and students were near zero. CAP anxiety and depression positively correlated with competitiveness subscale when based on parents' reports with correlations of .32 and .38, respectively. Two negative correlations of -.21 and -.20 were found between CAP social competence and teacher-reported depression and anxiety. The finding suggests teachers were less likely to report children depressed or anxious if parents reported children were well accepted by peers. Children were less likely to be reported as depressed by teachers if parents perceived them as competent in the community with respect to following rules and social norms ($r = -.25$, $p < .001$). The relationship between teacher-reported depression and CAP instrumental competence was found to be $r = -.18$, suggesting children who were able to control and regulate their behaviors were less likely to be reported as depressed by teachers.

There were no relationships between SOS internalizing symptoms and competencies, or between CAP internalizing symptoms and social/instrumental competencies. However, in general, consistent negative correlations between both depression and anxiety and social competence and instrumental competence were found. This finding suggested that anxious and depressed children may have a high need to succeed but also lacked the competencies to do so.

Relationships Between Internalizing Symptoms and Family Variables

The third research question was "What is the relationship between internalizing symptoms and family variables?" The relationships between internalizing symptoms (depression and anxiety) and family social support variables, parental method of disciplinary methods, family stress level, and family history of mental illness are reported. Correlations were not run for somatic concerns subscales of CAP, TIF, and SOS because of problems with reliability of these small or single-item subscales. To evaluate the magnitude of relationships between depression, anxiety, and family variables, bivariate Pearson product-moment correlations were computed. Also, correlation effect sizes were reported as $r^2 \times 100$, representing percent of variance shared between two correlated variables.

Relationships Between Internalizing Symptoms and Roles of Support Persons

Relationships between internalizing symptoms and number and roles of support persons in a child's life were examined. Support person subscale scores were calculated by adding 10-item individual scores for each support person in the child's environment, and these summary raw scores were the basis of all analyses between support persons and internalizing symptoms. The 10 items identified the roles of support persons and included the following: (a) assists child with instruction and chores; (b) provides child with clothing, money, and transportation; (c)

shows concern and interest in the child; (d) makes the child feel included; (e) makes the child feel loved; (I) is there when the child needs support; (f) provides the child with advice and answers; (g) reminds child to be happy; (h) gives child confidence; and (i) serves as a role model example for the child. Up to eight possible support persons could be identified for each child, and analyses are broken down by each support individual.

Correlations between parents' reports of internalizing symptoms and support persons subscale scores ranged from -.02 to -.87. As shown in Table 16, correlations were of moderate magnitude, although few were statistically significant, due to small N sizes. Support person number 5 and parents' reports of anxiety and depression had correlations of .45 and .44, respectively ($p < .01$). Approximately 20% and 19% of the variance in support person number 5 appeared to be associated with parent-reported depression and anxiety. The persons most frequently named as support person number 5 were biological brother and sister. A large

Table 16

Relationships Between Parent Report of Internalizing Symptoms and Roles of Support Persons

		CAP ANXIETY		CAP DEPRESSION		CAP SOMATIC	
Child support person	N	r	r^2(100)	r	r^2(100)	r	r^2(100)
Support person 1	183	-.02	.04%	.05	.25%	.04	.16%
Support person 2	130	.18**	3%	.07	.49%	.06	.36%
Support person 3	95	.19	4%	.09	.81%	.14	2%
Support person 4	61	.19	4%	.23	5%	.22	5%
Support person 5	35	.44*	19%	.45*	20%	-.02	.04%
Support person 6	20	.33	11%	.31	10%	-.18	3%
Support person 7	14	-.26	7%	-.07	.49%	-.25	6%
Support person 8	5	-.87	76%	.73	53%	-.32	10%

Note. **$p < .05$, *$p < .01$

inverse correlation of -.87 between parent-reported anxiety and support person number 8 was found. For the five cases reporting, approximately 75% of the variance in scores of support person number 8 was associated with parent-reported anxiety symptoms.

Relationship Between Child-Reported Internalizing Symptoms and Roles of Support Persons

Correlations between children's self-report of internalizing symptoms and support roles scores ranged from -.49 to .35. Many of the correlations shown in Table 17 were of small-to-moderate magnitude, although not statistically significant. An inverse medium correlation of -.49 was found between support person number 8 and child-reported somatic concerns, suggesting if the eighth support person is not supportive in a child's life, then the child is likely to display somatic concerns. The persons most frequently named as support person number 8 were biological brother and sister. For the five cases reporting, approximately 24% of the variance in self-reported somatic concern appears associated with variance in support role scores of support person number 8.

Relationship Between Teacher-Reported Internalizing Symptoms and Roles of Support Persons

Correlations were statistically nonsignificant between teacher-reported internalizing symptoms and support person scores, with correlations ranging from .06 to -.44. Almost all correlations were negative to zero between teachers' reports of internalizing symptoms and role scores for support persons of the participating child, as shown in Table 18. Although correlations were statistically nonsignificant, most of the relationships between support persons and teacher-reported internalizing symptoms were negative, possibly suggesting that if a child has more support, a teacher is less likely to perceive a child as being depressed or anxious.

Table 17

Relationships Between Child Reported Internalizing Symptoms and Roles of Support Persons

		SOS ANXIETY		SOS DEPRESSION		SOS SOMATIC	
Child support person	N	r	r^2(100)	r	r^2(100)	r	r^2(100)
Support person 1	183	-.09	.81%	-.04	.16%	-.09	.81%
Support person 2	130	.08	.64%	.09	.81%	.14	2%
Support person 3	95	.06	.36%	.08	.64%	.15	2%
Support person 4	61	-.26	7%	-.01	.01%	.16	3%
Support person 5	35	-.18	3%	.00	.00%	.25	6%
Support person 6	20	-.23	5%	-.26	7%	.35	12%
Support person 7	14	.14	2%	-.03	.08%	.33	11%
Support person 8	5	.34	11%	.28	8%	-.49	24%

Table 18

Relationships Between Teacher Report of Internalizing Symptoms and Roles of Support Persons

		TIF ANXIETY		TIF DEPRESSION		TIF SOMATIC	
Child support person	N	r	r^2(100)	r	r^2(100)	r	r^2(100)
Support person 1	183	.00	0%	.04	.16%	.06	.36%
Support person 2	130	-.07	.49%	-.15	2%	-.09	.81%
Support person 3	95	-.07	.49%	-.09	.81%	-.04	.16%
Support person 4	61	-.09	.81%	.00	0%	.03	.09%
Support person 5	35	-.06	.36%	-.29	8%	-.05	.25%
Support person 6	20	-.07	.49%	-.38	14%	-.23	5%
Support person 7	14	-.20	4%	-.28	8%	-.23	5%
Support person 8	5	-.05	.25%	-.44	19%	.00	0%

Relationship Between Parent Methods of Discipline
and Internalizing Symptoms

The parents were asked about how their child's bad behavior was usually dealt with in the family, and how often, on a 5-point scale, their child was disciplined or punished for their bad behavior. Types of discipline included the following: (a) spanking, (b) scolding, (c) being ignored, (d) denied food, (e) socially isolated (sent to room), (f) denied books or television, (g) grounded, (h) physically beaten, (i) teased/shamed, and (j) being shown or talked to.

The magnitude of relationships between child, teacher, or parent reported internalizing symptoms and methods of discipline was examined. Correlations between the different methods of discipline and multisource report of internalizing symptoms range from -.12 to .30, as shown in Table 19. The disciplinary methods associated with higher parent reports of their child's depression were spanking, being ignored, being denied food, socially isolated, and teasing/shaming (r = .19 to .30). One correlation of .16 was found between parents' reports of anxiety and social isolation. However, SOS and TIF had near zero correlations with the different types of disciplinary methods.

Relationship Between Family Stressors
and Internalizing Symptoms

Some children must deal with traumatic events well before they are emotionally or intellectually ready to do so. Parents die or divorce, a brother or sister falls seriously ill, a grandparent becomes ill, a trusted adult becomes physically abusive. When children experience such stressful events, their risk for depression and anxiety rises. The life stress scale found in the BIODEM was modeled after Coddington Life Stress Scale, which is the most widely used life-stress measure for children. The higher a child's score on this instrument, the greater the likelihood of internalizing symptoms. For this study, the Family stressors subscale scores were

Table 19

Relationship Between Parental Methods of Discipline and Internalizing Symptoms

Types of disciplinary methods	CAP (N=336)		SOS (N=260)		TIF (N=292)	
	Depression	Anxiety	Depression	Anxiety	Depression	Anxiety
Spanking	.19**	.10	-.03	.01	-.02	-.09
Scolding	.09	.09	-.07	-.02	-.06	-.04
Being ignored	.26**	.15	-.07	.01	.06	.10
Denied food	.20**	.12	.01	.07	.04	.13
Socially isolated (sent to room)	.21**	.16*	.03	.08	-.07	-.03
Denied books or television	.13	.12	-.01	-.02	.00	-.01
Grounded	.09	.18	-.09	.05	-.05	-.01
Physically beaten	.07	.03	.06	-.01	-.04	.02
Teasing/shaming	.30**	.14	.00	.06	.03	.06
Showing/talking to	-.04	-.01	-.12	-.08	-.09	.04

* $p < .01$. ** $p < .001$.

calculated through the addition of 33 individual item scores and the summary raw scores were the bases of all analysis. Types of stressors included the following: (a) death of a parent; (b) death of a brother/sister; (c) end of problem between parents; (d) divorce of parents; (e) marital separation; (f) death of grandparent; (g) hospitalization of parent; (h) remarriage of parent; (i) birth of brother/sister; (j) hospitalization of brother/sister; (k) loss of job by parent; (l) major increase in parent income; (m) major decrease in parent income; (n) start of new problem between parents; (o) change in father's job, spends less time at home; (p) new adult moved into home; (q) mother begins to work outside the home; (r) moved to new school; (s) failed grade in school; (t) suspension from school; (u) start of new problem between child and parent; (v) end of problem between child and parent; (w) recognition for excellence in sports/activity; (x)

appearance in juvenile court; (y) fail to achieve something child really wanted to do; (z) becoming member of religion; (aa) being invited to join a social organization; (bb) death of a pet; (cc) child being hospitalized for illness injury; (dd) death of a close friend; (ee) finding an adult who really respects child; (ff) outstanding personal achievement; and (gg) member of family spent time in jail. The relationship between the family stressors subscale score and internalizing symptoms was examined. The relationships found between family stressor subscale and internalizing symptoms were generally small and statistically nonsignificant as shown in Table 20. The average number of negative stressors was 2.7 with a standard deviation of 2.8.

Relationships Between Internalizing Symptoms and General Family Characteristics

Some general family characteristics from the BIODEM and internalizing symptoms relationships were examined. They included the child's language ability, alcoholism in the family, treatment for alcoholism, treatment by a mental health professional, and psychiatric hospitalizations of family members as reported by the parents.

As shown in Table 21, there was a small inverse relationship ($r = -.19$, $p < .01$) between self-reported depression and the child's ability to pronounce English words correctly, suggesting a child is more likely to report depression if the he/she is unable to pronounce English words correctly. Correlations near zero were found between parents' and teachers' reports of internalizing symptoms and a child's ability to pronounce words in English and Navajo.

A correlation betwen TIF anxiety and parent-reported problems with alcoholosm was statistically significant ($r = .18$, $p < .05$), suggesting an association with teacher-reported anxiety and parental problems with alcoholism. Furthermore, a small ($r = .15$, p .05)

Table 20

Relationships Between Family Stressors Subscale and Internalizing Symptoms

Internalizing subscales	Family stressor subscale (r)
Child assessment by parent (anxiety)	.03
Child assessment by parent (depression)	.03
Child assessment by parent (somatic concerns)	-.03
Self-observation report (anxiety)	-.11
Self- observation report (depression)	-.11
Self-observation report (somatic concerns)	-.11
Teacher interview form (anxiety)	-.09
Teacher interview form (depression)	-.12
Teacher interview form (somatic concerns)	-.09

correction was found between teacher-reported anxiety and family treatment for alcoholism, possibly indicating teachers are more likely to report a child as anxious, especially if a parent has had treatment for alcoholism. There was a small relationship between parent-reported anxiety and psychiatric hospitalization of family member with a correlation of $r = .14$, $p < .05$. There were zero relationships between internalizing symptoms and family characteristics concerning mental health issues.

CHAPTER V

DISCUSSION

The present study examined prevalence rates and correlates of internalizing disorders as defined within a Western culture with a sample of Native American children and families who live on a reservation. The results from this study provide a first exploration in providing social and emotional information for Native American children that can assist in advancing the extremely limited knowledge base targeting internalizing symptoms for Native American children. Because the sample group was from a Native American culture, it is likely results were affected by language, culture, cultural views of disorders, and other cultural characteristics that could not be fully accounted for in the present research. Therefore, findings from this study must be used with caution. In this chapter, review of findings, limitations, and recommendations for future research and practice are presented.

Internalizing Symptoms: Prevalence and Group Differences

The first research question asked "What is the prevalence rate of internalizing symptoms as reported by parents, teachers, and children's self-reports?" To answer this question, the CAP, TIF, and SOS were used to compare and contrast depression, anxiety, and somatic concerns as reported by parent, child, and teacher. These measures obtained parents', teachers', and children's reports of emotional problems (or lack of) as manifested by elementary-school children. Analyses were conducted to determine general prevalence, as well as occurrence of internalizing symptoms within groups of children by gender and grade. The key objective for these analyses was to provide information that may assist professionals and clinicians in grasping the multifaceted and relativistic nature of children's problems. This information can help provide

a more comprehensive picture of internalizing symptoms among Native American children as perceived by the three informant sources. Findings and implications of these analyses are discussed for each type of internalizing symptoms in these sections that follow.

Depression Symptoms

Childhood depression is a cause for concern because there is evidence that depression beginning in childhood or adolescence may persist across the life span (Cantwell, 1990). Furthermore, internalizing problems in school children are often difficult to observe, detect, and can be easily be overlooked and go unnoticed by the child's teacher, parents, and peers (Poznanski & Zrull, 1970). Such a covert nature leads to difficulty in identification and diagnosis. Therefore, it is likely that the figures here may underestimate internalizing symptoms.

Group differences. Parent, teacher, and child reports displayed some differences for depressive symptoms across gender and age groups. In particular, children's self-report indicated that second-grade girls report more depressive symptoms than second-grade boys, while fourth-grade boys report more depressive symptoms than fourth-grade girls. Parents reported slightly higher depressive symptoms for fourth-grade boys than fourth-grade girls. On the other hand, teachers' reports displayed no gender differences for either second graders or fourth graders.

The literature indicates that controversy exists about male-to-female ratio of depressive disorders among prepubertal children (Beitchman et al., 1992). Some research findings show that among young children, boys are more likely to be depressed than girls (Fassler & Dumas, 1997). In the present sample, children's self-report suggests that older boys may actually report more depressive symptoms. The present findings provide preliminary evidence that, among Native American children, gender differences in depression may vary as a function of age and reporting source. Given the difficulty and inconsistency with which internalizing symptoms are identified, education on the identification of internalizing symptoms and what to do about persistent symptoms for teacher, parent, and student are in order.

Prevalence estimates for depression. In the literature, prevalence estimates for the most common internalizing problems in childhood (i.e., depression and anxiety) ranged from 2% to 7.3%, with a median prevalence estimate of 3.9% (Walters, 1996). Other findings from a national survey of 14,000 Native American youth found that 11.4% experience hopelessness, 6.6% worry about losing their mind, and 18.3% experience constant sadness (University of Minnesota Adolescent Health Program, 1992).

In the present sample of Navajo children, 12.6% to 17.8% had some degree of depressive symptoms, based on self-report, and parents' and teachers' reports. This is quite high when compared to the prevalence estimates for the general population but seems comparable to the rates of symptoms found among Native American youth in the national survey cited above. Some of these symptoms included "I feel lonely," "I feel that no one loves me," and "I feel I'm no good at all." Teachers identified fewer children as having symptomatic signs of depression, but more children with clinically significant signs of depression, as compared to reports by parents and children.

Among participating children, 2.6% to 6.1% displayed clinically significant symptoms of depression based on self-reports, and parents' and teachers' reports. Prevalence estimates from this study seem to suggest that approximately one in twenty children are at the high end of the distribution of children with depressive symptoms. These children are likely displaying significant clinical signs of depression and evidencing symptoms that would be consistent with a depressive disorder. These findings are also at the high end of estimates for the general population, with prevalence estimates for major depressive disorders in children ranging from about 1% to 5% (Costello, 1989). Previous findings (Berlin, 1986; Manson et al., 1985; Shore et al., 1987) indicate that symptom expression is similar across Native American and general populations but prevalence is higher among Natives. These previous findings are supported by

the present findings, since prevalence estimates for both clinically significant and symptomatic expression of depression place children at the high end of the range of prevalence estimates for the general population.

Anxiety Symptoms

Childhood anxiety has often been overlooked because it was believed to be both common and transient (Wolfson et al., 1987). Childhood fears are quite common (Morris & Kratochwill, 1990), but childhood anxiety deserves attention, particularly because it may be predictive of adult psychopathology (Bowlby, 1973).

Group difference findings. The present study found some interesting findings of children's anxious symptoms with respect to gender and grade differences. Parents reported on the average slightly higher anxiety symptoms for female children than male children. However, upon closer examination, the small difference between girls and boys was found only for second-grade children, and no difference was found between fourth-grade girls and boys. With regard to children's self-report of anxiety, girls reported slightly more elevated anxiety symptoms than male children. Again, this difference between girls' and boys' self-reports was found only for second-grade children, and no difference was found between fourth-grade boys and girls. No differences were found for grade or gender based on teacher reports of anxiety. The findings from this study tentatively agree with the literature indicating that girls generally report anxiety symptomology more often than boys (Morris & Kratochwill, 1990). However, present findings add a qualification to the previous findings, that is, girls do have more symptoms at a younger age, but by fourth grade these differences may disappear. Therefore, future research investigating anxiety should consider age differences among elementary school children.

Prevalence estimates for anxiety. Children had noteworthy anxiety symptoms at a rate of 16.4% to 18.3%, based on self-report, parents' and teachers' reports. Furthermore, prevalence

rates of clinically significant anxiety among elementary-age Navajo children ranged from 2.9% to 5.4% across informants.

It has been stated that anxiety disorders are common on the Navajo reservation, although specific rates are unknown (Nagel, 1994). Previous studies have found that prevalence estimates for common internalizing problems, including anxiety, range from 2% to 7.3% (Walters, 1996). Precise comparisons are difficult because these estimates do not pertain exclusively to anxiety symptoms. Nonetheless, prevalence rate estimates particularly for symptomatic expression of anxiety for the present sample appear quite high in comparison. As discussed elsewhere, the present study found positive relationships between parental problems with alcohol and child anxiety. Problems with alcoholism are quite high among this population, and given the present findings, this may be a major cause of the high rates of anxiety among children. These findings clearly suggest a need to train individuals who work with children and families in order to identify causes and symptoms of anxiety, and to possibly curtail anxiety symptoms/disorders, particularly since childhood anxiety may be predictive of adult psychopathology.

Somatization Symptoms

Somatic complaints have been found to be strongly related to childhood depression. Children who experience significant depression or anxiety will have concurrent physical symptoms without an underlying medical condition (Merrell, 1994). Furthermore, somatic presentation or somatization occur frequently in the cross-cultural context as expression of psychological problems (Westermeyer, 1993).

Group differences findings. Findings from this study indicate parents reported fourth-grade boys complained of physical problems without known medical causes more often than fourth-grade girls, as indicated by a small effect size. Furthermore, teachers seemed to agree with parents, for they also reported fourth-grade boys complained of physical problems without

known medical causes more than the average fourth-grade girls. Based on self-report, girls in the second grade reported slightly higher somatic concerns than the average second-grade boys, as indicated by a small effect size.

Prevalence estimates for somatization. In the present sample of Navajo children, prevalence estimates for "symptomatic expression" of somatic concerns, based on self-report, and parents' and teachers' reports, ranged from 12.5% to 17.8%. Based on Navajo children's self-report, 2.6% had clinically significant symptoms of somatization. Parent reports indicated that 4.2% of these children often complained of physical problems with no known medical causes, and teacher reports indicated that 3.4% of these children had somatic concerns with no known medical causes.

Responses on this subscale may have been influenced by cultural factors. According to traditional Navajo conception of health and illness, physical symptoms can be caused by many factors in addition to medical causes. This is in contrast to a Western medical model of illness upon which the definition of somatization was based. Therefore, Navajo parents and teachers may have responded to somatization items on some other basis than was intended by the instrument developers, for instance, based on a belief that symptoms were caused by violation of a taboo. It is unknown what effect this may have had on subscale scores. Traditional beliefs may constitute a strength in terms of recognizing and responding to psychosomatic symptoms, since these beliefs already acknowledge the possibility of a mental or emotional cause for physical symptoms. It may be helpful for teachers and parents to learn more about how children's physical symptoms may result from depression or anxiety, as well as from physical conditions or injuries causing similar symptoms.

Prevalence Findings: Summary and Recommendations

In summary, it was fairly consistent finding that fourth-grade boys displayed higher

depressive and somatic symptoms than girls. However, second-grade girls consistently evidenced higher internalizing symptoms across domains than second-grade boys. Furthermore, there were no differences among fourth-grade boys and girls on anxiety. It seems for this sample, at a younger age girls do display more internalizing symptoms, but by the fourth grade, gender differences have evened out and boys may even display more symptoms in some areas. By their own self-report, older boys seem to have more problems with depressive symptoms than girls. Parents and teachers do not report this, but both see greater somatization in fourth-grade boys, which frequently indicates other internalizing problems among children (Fassler & Dumas, 1997). Thus, a slightly more complex relationship between gender and internalizing symptoms was found within this sample as compared to previous findings from the literature.

Some possibilities for the differences between boys' self-reports and parent perceptions may be that Native American parents may often be unaware of boys' depressive symptoms, but are more cognizant of physical complaints. Navajo boys may be able to hide their depression by being stereotypically masculine within the home environment. For instance, since these boys were already seen as masculine within the community, perhaps they were more likely to have a difficult time expressing feelings and may not have had the resources to state how they felt. Another possibility is that when boys become depressed, symptom expression is colored by the differences in the way boys and girls express their depression. When young boys get depressed, they often behave differently than girls with similar problems, for example, by frequently acting out (Fassler & Dumas, 1997).

Some possible reasons why boys display more internalizing symptoms as they get older might involve changes in communication and self expression abilities, as well as changes in the home and school environments. For instance, at home boys may be increasingly socialized to be stereotypically male and less verbal as they grow older, while at school they are required to

become more verbal in conjunction with greater verbal demands in the higher elementary grades. The conflicting demands of these two environments could create problems with frustration and self-esteem for boys, possibly leading to internalizing symptoms. These issues imply that teachers and parents may need to pay special attention to depressive symptoms in boys as well as in girls, and highlight the need to train teachers on internalizing symptoms/disorders and develop school-based screening programs to detect internalizing symptoms/disorders.

Another issue in interpreting the present findings concerns the manner in which cutpoints for estimating prevalence rates were derived. Cutoff scores were based on properties of normal distributions, and dispersion found within this study sample. All participants who scored higher than two standard deviations above the sample mean were classified as clinically significant. All participants who scored between one and two standard deviations above the sample mean were classified as symptomatic. Children whose scores were less than one standard deviations above the sample mean were classified as the nonclinical sample. It is important to note the limitations of this method of establishing cutpoints. In a normal distribution, 2.5% of subjects will always fall two standard deviations above the mean, 34% of subjects will fall one standard deviation above the mean, and 13.5% will fall between one and two standard deviations above the mean. The number of subjects falling in the clinically significant, symptomatic, and nonclinical categories, to some extent, is a function of this property of normal distributions. However, the scores in this sample were not normally distributed; in fact, we expect them to be positively skewed, because of the constructs being measured and their statistical properties. Thus, the prevalence estimates reported here are probably reasonably good estimates, but are based primarily on the properties of these particular instruments, used with this specific sample. Findings should be generalized with caution. Obtaining more accurate figures in the future will require use of multimethod, standardized measurements.

Internalizing Symptoms and Competencies

The second research question was "What are the relationships among internalizing symptoms, social competence, instrumental competence, language ability, community mindedness, competitiveness, and academic achievement within and across information sources?" To answer this question, relationships between internalizing symptoms and competency subscales from the CAP, TIF, and SOS measures were analyzed. The key objective for knowing information regarding relationships between competencies and internalizing symptoms is that there had been relatively little research to indicate which readily reportable competencies would discriminate between normal and troubled Native American children. Information about Navajo children's competencies can provide a more comprehensive picture of their culture and what specific competencies may prevent negative consequences, such as internalizing disorders for these children.

Community Mindedness Subscale

The community mindedness subscale was developed with the assistance of Native American community members and is considered "a part of being mentally healthy" for members of various tribal groups. Community mindedness is a group-oriented competency, as compared to Western culture that is based on more individualistic competencies. Community mindedness is based on sharing, devotion to family and friends, giving, and helping family and others with problems. Some beliefs found in Native cultures may contradict beliefs of the Western culture. For example, in Native American cultures, self-worth may be measured by a willingness and ability to share (Fleming, 1992), whereas in the Western culture, individuals value accumulation of personal wealth. Community-based ideals are customary themes and are important concepts and beliefs to the Navajo tribal group. On the other hand, characteristics identified in the Navajo language such as "being stingy," "does not help others," and "only looking out for oneself" are

seen as atypical behaviors to this tribal group, and these behaviors would be considered abnormal and individualistic.

In general, a pattern of small to near zero but consistently negative correlations was found between self-reported internalizing symptoms and child's self-reported community mindedness. Teachers and parents reported less depressive and anxiety symptoms in conjunction with higher community mindedness scores, as indicated by small, negative, and statistically significant correlations. Community mindedness specifically has not been previously studied. However, some related findings from the literature suggest supportive family relationships, family closeness, and availability of extended family exert a protective effect on children (Rutter, 1975; Werner & Smith, 1982). The present findings seem to extend previous findings to the Native American populations, in terms of the culturally based construct of community mindedness.

Social and Instrumental Competence Subscales

A study conducted by Cowen, Pederson, Babigan, and Trost (1983) found convincing evidence that early peer relationship problems among third-grade students were strong indicators of mental health problems later in life. Findings from the present study revealed some interesting patterns emerging among internalizing symptoms, and social and instrumental competence subscales. Findings among these subscales suggest that children who are high in social and instrumental competencies were less likely to be seen as depressed or anxious by teachers and children's self-report. Specifically, children who had positive relationships with peers (i.e., social competence) were less likely to report depression as found by a small, negative, and statistically significant correlation. Similarly, teachers report less depressive and anxiety symptoms in children who were able to regulate their behaviors in the classroom (i.e., instrumental competence), and among children who are socially accepted by their peers. Likewise, if parents

perceive their children were well accepted by peers and were able to regulate their behaviors, teachers were less likely to report these children as depressed or anxious.

As stated previously in Chapter II, the establishment of interpersonal and family relationships is eminent in the Navajo culture. The concept of K'e hwiinidzin (positive human relationships) is guided by principles of K'e and the clanship system, which is the basis of learning how to establish positive interpersonal relationships with others within the environment. Social competence within this cultural context develops in a number of ways. When children are young, they are taught their clans and how to introduce themselves among extended relatives. Thus, children are able to practice their social skills through the clanship system and interacting with extended family. Through these experiences children learn to make friends and enjoy being among others. Social skills are often developed in the group setting through joking, teasing, and learning to cope with teasing. Specific words exist in the Navajo language to describe individuals who lack social competence, e.g., doo baa' ooh'loo'daa (person cannot be teased).

Instrumental competence may be associated with the absence of depression, anxiety, or somatic concerns because Navajo children are encouraged to become self-sufficient and competent at an early age. Children may not necessarily learn school-related skills (Mussen, Conger, Kagan, & Huston, 1990), but often learn different skills relevant within their culture (e.g., taking care of livestock). In comparison to the Western culture, Navajo children are often expected to assume numerous responsibilities for themselves and the family at an early age. Navajo children are reared in adult-centered environments making it easier on children to master self-care skills. Navajo children learn through the modeling and practice process, as parents praise acceptable behaviors and correct behaviors that are unacceptable. With the support of their extended family, children learn to take care of themselves, and others, and to take responsibilities which may serve as a protective factors.

Numerous factors place families and children at risk for not having these processes of guidance and learning in place. Risk factors such as lack of extended family support, poor parental modeling of appropriate behavior, ineffective parenting, disorganized family environments, and multi-problem homes may often put families and children at risk. Professionals who work with at-risk families and children should be especially aware of acceptable socially appropriate and competent behaviors within the culture. When working with at-risk children and families, family members can be asked to identify positive and desirable behaviors, and who could model and coach specific behaviors for a child. For instance, a child may avoid wearing glasses because of embarrassment or inconvenience; if the child has difficulty seeing with uncorrected vision, then it is likely that his/her instrumental competence could decline. A role model with in the extended family might make it a point to talk with the child about wearing glasses and to model this behavior for the child.

Competitiveness and Academic Achievement Subscales

SOS depression correlated with SOS competitiveness, suggesting Native American children are more likely to report depressive symptoms when they report competing against other children. Congruent with their own self-reports, children who are seen by teachers as competitive with peers are likely seen as depressed or anxious. Interestingly, a similar pattern extended to academic achievement. Parents who reported children having good academic achievement were more likely to perceive their children as depressed, anxious, or somatizing. This is contrary to previous findings (e.g., Merrell, 1994) that internalizing disorders are associated with poor academic achievement. The TIF and SOS did not include an academic achievement subscale and so data from these sources could not be investigated.

The findings on competitiveness and academic achievement seem to be unique in the

literature addressing correlates of internalizing symptoms. Associations between internalizing symptoms, competitiveness, and academic achievement may stem from cultural factors. Some cultural groups emphasize intellectual achievement in the socialization of children more than others do. A great emphasis may not be placed on individual achievement by parents and other people in the culture. Similarly, competitiveness is not highly valued in this collectivistic culture. However, Navajo parents may hold general views from their own experiences about important competencies in the majority culture, such as finishing school, learning to speak English well, and acquiring a "good" job (Metcalf, 1976). These broad expectations could create stress for Navajo children who are unaccustomed to an emphasis on achievement and competitiveness. When children enter school for the first time, they are initiated into the world of grades, evaluations, competition, and clear comparisons with peers, possibly leading to internalizing symptoms.

More importantly, the idea of competing with peers, friends, or family members is quite foreign to Native American cultures, and could also be stressful for children. Members within this tribal community value group cohesiveness as opposed to only looking out for oneself. That is, a collectivist or group orientation is valued over an individualist orientation, so competition and individual achievement are deemphasized (Locke, 1992). The resulting cultural conflicts and stress experienced by children in the school setting (LaFromboise & Low, 1989) could bring about depressive, anxious, or somatic symptoms. For instance, a child who is competitive in school may be teased or shamed by other children because competitiveness is not valued in the culture, and over time, this could bring on depressive symptoms. This emphasis on group orientation may have further consequences. For example, Native American children are not likely to want to draw attention to themselves as individuals, but usually prefer to be part of a group. Educators who do not understand values and beliefs about group orientation may push children

harder because they mistakenly interpret children's behaviors as being passive, lazy, unmotivated, or not wanting to compete for top grades. This pressure could have the effect of creating more stress on children, possibly increasing internalizing symptoms.

Language Competencies

Children in this study were less likely to be seen as depressed or anxious by teachers' reports if they had good English language abilities. Other similar findings from the BIODEM included a small inverse relationship between self-reported depression and parents' report of child's ability to pronounce English words correctly. Thus, a child is likely to report higher levels of depression if the child has difficulty pronouncing English words correctly. A subset of children in the study were from remote areas of the reservation, and these children often lacked proficient English skills. Children who primarily speak English often tease and make fun of children from remote areas of the reservation because of how they speak and pronounce English words. One possibility is that these children with inadequate English language abilities are often shamed, resulting in lowered self-esteem and a concomitant increase of depression and anxiety symptoms.

Associations Between Internalizing Symptoms and Family Characteristics

The third research question was "What are the relationships between internalizing symptoms and family characteristics?" To answer this question, numerous family characteristics were obtained primarily from the BIODEM, as well as the TIF, CAP, and SOS subscales. The purpose of this question was to identify possible indicators of risk and resiliency for internalizing problems.

Internalizing Symptoms and Family Roles/Support

In the Navajo culture, extended family members are seen as important teachers and mentors in a child's life, who are responsible for teaching and providing a nurturing environment. Analysis of relationships between extent of family roles/support and internalizing symptoms found some correlations of moderate magnitude, although very few were statistically significant due to decreased sample size. In general, if the biological brother and sister were not supportive in a child's life, it was more likely a child would be perceived to be depressed, anxious, or to display somatic concerns. The literature indicates that siblings often set and maintain standards, provide models to emulate, and serve as confidants and sources of social support in times of emotional stress (Lamb, 1982, p. 6). These findings suggest that certain family members' involvement and support appear to be associated with reduction of internalizing symptoms. This is consistent with previous related findings that indicate favorable family factors such as family closeness and availability of family have positive effects on children (Werner & Smith, 1982) and the Navajo focus on family cohesiveness.

Internalizing Symptoms and Discipline Methods

Relationships between internalizing symptoms and method of discipline reported by parent were also examined. Correlations between the different methods of discipline and multisource report of internalizing symptoms ranged from -.12 to .30. CAP depression scores correlated with the use of the following disciplinary methods: spanking, being ignored, denied food, socially isolated, and teasing/shaming.

A small but statistically significant correlation was found between CAP anxiety and punishment by social isolation. It is possible that frequent punishment by social isolation could result in children experiencing alienation, poor social adjustment, and strong feelings of rejection. One study conducted with Native American youth found those who reported

experiencing alienation were associated with high risk for poor social adjustment (Bryde, 1970). Another small but statistically significant correlation was found between CAP depression and spanking. This is similar to previous findings; for example, one study of depressed children found that their parents were more likely to use corporal punishment (Seagull & Weinshank, 1984).

Interestingly, children's and teachers' reports of internalizing symptoms had near zero correlations with the different types of disciplinary methods reported by parents. In summary, one can surmise that internalizing symptoms are related to certain types of punishment, but the details surrounding these issues are unknown at this time. A recommendation would be to educate parents' about the relationship between internalizing symptoms and punishment by shaming, spanking, being ignored, denied food, or social isolation. In some cases these so-called punishments may constitute child abuse and in some cases they may not. However, abusive and nonabusive parents should be made aware of the possibility of emotional problems that could stem from these forms of discipline and taught alternative, culturally acceptable discipline strategies.

Additional Risk Factors for Internalizing Symptoms

In addition to the indicators of risk and resiliency already discussed, relationships between some general family characteristics from the BIODEM and internalizing symptoms were also examined. Nonspecific themes of loss and number of stressors have been suggested as related to internalizing symptoms (Beiser, 1989; Fassler & Dumas, 1997). In this study, there was no apparent association between number of family stressors score and internalizing symptoms. The effect sizes were generally small and the correlations were statistically nonsignificant. Although the average number of stressors seemed relatively high for children of this age, the lack

of association between stressors and symptomology is contrary to previous findings (e.g., Fleming & Offord, 1990; Miller et al., 1990).

It seems possible that stress is more strongly related to externalizing types of behaviors than internalizing symptoms. Externalizing behaviors could include alcohol abuse, domestic violence, or other aggressive behavior. Within this population, these kinds of behaviors seem more related to stress because they are used as forms of escape and avoidance in response to poverty, discrimination, poor living conditions, acculturation stress, and lack of cultural and social support. Other explanations for the lack of association may be related to statistical or measurement issues. For instance, the instrument used to measure stress in this study may not have been sensitive to specific stressors experienced within this Native American population. Additionally, the relationship between stressors and internalizing symptoms may be curvilinear, thus suppressing magnitude of bivariate correlations. That is, internalizing symptoms may be elicited in response to a moderate level of stress, but as the number of stressors increases, defensive escape and avoidance strategies such as those discussed above are elicited, and externalizing behaviors become more common than internalizing behaviors.

Parental use of alcohol and family dysfunction have been suggested as correlates of children's internalizing disorders (Beiser, 1989). Substance abuse raises a child's risk for depression in several ways (Beiser, 1989; Fassler & Dumas, 1997). If a parent is the abuser, it affects his/her ability to be consistent with his child. The unpredictability in a parent's alcoholic behaviors may undermine family well-being and confuse children, and they grow up without the sense of stability and security to act as a buffer against internalizing disorders.

Relationships between internalizing symptoms and alcoholism in the family, treatment for alcoholism, treatment by a mental health professional, and psychiatric hospitalizations of family members as reported by the parents were examined. Correlation between TIF anxiety and

parent-reported problems with alcoholism was statistically significant, suggesting teachers were more likely to report a child as anxious if a family member had problems with alcoholism. Furthermore, a small correlation was also found between teacher-reported anxiety and family treatment for alcoholism. There was a small relationship between parent-reported anxiety and psychiatric hospitalizations of family member. Correlations were zero between internalizing symptoms and mental health treatment of family members. Results obtained in the present study provide some evidence that family alcohol and psychiatric problems are associated with internalizing symptoms of children, particularly anxiety.

Limitations and Recommendations for Research

The findings from the present study suggest several directions for future research, and discussion of some salient limitations of the current study is warranted. Since the data were collected 10 years ago, some changes may have taken place on the Navajo reservation, but to what extent changes may have influenced the present findings is unclear. Prevalence rates in majority population have not changed. On the reservation, there seems to have been an increase in gang activity and possibly gang-related violence, and an increase in the availability of street drugs such as cocaine and methamphetamine. Changes such as these indicate that the present findings are not likely to overestimate the extent of internalizing problems among Navajo children, and may actually underestimate current prevalence. It is unlikely these figures overestimate prevalence rates. Although caution must be exercised in generalizing from this study, extrapolation of this study's findings can be cautiously used as a guide to help estimate the scope of the potential problems facing Navajo children in order to plan and develop prevention or intervention programs. For instance, school personnel might be interested in estimating the extent of problems with internalizing disorders in their school.

As discussed earlier, prevalence estimates are based on this particular sample and further

research is needed to increase confidence in the estimates of internalizing symptoms. Another limitation of this study was the sample group, both in size and geography. The sample and sample size do not reflect all Navajo children who live in various communities on or off the reservation. Other possible limitations may have arisen because parents were interviewed in both English and Navajo languages, and one might speculate that linguistic and/or cultural factors could have affected the way in which Navajo parents endorsed the items. Communication across languages on matters of psychiatric concern (e.g., from Navajo to English or from English to Navajo) can raise many difficulties in interpretation, even with the use of a translator (Adair, Deuschle, & Barnett, 1988). Furthermore, standard procedures in translating assessment instruments (e.g., back translation) could not be applied because many parents do not read Navajo, due to the fact that it is primarily an oral language, with written forms only relatively recently developed.

This was a descriptive study providing broad exploratory information, but there remains a need for more focused research identifying multivariate relationships among relevant variables. An additional limitation was that the instruments utilized in this study are neither published nor widely available for replication. Furthermore, externalizing problems were not measured and broad band internalizing scores were unavailable. Because of the high degree of comorbidity among emotional and behavioral problems of children (Achenbach, 1991; Cole, Truglio, & Peeke, 1997), measurement procedures may have included more method variance and less source variance than if the whole range of behavioral dimensions (Merrell, 1994) were measured. These findings need to be replicated with other samples of Native American children and with other measures, such as Achenbach's CBCL, or other commercially available instruments. Replication would establish stability of these results and broaden their generalizability. Continuing research efforts, using multiple methods and multiple informants, can advance efforts to establish

generalizable knowledge about Native American children's depression, anxiety, and somatization symptoms.

Although this study included data from multiple informants, it relied on the single assessment method of behavior rating scales. It would be ideal to gather more information, such as clinical/diagnostic interviews of children, parents, and teachers, in addition to standardized behavior rating scales. Clinical/diagnostic interviews may provide a broader and more comprehensive characterization of children and families, and any symptoms they may be experiencing. More detailed assessment information may also enable exploration of links between assessment and treatment or intervention strategies. Lastly, research efforts will need to continue seeking correlates or risk factors of internalizing symptoms and correlates of children's social and emotional competencies, to promote general improvements in the prevention of internalizing problems and the promotion of children's mental health.

Summary and General Recommendations

Previous findings (Berlin, 1986; Manson et al., 1985; Shore et al., 1987) indicate that symptom expression is similar across Native American and general populations but prevalence is higher among Natives. These previous findings are supported and extended by the present findings, since prevalence estimates for both clinically significant and symptomatic expression of the full spectrum of internalizing disorders generally placed children at the high end of the range of prevalence estimates for the general population. Findings with respect to elementary school-aged children found relatively high rates of depression, anxiety, and somatization symptoms and, potentially, disorders. These findings are a cause for concern among parents, teachers, and all agencies responsible for children's mental health.

One recommendation based on these findings might be to initiate an awareness program on depression symptoms/disorders. Information should be comprehensive and broad enough to

help people begin to understand depression and its consequences. Topics could include types of depression, common symptoms associated with depression, Navajo-specific features, and probable etiologies of depression (e.g., sexual abuse, child abuse, academic underachievement, competitiveness, use of alcoholism, daily stressors, and acculturation stress). Awareness education could also cover diagnostic evaluation for children and adults; early treatment of depressive symptoms before becoming a full-blown psychological disorder; antidepressant medications and side effects; psychotherapies and traditional healing methods; helping oneself using available coping strategies and interventions for depression; how family, friends, and others can help a depressed person; and where to get help.

Reported symptoms varied substantially across parent, teacher, and child respondents. The low correlations among informants are in line with previous research indicating that social and emotional behaviors that were measured differ from one situation to another and one informant to another (Achenbach, McConaughy, & Howell, 1987). Although their perceptions differed, all three of these groups provide important information about children's internalizing symptoms. One can surmise children's observable behaviors and problems differ from home to school. Teachers are not apt to know about the occurrence of some emotional problems seen by parents in the home environment. Parents may be in better positions to observe different and broader samples of children's emotional functioning. On the other hand, teachers have the opportunity to observe children in settings where parents are usually not present (Achenbach, 1991). Furthermore, children have a subjective awareness of their own emotional states that neither parents nor teachers have. Therefore, it is recommended that parents and schools work together to initiate efforts aimed at increasing awareness of internalizing symptoms/disorders so that parents, teachers, and children can work together to curtail the high rates of internalizing problems.

Contrary to previous findings (e.g., Merrell, 1994), present findings found internalizing symptoms more common among children with better academic achievement. Furthermore, internalizing symptoms were consistently associated with a higher degree of competitiveness among children. The idea of competing with peers, friends or family members is foreign to Native American cultures and could be stressful for Native children. Educators and parents who may push children to achieve or compete in academic or other settings need to understand that this may lead to emotional problems for children. Additionally, children with poorer English language fluency were more likely to be depressed. If children speak English as a second language, educators must accommodate students' language needs, and efforts should be made to help children see bilingualness as a personal and cultural strength. Generally speaking, parents and teachers must provide children with supports and coping skills in order for them to be successful not only in a competitive academic environment, but also within their home and community.

Although most of the preceding discussion has focused on internalizing problems, a positive finding is that the large majority of children did not display internalizing problems. These children were likely to have positive family relationships, particularly supportive relationships with siblings. They are also likely to be seen by themselves and others as showing a high degree of community mindedness. This culturally based measure indicates that children are competent at the group or community level, that they are generous, sharing, helpful, and responsive with family, friends, and other members of their community. Children who were free from internalizing problems were also seen by themselves and others as having higher social and instrumental competencies. Thus, these children have the skills and opportunities to form positive relationships with others, and they are able to regulate their behaviors and achieve desired goals in their daily environments. All who are concerned about the mental health and

well-being of Navajo children should heed these findings, as promotion of these competencies and skills is likely to prevent or reduce the incidence of internalizing problems.

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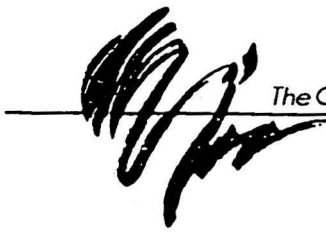
APPENDIXES

Appendix A

Letter of Support



July 25, 1997

Carolyn Thomas Morris
15630 North 4000 West
Garland, Utah 84312
U.S.A.

Dear Carolyn:

This letter will confirm that I have authorized your use of data from the Flower of Two Soils Project in support of your work towards the Ph.D. degree. As we discussed, all

I am very pleased to hear that you are progressing so well and I look forward very much to reading your thesis.

Best regards to the lucky man in your life.

Sincerely,

Morton Beiser, MD, FRCP(C)

David Crombie Professor of Cultural Pluralism and Health
Program Head, Culture, Community, and Health Studies
Clarke Institute of Psychiatry and
Vice Chair, Research, Department of Psychiatry, University of Toronto
Director, Centre of Excellence for Research on Immigration and Settlement
Health Canada National Health Scientist

MB:bm

Appendix B

Institutional Review Board Letter of Approval

Utah State UNIVERSITY

VICE PRESIDENT FOR RESEARCH OFFICE
Logan, Utah 84322-1450
Telephone: (801) 797-1180
FAX: (801) 797-1367
INTERNET: lpgarity@champ.usu.edu

Post-it® Fax Note 7671	Date 7-23	# of pages ▶ 1
To Sue Crowley	From Sally	
Co./Dept.	Co. IRB	
Phone #	Phone # 1180	
Fax # 1448	Fax #	

July 23, 1997

MEMORANDUM

TO: Sue Crowley
Carolyn Thomas Morris

FROM: Sally Maxwell, Secretary to the IRB Sally Maxwell

SUBJECT: Characteristics of Internalizing Social-Emotional Behaviors of Navajo Children

The above-referenced proposal has been reviewed by this office and is exempt from further review by the Institutional Review Board. The IRB appreciates researchers who recognize the importance of ethical research conduct. While your research project does not require a signed informed consent, you should consider (a) offering a general introduction to your research goals, and (b) informing, in writing or through oral presentation, each participant as to the rights of the subject to confidentiality, privacy or withdrawal at any time from the research activities.

The research activities listed below are exempt from IRB review based on the Department of Health and Human Services (DHHS) regulations for the protection of human research subjects, 45 CFR Part 46, as amended to include provisions of the Federal Policy for the Protection of Human Subjects, June 18, 1991.

4. Research, involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

Your research is exempt from further review based on exemption number 4. Please keep the committee advised of any changes, adverse reactions or termination of the study. A yearly review is required of all proposals submitted to the IRB. We request that you advise us when this project is completed, otherwise we will contact you in one year from the date of this letter.

VITA

Carolyn Thomas Morris

EDUCATION

Ph.D. Combined Professional-Scientific Psychology, Utah State University, projected completion 1999. *Dissertation --**Characteristics of Internalizing Social-Emotional Behaviors of Southwestern Native American Children.*** (Susan L. Crowley, Ph.D., Chairperson).

M.S. Psychology, Utah State University, 1986.

B.A. Sociology & Human Services, Fort Lewis College. Durango, Colorado, 1978.

PROFESSIONAL EMPLOYMENT

1997-Present Psychologist Assistant, Division of Services for People with Disabilities, Logan, Utah. Responsibilities include providing comprehensive mental health services to adults with disabilities and their families; providing training and support to agency staff; consultation with case management staff, community professionals, and psychiatrists. In providing psychological consultation, assessment and intervention with clients and/or families in this setting, services may include behavioral programming, crisis intervention, home-based interventions, or short-term individual and family therapy involving a wide array of patient problems, ranging from coping with disabilities to severe and persistent mental illness. (Clinical Supervisor, David M. Stein, Ph.D.)

1996-1997 Treatment Development Coordinator and Adjunct Therapist, Benchmark Behavioral Health Systems, Midvale, Utah. Responsibilities included development and administration of inpatient treatment program for Native American adolescents; serving as liason between a comprehensive private psychiatric hospital and Native American communities contracting for services; providing community consultation and in-service training to American Indian health and human service agencies. Served as primary therapist responsible for individual and group therapy, case management, discharge planning, and consultation with multidisciplinary hospital staff. Served as cultural liason to hospital staff and to professionals from other local agencies. Conducted psychodiagnostic assessments for inpatient and

outpatient psychiatric services. Provided geriatric crisis intervention, assessment, and brief assessment reports. (Clinical Supervisor, John Taylor, Ph.D.)

1993-1996 Curriculum Specialist, Navajo Early Intervention Project, Early Intervention Research Institute, Utah State University. Served as cultural consultant, liason, and evaluator for a federally-funded project supporting the development of a system of services for infants and toddlers with disabilities and their families, on the Navajo Reservation. Responsibilities included facilitating collaboration among parents, early childhood professionals, state and community agencies, and technical experts. Also assisted with grant writing and curriculum development for pre-school Navajo children, and conducted parent/child observations. Conducted a national survey of services for infants and toddlers with disabilities and their families in Native American communities, including instrument development, data collection, data management, and presentation of survey findings. (Principal Investigator, Richard N. Roberts, Ph.D.)

1991-1993 Supervisory Education Specialist, Special Education Programs, Bureau of Indian Affairs, Fort Defiance, Arizona. Responsible for development and administration of the Fort Defiance Agency Special Education Program. Duties included compliance monitoring, staff training and development, consultation to teachers and other school personnel, and case coordination with state, federal, and tribal agencies for children identified with severe emotional, behavioral and other disabilities.

1988-1991 School Psychologist, Special Education Programs, Bureau of Indian Affairs, Fort Defiance, Arizona. Responsibilities included providing psychoeducational evaluations and psychological screening for American Indian children referred for special education services. Participated as a member of multidisciplinary education/treatment team, consulted with school personnel, families, staff, and community agencies to develop individualized educational programming (IEP) for special education students. (Supervisor, Sally Wells, Ph.D.)

1987-1988 Academic Counselor, Chuska/Tohatchi Consolidated School, Tohatchi, New Mexico. Responsibilities included providing individualized achievement testing, counseling, and crisis intervention to elementary-age American Indian children; also consultation with school personnel, families, staff, and community agencies. (Supervisor, Helen Zongolowich, Ph.D.)

1984-1987 Field Coordinator, Flower of Two Soils Project, University of Oregon Health Sciences Center, Department of Psychiatry. Worked at the Navajo Reservation site of a multi-site research project involving elementary-age American Indian children and their families. Responsible for coordinating local data collection, including field testing instruments,

training data collectors, assessing children and interviewing families, coding data, and collaborating with school, community, and tribal representatives. (Principal Investigator, Morton Beiser, M.D.)

PROFESSIONAL CONSULTATIONS AND OTHER EXPERIENCE

1997 Psychoeducational Evaluator, Bureau of Indian Affairs, Shiprock Agency, Shiprock, NM. Assessed cognitive, social, emotional, and behavioral functioning of students in grades three through eight, produced written assessment reports as part of the process for determining special education eligibility.

1997 Case Consultant, Institutionalized Handicapped Program, Bureau of Indian Affairs, Fort Defiance Agency, Fort Defiance, Arizona. Provided case coordination, psychosocial evaluation, records review, and technical assistance in conjunction with adolescent residential treatment.

1997 Case Consultant, Iina Counseling Services, Northern Navajo Medical Center, Shiprock, New Mexico. Conducted ongoing assessment in adolescent patient's aftercare placement, and provided coordinated aftercare treatment, in conjunction with Indian Health Services psychiatrist and mental health workers.

1997 Training Consultant, Bureau of Indian Affairs, Fort Defiance Agency, Institutionalized Handicapped Program, Fort Defiance, Arizona. Provided in service training on behavioral management principles, crisis prevention, and crisis management to staff of residential facility for developmentally disabled and severely mentally ill Navajo adults.

1995 Project consultant, K'e Project, Navajo Area Indian Health Service, Window Rock, Arizona. Consultation with IHS and Project staff on integrating Navajo traditional healers within the health and human services system. Developed "Draft of General Guidelines for Provision of Mental Health Services by Navajo Traditional Healing Practioners."

1994 Research Diagnostician, Early Intervention Research Institute, Utah State University. Administered cognitive and achievement testing with preschool-age children.

INTERNSHIPS/PRACTICA

1998-1999 Predoctoral Intern, Southwest Consortium Predoctoral Psychology Internship, Albuquerque, New Mexico, Edward W. Synder, Ph.D., Director of Training.

1996-1998 Supervised clinical experience, Utah State University, Psychology Community Clinic.

1995-1996 Clinical Intern, Bear River Mental Health Incorporated, Logan, Utah.

1993-1995 Advanced Counseling/Psychotherapy Practicum, Utah State University, Psychology Community Clinic.

1985-1986 School Psychology Intern, Bureau of Indian Affairs, Fort Defiance Agency.

Accessory training experiences

Medical Management and Treatment of Psychological Disorders. Seminar sponsored by Benchmark Behavioral Health Systems. December, 1996. Midvale, UT.

Treatment of Sexual Offenders. Seminar sponsored by Benchmark Behavioral Health Systems. August, 1996. Woods Cross, UT.

Indian Health Service Mental Health/Social Services Training Conference. July, 1996, Albuquerque, NM.

Anxiety Disorders Among American Indians: Cultural Issues in Treatment and Clinical Research. Sponsored by the University of Colorado School of Medicine Department of Psychiatry and the Office of Continuing Medical Education. October, 1994. Denver, CO.

Sixth Annual Navajo Culture Conference. Navajo Division of Education, June, 1994, Tsaile, AZ.

Center for Minority Special Education (CMSE) Student Initiated Grant Writing Workshop, sponsored by Hampton University. September, 1994. Riodoso, NM.

Special Skills/Knowledge

Fluent speaker of the Navajo language.

Awards and special appointments

1995 National Institutes of Health, National Institute of Child Health and Human Development, Bethesda, Maryland. Summer research fellowship with Marc Bornstein, Ph.D., Child and Family Research Head.

1995 Monsanto Corporation Chemical Group, Soda Springs, Idaho. Academic scholarship award.

Professional Organizations

American Psychological Association Graduate Student Affiliate, 1995-1998.
Society of Indian Psychologists, 1996-1998
Western Psychological Association Graduate Student Affiliate, 1997-1998

Presentations and Papers

Morris, C.T. (1998, June). Characteristics of Internalizing Social-Emotional behaviors of Southwestern Native American Children. Paper presented at the National Convention of American Indian Psychologists and Graduate Students, Logan, Utah.

Morris, C.T. (1996). Overview of Sexual Abuse: Native American Treatment Programming. Presentation to community members, professionals, and law enforcement. Fort Duchesne, UT.

Morris, C. T. (1996). Sexual Victimization: Perpetration, Trauma and Treatment. Seminar conducted at Benchmark Behavioral Health Systems. Midvale, UT.

Morris, C. T. (1996). Overview of Sexual Abuse, Sexual Offenders, and Treatment Programming. Presented to Mental Health Professionals and Community Members, Pine Ridge Reservation, South Dakota, and Seven Confederated Tribes of Nevada, Elko, NV.

Thomas, C. (1996). A Review of Early Intervention Services among Indian Tribes. Presentation at the National Native American Early Childhood Intervention Conference for Children with Special Needs, Albuquerque, NM.

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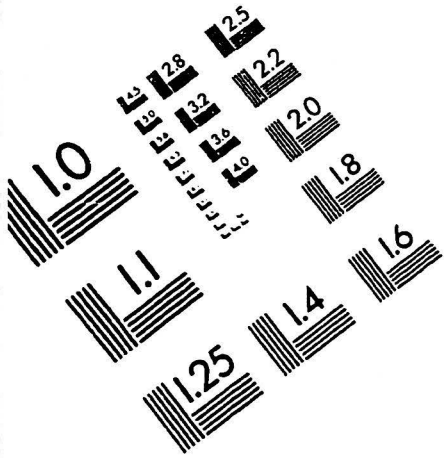
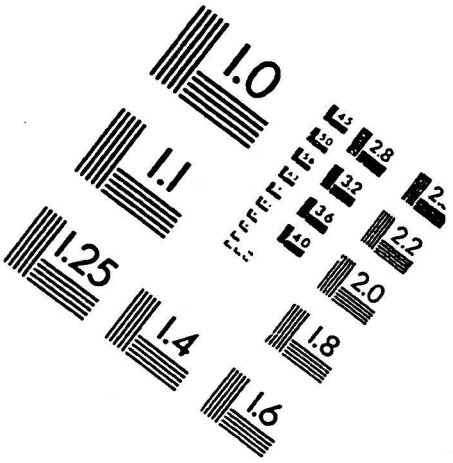
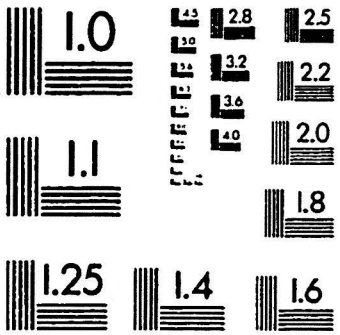
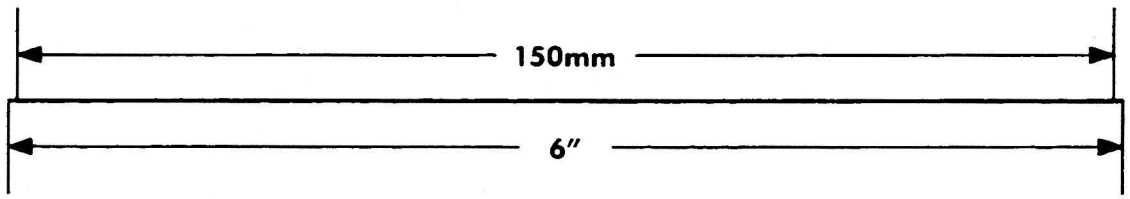
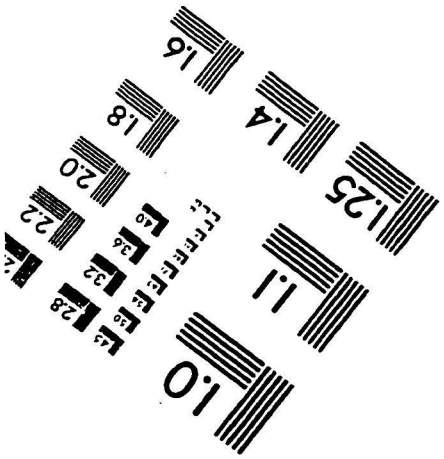
IMAGE EVALUATION
TEST TARGET (QA-3)

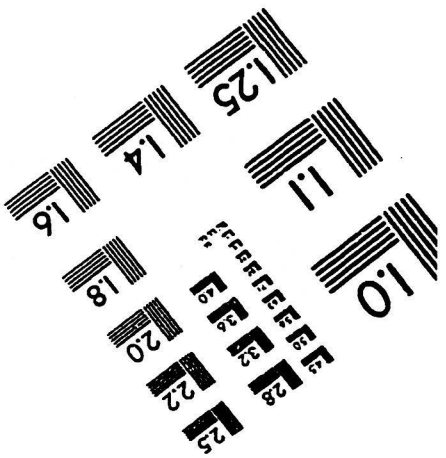












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