Classroom Resiliency—A Comparison of Navajo Elementary Students' Perceptions of Their Classroom Environment

by

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ABSTRACT

The purpose of this study was to determine if there was a gender difference in how elementary students in a public school on the Navajo Nation perceived their classroom learning environment. Of the 575 participants, 52.5% were female students and 47.5% were male students in the second through sixth grades in a public school on the Navajo Nation. Ninety-one percent of the students were Navajos. The students completed ClassMaps, a 55-item rating scale of eight important classroom characteristics that contribute to academic engagement. Findings indicated that there was a significant gender difference in how students perceived their internal strengths and relationships within their classroom. Females in grades 2, 4, and 6 indicated they have more confidence than their male counterparts. Females in grades 1, 2, 5 and 6 suggested a closer relationship with their teachers than the male students. Second and fifth grade female students believed they have ability to set goals for their own learning at a significantly higher level than boys. Female students in grades 2, 3, 5 and 6 perceived having a positive relationship with their classroom peers at a significantly higher level than the male students. In grades 2, 3 and 5, females reported that they talked to their parents about their classroom learning and school significantly more than boys. Although the females perceived high levels of success at school, they also worried more often than males regarding relationships with aggressive peers. No significant differences in perceptions between genders were noted for the behavioral self-control or non-aggressive peer relationships.

It is with great honor

to dedicate this manuscript

to my parents, Goldtooth and Mary Nez Begay,

my husband, Terrell Piechowski, my children,

my siblings, nephews, and nieces.

My father stressed formal education even though he was not formally educated.

My mother stressed the importance of family and positive relationships.

My husband is most dedicated to my education and building resilient relationships

with our children, grandchildren, friends and extended relatives.

My children humor me and keep

reminding me of the importance of positive parenting.

My children in-laws, Bridgette, Tyler, Kayla and Natasha

helped me learn that motherhood extends beyond the immediate family.

My grandchildren are “my heart” and they help know “unconditional love.”

My siblings, Herbert, Lena, Rita and Sharon,

know how far I have traveled in Western culture without losing

my Dine language and cultural identity and are proud of my accomplishments..

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CHAPTER 1

INTRODUCTION

The fifth seasons of the popular HBO series, The Wire, paints a disturbing picture of an inner-city educational system where “no one wins, one side just loses more slowly” (Home Box Office, 2010). In this dysfunctional school environment, the show presents two classrooms in which the teachers attempt to provide emotional, social, and academic support to high-risk students. This fictional series presents two powerful messages. The first message is despite the lack of support from family, school, and community, caring classroom teachers can create a classroom environment that supports resiliency. The second message is school systems are losing the battle to protect and support the caring teachers who are providing the havens of support for the high-risk students. This dissertation study undertook a rigorous examination of supportive classrooms where students can succeed regardless of the adversities within their schools, families, and communities.

The risk research related to American children presents an alarming picture and should not be ignored by those who have the power to make changes in the support systems needed for resilient children. The teacher has the power to create a classroom environment which will support all students who deal with adversities outside of the classroom. A large percentage of American children are facing major threats to their well-being: poverty, abuse and neglect, violent crime, alcohol and drugs, children having children, lack of health care, absent parents, new pressures in the classroom, and dangers in the environment. Epidemiological

data suggest that 15% to 22% of the nation's young people experience social, emotional, and mental health problems that require treatment (O'Connell, Boat, & Warner, 2009). Approximately 25-30% of American children experience school adjustment problems; and for some economically disadvantaged urban districts, school maladjustments runs at high as 60%; unfortunately, 70% to 80% of children in need are not getting appropriate mental health services (O'Connell, Boat, & Warner, 2009).

The population of this study is predominantly Navajo elementary students attending a public school on the Navajo Nation within the boundaries of the State of Arizona. The available national data for American Indian and Alaskan Natives (AI/AN) reflect their historic and present circumstance in American society. AI/ANs are associated with a number of dramatic and distinctive risk factors, including acculturation stress, repeated traumatic loss, poverty, social disorganization, political disempowerment, high rates of school dropout, alcohol abuse, inhalant abuse, chronic health conditions, and corresponding decline in resources, opportunities, and support (LaFromboise, 2006). The United Nations report, *State of the World's Indigenous Peoples* (2009), found while the United States ranks as number seven in a global ranking, in standard of living, education and health, the U.S. global ranking falls to number 30 for the indigenous population.

According to the Navajo Nation Division of Economic Development (2008), the Navajo Nation counts a population of over 298,215 people of Navajo ancestry or tribal affiliation with at least 173,000 living on reservation land of

27,000 square miles. Many homes do not have electricity, running water, or telephones. The Navajo Nation has no urban centers and only one incorporated township, Kayenta. Most roads remain unpaved. Most of the population resides in housing around schools, hospitals, trading posts, and chapter houses. The tribal government, schools, and hospitals are the biggest employers on the Navajo Nation. Many Navajos earn their livelihood in the estimated $40.8 million informal economy based on agriculture and crafts enterprises (University of Arizona Cooperative Extension Service, 2008).

Although most Navajo families have strong family bonds, a strong sense of cultural identity, and a close attachment to their land, the youth-risk factors are of great concern. The youth live in home and community environments that present them with their share of adversity—suicide, homicide, accidental deaths, domestic violence, child abuse, and alcohol and drug problems (Leonard, 2008). For example, the Health and Social Services Committee (Francis, 2010, cited by Addison, 1992) reports that compared to the mortality rates of the United States, the Navajo Nation has a 638% greater alcohol-related mortality rate, 304% greater diabetes mortality rate, 239% greater pneumonia/influenza mortality rate, and 450% greater mortality rate due to unintentional injuries (Addison, 1992). Students who are exposed to poverty, family violence, parental mental illness, or community violence significantly increase their chances of developing a debilitating mental illness (Doll & Cummings, 2008). These risk factors tend to concentrate in high-risk communities.

School failure among AI/ANs continues to be a major concern. The 2010 report, *The Dropout/Graduation Rate Crisis among American Indian and Alaska Native Students*, by the Center for the Study of Leadership in American Indian Education found on average less than 50% of Native students in the 12 states with the highest AI/AN populations graduate each year (Faircloth & Tippeconnic, 2010). In 2005, AI/AN graduation rate in Arizona was 52.4% (Faircloth & Tippeconnic, 2010). The graduation rate for AI/AN in the class of 2006, was 44.1%, far below the national average of 69% for all students (Faircloth & Tippeconnic, 2010).

While the data on youth-risk factors is important in identification of problem areas, risk-focused prevention is problematic because it does not inform adult helpers as to what does work, and what they can do to prevent these problems (Constantine, Benard, & Diaz, 1999).

What does inform adult helpers who live within the high risk populations is the research on risk, resilience, and developmental psychology. Researchers throughout the world have studied children and adolescents living in high-risk conditions. This includes poverty-stricken or war-torn communities, or families in which parents are mentally ill, alcohol or drug abusers, physically and/or emotionally abusive or neglectful, or criminal. The turning point for moving researchers from focusing exclusively on risk factors were the longitudinal studies that included a hundred to a thousand participants, used multiple, age-appropriate measures, followed participants over several points in time, had low attrition rates, and collected data on low-risk comparison groups (Benard, 2004).

Examples of these pivotal studies are the Kauai Longitudinal Study, Newcastle Thousand Family Study, Boston Underclass Study, Oakland Growth Study, Rochester Longitudinal Study, and the Isle of Wright Study (Werner, 2006). The recurrent finding from longitudinal studies of these children is 50% to 70% of them somehow manage to develop significant competencies and to grow up leading successful lives as adults with strong abilities to love and to work (Werner, 2006). This revelation sparked a number of investigators from many different disciplines—child development, pediatrics, psychology, psychiatry, sociology and education—to focus on the question as to why the majority of children with major adversities in their lives cope successfully and others develop severe and persistent psychopathology (Luthar, 2009).

Resiliency research changed its focus from a study of extraordinary human beings who have survived great adversity to a study of the capacity of all human beings to survive and thrive both physically and psychologically within a wide range of environments. Psychiatrist William Glasser, the creator of Reality Therapy and Choice Theory and author of numerous books including *Schools Without Failure* (1969) and *Every Student Can Succeed* (2000), developed a psychological theory that explains this strong propensity for physical and psychological survival. In his book *Choice Theory* 1998 Glasser theorized that all human beings are genetically programmed for physical and psychological survival. Once basic physical survival needs are satisfied, *Choice Theory* postulates that every human being will do all in their power to fulfill their psychological needs for Belonging, Power, Freedom and Fun. The high survival

rate of individuals even within the most depressing of environments can be attributed to the genetic drive to satisfy basic physiological and psychological needs and the intellectual capacity for problem solving (Glasser, 1998). However, not all people are able to meet their physical and psychological needs. Some lose hope in their ability to fulfill their needs and develop psychological disorders which often result in extremely destructive behaviors, making them dangerous to themselves and others. People who cannot fulfill their need for belonging, for example, may develop an extreme need for power over others resulting in antisocial behaviors. Some people are who are unable to meet their needs fail to survive.

Fortunately, resiliency research informs us that the things that go right in our lives do predict future successes and the things that go wrong do not damn us forever (Felsman & Vallant, 1987; Luthar, 2009). The research also informs us that the young need adults to create a hopeful and supportive environment. Psychologist Bonnie Benard (2004) reminded us if adults have faith in the positive aspects of children and have faith that they will succeed no matter what adversity they face, then children will develop the strength they need to succeed.

A common thread in resiliency research is the identification of protective and risk factors. Protective factors are related to a host of social and physical factors that promote children's positive development. This includes caring relationships with others, family support, family engagement with schooling, the availability of prosocial role models, safe neighborhoods, clear and high expectations within the community, and school environments characterized by

coherence, warmth, instructional excellence, and academic rigor (Luthar, 2007). Risk factors are the internal and environmental characteristics that place children at risk for poor developmental outcomes. These include a difficult temperament, early antisocial behavior, poor parental bonding, inconsistent discipline, parental pathology, academic failure, poor bonding to school, multiple school transitions, low socioeconomic status, and high population density especially when associated with easy access to weapons, witnessing of acts of violence, and affiliation with antisocial peers (Doll & Lyon, 1998). Children are at risk for poor developmental outcomes when "environmental stressors overwhelm their capacity to cope effectively or the capacity of caretakers to protect them from the effects of these stressors" (Baker, 2008, p. 43). Prince-Embury (2008) noted "resiliency is a product of complex interactions of personal attributes and environmental circumstances, mediated by internal mechanisms" (p. 8).

Brehm and Doll (2009) drawing upon the current research believed resilience turns out to be an amazingly ordinary process in which characteristics and skills of the individual child, and the quality of the caretaking environment, come together to create an adaptive response to adversity. Brehm and Doll understood resilience to be "a systemic phenomenon in that all of these contexts—families, schools, peers, and communities—co-act in dynamic ways to promote children's competence and resilience" (p. 57).

Resiliency research has moved from characteristics of children to include characteristics of the caretaking environments of home, school, and community. Resiliency research supports the relationship between the environmental factors

and academic achievement. Christner, Mennuti, and Whitaker (2009) explained the relationship between the environment and academic achievement:

> A number of children and adolescents enter school each day struggling with emotional, behavioral and family problems that affect their learning as well as the learning of others. This has a reciprocal effect, in that these students internalize their academic difficulties, which further exacerbates some of the emotional and behavioral problems they face. (p. 3)

This dissertation study examined the classroom environment, where Navajo elementary children spend the bulk of their day, to determine if their perception of their classroom environment promotes resiliency (academic success and positive relationships).

For answers to creating supportive environments for all children, researchers are looking beyond the vulnerable children to what every child needs from the caretaking environments of family, school, and community. Grotberg (1998) found that all children need external supports, inner personal strengths, and social interpersonal skills. Werner (2006) noted that resiliency research has not yet clearly established whether the same factors that promote the success of vulnerable children might also be important for the success of children who have not experienced substantial adversity in their lives. Many school wide approaches that target risk and resiliency factors are recommended for all students. Some approaches include mentoring, service-learning, small classroom size, youth development programs, positive behavioral supports, and social/emotional learning programs. While researchers debate the efficacy of school wide approaches for all students, Benard (2004) argued that the critical factor is not the specific approach or program but the adults that support resilient characteristics of

competence, confidence, and especially caring within the school that makes the difference.

In the elementary school, students spend most of their time with their classroom teacher. Marzano, Pickering, and Pollack (2001) in their meta-analysis of effective classroom instruction concluded that individual teachers can have a profound influence on student learning even in schools that are relatively ineffective. As teachers provide academic learning activities for all students, they also have an opportune environment to provide social and emotional learning. Classrooms are one of the most important environments for providing protective factors for all children and especially for at-risk children (Doll, Zucker, & Brehm, 2004). Unfortunately, schools tend to focus directly on academic learning and hold teachers accountable for their students' academic achievement as measured by high stakes testing in reading and math at the elementary level. Although educational research has demonstrated a relationship between school risk and resiliency and academic achievement, often the risk and resiliency factors are not being addressed with the same rigor as the strategies and interventions for the teaching of reading and math. According to Benard (2004),

> While much of recent research about effective schooling focus on students' academic performance, the role of schools in young people's lives is clearly broader than pedagogy and more important than test scores especially in the absence of positive family relationships, schools can provide an alternative source of protective, nurturing support. (p 65)

Although classrooms vary in the content and structure of the interactions among students, teachers, peers, and parents as to instructional materials, social norms regarding behavior in the classrooms, availability of significant and

meaningful roles of youth within classrooms, the student-teacher ratio, ethnicity, racial or ability composition of a group of students; and the physical arrangements of the space, the classroom teacher is responsible for creating a safe, secure learning environment. The teacher is also responsible for the social processes, resources, and arrangement of those resources in the classroom in order to support student academic learning and social/emotional development.

The teacher as the most important resource in the classroom was established early in the research. After their meta-analysis of school-related protective factors, Brophy and Good (1986) refuted the myth that teachers do not make a difference in student learning. Werner and Smith (2001) found that a favorite teacher was among the most frequently encountered positive role model in the lives of children outside of the family circle. A special teacher is not just an instructor of academic skills, but also a confidant and positive model for personal identification. Bernard (2004) found that the classroom teacher provided the protective factors of caring, respect and met emotional safety needs for the students. The famous Coleman (1996) *Equality of Educational Opportunity* report, which analyzed data from some 600,000 students and 60,000 teachers from more than 4,000 schools, concluded that an individual teacher can have a powerful effect on their students even if the school has little effect.

In reviewing the school based resiliency research, Nickolite and Doll (2008) found that in order to be academically successful in school, all students need the supportive relationships of teachers, peers, and parents. If all students are to take advantage of the academic and social opportunities within their classroom

and if they are to overcome the obstacles that are present in even the most supportive environments, the classroom must provide a basic level of support in which strong relationships are developed between students and their teachers, peers, and parents. Nickolite and Doll also found students need the internal strengths of academic efficacy, self-determination, and behavioral self-control.

Classrooms need to be places where all students can be successful emotionally, academically, and socially by supporting the development of the student's internal strengths and interpersonal relationships (Doll et al., 2004) .

When assessing the quality of the classroom environment, both the students' relationships within their classrooms and their internal strengths need to be measured in order to obtain a comprehensive view of the effectiveness of the classroom in supporting student resilience. From the extensive body of risk and resiliency research, Doll et al. (2004) identified six characteristics that describe classrooms where children can be more successful academically and interpersonally. In successful classrooms students are able to see themselves as competent and effective learners (academic efficacy), are able to work toward self-selected learning goals (academic self-determination), and are able to behave appropriately and adaptively with minimum adult supervision (behavioral self-control). In successful classrooms there are caring and authentic relationships between teachers and their students (teacher-student relationships), students have ongoing and rewarding friendships with their classmates (peer relationships), and families know about the importance of learning that occurs in the classroom (home-school relationships).

Based upon these six classroom characteristics, Doll (2007) developed a classroom assessment. The assessment, ClassMaps (Doll, 2007), is cost-effective and an easy-to-administer survey by which students rate their classroom environments.

Using data from the ClassMap 2007 survey, this study determined student perception of their classroom environment in terms of internal strengths and relationships with others and delineated by gender. Gender research has indicated that there are significant differences between how boys and girls in academic achievement. Successful classrooms need to provide supportive learning environments for both genders. This may not be the case in many classrooms.

Statement of the Problem

The bottom line in education today is academic achievement as measured by high states testing. Every activity, approach, strategy, or program is judged by its usefulness in the advancement of academic achievement. In an effort to increase academic achievement, research indicates many factors have a direct relationship to increasing academic achievement: the rigorous rate of the instruction, student engagement, instructional strategies, and the learning environment. Research also indicates the student's internal strengths have a direct relationship to student achievement. The problem of this study is to determine if there is a gender difference in how elementary students perceive their classroom environments as a significant factor in promoting internal strengths and positive relationships. The following research questions guided this study:

1. What are the resiliency characteristics of children in an elementary school on the Navajo reservation as measured by ClassMaps resilience inventory?
2. Do resiliency characteristics differ between boys and girls? If so, in what areas?
3. Do the resiliency characteristics differ with respect to grade level?
4. Is there a relationship between students' gender and grade level and their resiliency characteristics?

Purpose of the Study

Like other AI/AN youth, Navajo students face a host of negative environmental factors such as suicide, homicide, accidental deaths, domestic violence, child abuse, and alcohol and drug problems (Leonard, 2008). Giroux (1983) found that many minority students do not succeed in public schools because they resist the dominant school culture and reject institutions that devalue their heritage. Despite these risk factors, Angell (2000) found that minority students do establish important links between self-concept, family support, and culture in the development of protective factors. Hilberg and Tharp (2002) established a link between achievement of AI/AN and Alaska AI/AN students, learning styles, and appropriate instructional models. Whitbeck, Hoyt, Stubben, and LaFromboise (2001) reported that traditional AI/AN culture positively affect academic performance and that enculturation was a resiliency factor. Leonard (2008) found a significant relationship between the Navajo student's self-esteem and resiliency regardless of their knowledge and attitude toward Navajo culture.

Leonard (2008) recommended further research with regard to the Navajo's self-esteem and resiliency.

Definition of Terms

American Indian and Native Alaskan (AI/NA) refers to the indigenous people within the United States and Native Alaskan consists of Eskimos and Aleut Indians of the Northwest Coast.

Assets/resource/compensatory factor refers to a measurable characteristic in a group or individuals or their situation that predicts general or specific positive outcomes.

ClassMaps: ClassMaps is a student survey that measures students' perception of their classroom autonomy and relationships (see Appendix D).

Classroom resiliency factors refers to those protective factors that are operational within the classroom environment, specifically academic efficacy; academic self-determination; behavioral self-control; and peer, teacher-student, and home relationships.

Cumulative protection refers to the presence of multiple protective factors in an individual's life.

Cumulative risk refers to increased risk due to the presence of multiple risk factors, multiple occurrences of the same risk factors, or the accumulating effects of ongoing adversity.

Distal risk refers to risk arising from a child's ecological context but mediated through more proximal processes.

Historical trauma is cumulative emotional and psychological wounding, over the life span and across generations, emanating from massive group trauma experiences.

Navajo Nation (Diné Bikéyah in the Navajo language) is a semi-autonomous American homeland covering about 26,000 square miles (67,339 square kilometers, 17 million acres), occupying all of northeastern Arizona, the southeast portion of Utah, and northwestern New Mexico. It is the largest land area assigned primarily to an AI/AN jurisdiction within the United States.

Navajo or Diné Indians of the Southwestern United States are the largest AI/AN Indian tribe of North America. The Navajo people call themselves Diné, which means "the People" in Navajo.

Protective factors refer to characteristics of individuals, families, schools, communities, and peer groups that foster resiliency.

Proximal risk refers to risk factors experienced directly by the child.

Psychosocial competence refers to the adaptive use of personal and contextual resources to accomplish age-appropriate developmental tasks.

Resilience refers to a set of attributes that provide people with strength and determination to overcome adversity and develop social, academic, and vocational competence.

Risk factors refer to adverse environmental conditions such as poverty, abuse, neglect, alcohol and drug-addicted parents who put students at risk for social, emotional, and academic failure.

Vulnerability refers to the individual's susceptibility to undesirable outcomes.

Assumptions

It is assumed that the assessment instrument used to measure classroom resiliency is not culturally biased.

Limitations of the Study

This study was limited to Navajo elementary students in first to sixth grade in which the school was located on the Navajo Nation and 98% of the student body is Navajo.

Significance of the Study

This study is significant in that it address the influences of the classroom environment on AI/AN students' classroom autonomy and and their relationships. While there is widespread acceptance that the classroom environment plays a significant role in supporting student social-emotional development and academic achievement, schools seldom place a high priority on assessing their classroom environments with comprehensive assessments of resilience factors or identifying individual student vulnerability that is not based upon preexisting syndrome-related symptoms (Prince-Embury, 2008). The many resilience-based school approaches such as Positive Behavioral Supports, Social/Emotional Learning, and School-Based Mental Health have created a demand for assessments of student resiliency that is theoretically anchored, developmentally and culturally appropriate, and psychometrically reliable and construct valid. The results of this study may have significance to school administrators, teachers, and parents in

supporting the importance of student resiliency to academic achievement for all students within the elementary classrooms. The results of this study may also have significance to the body of resiliency and academic research in many disciplines such as youth development, family social science, school effectiveness, brain science, community development, social work, medicine, and many other disciplines that are now making contributions to resilience research as the understanding of resiliency moves beyond trait theories into the examinations of the construct of resiliency as a dynamic developmental process.

This study may have significance to AI/AN educational research, the Navajo Nation Department of Education, the Arizona Department of Education, and the many schools serving Navajo students especially those within the boundaries of the Navajo Nation. As Luthar (2009) noted in her review of resiliency research for the past 50 years, there continues to be few studies that explicitly address socializing and challenges among minorities.

Organization of the Study

This research encompasses five chapters. Chapter 1 presents an introduction to the study, the statement of the problem, research questions, purpose of the study, definition of terms, and the limitations of the study. Chapter 2 provides a review of the literature. Chapter 3 describes the procedures to be utilized in conducting the study as well as the method for data analysis. Chapter 4 presents the findings of the study. Chapter 5 provides a summary of the study, as well as the conclusions and the recommendations for policy, practice and further research.

CHAPTER 2

REVIEW OF THE LITERATURE

For the past 50 years, school failure has been associated with adverse life outcomes (Luthar, 2009). School failure often starts in the elementary classrooms (Slavin, Karweit, & Wasik, 1992). For many AI/AN students succeeding in their schools and classrooms is a matter of overcoming adversity (Reyhner & Elder, 2004). With a dropout rate of twice the national average, many AI/AN lack success in school (Reyner, 2006). A recent dropout study attributed the dropout crisis in American schools to be a lack of student engagement, with student engagement being driven by both institutional (e.g., school) and student level factors (Mac Iver & Mac Iver, 2009). Over 24 years ago, a major dropout study on the Navajo Nation indicated that Navajo students perceived their relationships within the school to be of critical importance to their decisions to stay in school (Brandt, 1992).

Over 27 years ago, the National Education Association (1983) recommended that educators working with AI/AN students understand the cultural values affecting their students, infuse the students' culture into the curriculum, focus on the students' concerns, improve relations between the schools and their students' community, and implement methodologies which affect and improve the students' self-image.

This literature review provides the background information necessary to understand the conditions under which classroom success is best fostered and risk

most effectively moderated for Navajo students attending a public school within the boundaries of the Navajo Nation.

This review examines definitions, history, issues and controversies of resiliency research, risk surveillance, cultural resiliency, teaching methodologies, resiliency models for schools and classrooms, characteristics of classrooms that support resiliency, the relationship between resiliency and academic achievement, gender differences in resiliency, and assessments of classroom resiliency.

Definitions of Resiliency

The definition of resiliency has evolved over time as researchers sought to understand how most individuals were able to survive adversity and others were not. A definition of resiliency from 30 years ago would focus on the rugged individualism of picking oneself up by the bootstraps and succeeding without much help from others; whereas, current definitions recognize the interconnectedness of human interactions, especially in the face of adversity, and would ban the bootstrap definition as a myth (Doll, 2008). In 1984, Garmezy, Masten, and Tellegen defined resilience as "manifestations of competence in children despite exposure to stressful events" (p. 98). In 1985, Rutter defined resilience as facing "stress at a time and in a way that allows self-confidence and social competence to increase through mastery and appropriate responsibility" (p. 598). In 1994, Masten defined resilience as the individual's successful adaptation despite risk and adversity over time and "characterized by good eventual adaptation despite developmental risk, acute stressors, or chronic adversities" (pp. 5-6).

In 1995, Benard described resilience as "a set of qualities that foster a process of successful adaptation and transformation despite risk and adversity" (p. 95). In 1995, Gordon stated "resilience is the ability to thrive, mature, and increase competence in the face of adverse biological and/or environmental circumstances which may be chronic, consistent, or severe and infrequent; and to "thrive, mature, and increase competence, a person must draw upon all of his or her resources: biological, psychological, and environmental" (p. 21).

In 1998, psychiatrist William Glasser tied resilience to genetics and internal motivation by postulating a new psychological theory, Choice Theory, based upon the internal psychological needs of belonging, power, freedom, and enjoyment. In 1999, Bernard also tied resilience to genetics as the "biological imperative for growth and development that exists in the human organism—that is part of our genetic makeup—and unfolds naturally in the presence of certain environmental attributes" (p. 5)

Bernard theorized all human beings

> are born with innate resiliency, with the traits commonly found in resilient survivors: social competence (responsiveness, cultural flexibility, empathy, caring, communication skills, a sense of humor), problem-solving (planning, help seeking, critical and creative thinking), autonomy (sense of identity, self-efficacy, self-awareness, task-mastery, and adaptive distancing from negative messages and conditions), a sense of purpose and belief in a bright future (goal direction, education aspirations, optimism, faith, and spiritual connectedness) and fostering resilience within any environment is a process and not a program. (pp. 5-6).

A few years later, Bernard helped develop the comprehensive resiliency survey for the State of California, The Resilience Youth Development Module of the California Healthy Kids Survey (CHKS; Constantine & Benard, 2001). The

CHKS theorized resiliency to be "an inborn developmental wisdom that naturally motivates individuals to meet their human needs for love, belonging, respect, identity, power, mastery, challenge, and meaning" (p. 2).

In 2001, Masten stated that resilience comes from the normative human resources in the minds, brains and bodies of children; in the families and relationships in their communities" (p. 56). In a review of research findings, Benard (2004) concluded that resiliency is a capacity all youth have for healthy development and successful learning. She stated that certain personal strengths are associated with healthy development and successful learning, and that certain characteristics of families, schools, and communities are associated with the development of personal strengths and, in turn, healthy development and successful learning. She concluded that changing the life trajectories of children and youth from risk to resilience starts with changing the beliefs of the adults in the families, schools, and community.

In 2006, Condley stated that "resilience should not be considered a single dichotomous variable" but rather defined as "a label that defines the interaction of a child with trauma or a toxic environment in which success, as judged by societal norms, is achieved by virtue of the child's abilities, motivations, and support systems" described in a "continuous rather than dichotomous terms" (p. 213). Prince-Embury (2007) based her Resiliency Scales for Children and Adolescents on the students' personal capacity for coping with adversity as the interface between their capacity for effective relationships and their sense of autonomy and their incapacity to regulate their emotional reactions.

In 2007, Masten noted that resilience covers many concepts related to positive adaptation; that the concept is most often applied to individual systems and less often to higher level social systems, including families, classrooms, and schools. Ultimately, Masten concluded that

> resilience is quintessentially inferential: to judge the resilience of a system requires criteria for identifying whether the system is doing whatever it is supposed to be doing, and also whether there is or has been a potential threat to the system. Thus, if one identifies a child as resilient, two judgments have been made: this child meets expectations for positive adaptation and there has been a significant adaptation threat to the child. (pp. 14-15)

In 2008, Doll, Li, and Brehm stated that current developmental resiliency research is grounded on the position that resilience is a systemic phenomenon within the context of families, schools, peers and communities which "co-act in dynamic ways to promote children's competence and resilience" and "that student success reflects a continuous reciprocal interaction among individual characteristics of the child and characteristics of the school, family and community contexts" (p. 57).

History of Four Waves of Resiliency Research

In their review of resiliency research over the past 30 years, Masten, Obravovic, and Wright see three major waves of research and an emerging fourth wave (Masten, 2007; Masten & Obravovic, 2007; Masten & Wright, 2009; Wright & Masten, 2005). The first wave provided descriptions of resilience, basic concepts and methodologies with a focus on the individual. Many of the key definitions and key concepts of resilience were developed and refined during this period such as adversity, risk and protective factors, vulnerability, assets,

psychological competence, developmental tasks, proximal risk, cumulative protection, and psychosocial competence. These concepts still dominate the general discussion of resiliency. Surveys of an individual's risk and protective factors continue to be popular in the literature. By the end of this period, Wright and Masten concluded that resilience typically refers to a pattern of positive adaptation in the context of past or present adversity (Wright & Masten, 2005). Resilience studies during this period revealed that children might have different vulnerabilities and protective systems at different points in their lives but that there was a consistency in the assets and protective factors. Resiliency research started seeing the individual within the context of family, community, and cultural or societal characteristics.

Based on first wave research, Oswald, Johnson, and Howard (2003) identified resilient children as having stable relationships with peers, possessing well-developed problem solving skills, considering realistic future plans, having a positive sense of being able to achieve and deal effectively with tasks, experiencing success in one or more areas of life, being able to effectively communicate, possessing a strong attachment with at least one adult, and accepting responsibility for themselves and their behaviors. While this definition saw the child within the context of his or her environment, the focus remained on the characteristics of the individual within that context.

The second wave of research paid closer attention to the processes that might explain resilience and to the protective factors that could be contextually specific. The degree to which an individual was resilient was seen as a complex

combination of personal strengths and vulnerabilities within an ongoing process within specific environments. During this period, cultural influences were seen as a critical component in understanding the process of resilience. Cultural traditions, religious rituals and ceremonies, and community support services were researched as protective factors. The research conducted during this period is informing much of educational policy today especially in regards to specific populations. AI/NA have benefited greatly from this research. For example, the concept of generational trauma effect upon AI/NA came during this period. Also, during this second wave, research started to take an interest in a child's perception and interpretation of his or her experiences. This study which asks the individual NA/AI child to rate their perception of their classroom environment is clearly within this second wave of research.

The third wave of resiliency research that is now taking shape uses concepts from the first two waves in order to inform practice, prevention, and policy toward creating resilience where it is not likely to occur naturally and to intervene to promote resiliency that is already under way. The current Response to Interventions, for example, develops interventions for both the individual and the environment and then measures the effect on the individual.

The complexity of resiliency research is seen by extracting the findings during the first three waves of research. Masten and Obravovic (2007) concluded that the large body of resiliency research supports the following (p. 15):

1. Adaptation is multidimensional and developmental in nature.

2. Success in salient tasks of particular developmental periods forecast success in future age salient tasks, even in new domains.
3. Competence and symptoms are related within and across time for multiple reasons, including (a) symptoms undermining competence; (b) failures (or perceived failures) in competence increasing symptoms in various ways; (c) a common cause contributing both to competence, problems, and symptoms; and, (d) transactional or sequential combinations of these reasons.
4. Success or failure in multiple developmental task domains can have cascading consequences that lead to problems in other domains of adaptation, both internal and external.
5. Interventions to promote success in these tasks have preventive effects on behavioral and emotional problems.

Masten and Obravovic (2007) also observed that the first three waves of research helped researchers in their understanding of the following (pp. 22-23):

1. Resilience is a complex family of concepts that always requires careful conceptual and operational definition.
2. Resilience is not a single trait or process—many attributes and processes are involved.
3. There are multiple pathways to resilience.
4. Resilience definitions are embedded in cultural, developmental, and historical contexts, even if these contexts are assumed rather than made explicit.

5 Resilience definitions always have a time frame and it is quite possible for the picture to look quite different in a shorter or longer time frame, and there are likely to be cases of adaptive trade-offs, with risk and benefits in the short and long term.

6. It is easy to make the mistake of blaming the victim when resilience does not occur, if one assumes that resilience arises only from internal capacities.
7. The evidence strongly implicates the roles of transactional processes and adaptive capacity arising external to the organism in resilience.
8. Adaptive systems that are operating in normal ways can be "hijacked" for goals and purposes disapproved by society or damaging to development (e.g., by drug addiction or by savvy gang leaders recruiting young people for antisocial goals).
9. There are no magic bullets for producing resilience.
10. There are no invulnerable children.
11. There are levels of risk and adversity so overwhelming that resilience does not occur and recovery is extraordinarily rare or impossible.
12. And finally, in the enthusiasm for understanding and promoting resilience, it is important to remember that many sources of threat to child development are preventable (e.g., land mines, premature birth, many injuries, homelessness, war), and are far less costly to prevent than to address once they begin to erode development and the adaptive tools for life.

Looking to the future, researchers from many disciplines such as neuroscience, molecular genetics, and biobehavioral development are using the advances in technology such as brain imaging to study resilience (Masten, 2007) p. 23). Of particular interest to educators is the fourth wave of research within the school systems: opportunities for learning, mastery and relationships with prosocial adults and peers, teacher styles, positive school climate, and bonding to school (Masten, 2007; Luthar 2007). With the aid of technology, Kurzweil (2005) predicts the union of human and machine in which knowledge and skills imbedded in our brains with nanotechnology will be combined with the non-biological providing humans with vastly greater capacity, speed, and knowledge-sharing ability for our creative problem-solving minds. As human intelligence becomes increasingly nonbiological and trillions of times more powerful than it is today, there will be no clear distinction between human and machine, reality and virtual reality. At this point in human development, the seemingly insurmountable adverse conditions of today such as physical and mental illness, aging, pollution, world hunger, and poverty will find solutions. The use of technology to advance human evolution raises many ethical and moral questions and is beyond the scope of current research but is within the realm of plausibility.

Issues and Controversies

While resiliency research from social, health, and behavioral sciences is moving from a deficit to a strength based perspective by documenting the importance of positive environmental factors, especially the importance of caring relationships, there remain many unanswered questions. Sandra Prince-Embury

(2008) observed that previous research has identified lists of risk and protective factors, but in ways that are not simple to measure, are not systematically related to each other, may not be generalized across populations, and are not easily translated into tools for clinical application. She concludes that researchers "have not reached consensus on terminology, on the underlying constructs of vulnerability and resiliency, or on whether they are systematically related to each other" (p. 6).

Werner (2006) also noted that the developmental resilience research has not yet clearly established whether the same factors that promote the success of vulnerable children might also be important for the success of children who have not experienced substantial adversity in their lives. Kaplan (2006) suggested there are so many factors affecting resiliency that the concept is no longer useful. Elias and Rosenblatt (2006) disagreed. They believe that the concept can be useful by applying the construct of resilience to a specific setting and well defined population. They do agree with Kaplan (2006) that resilience research often accommodates the statistical and logistical demands of research that results in outcomes that are often defined narrowly and fail to acknowledge the numerous aspects of life in which a person can succeed. Christner, Mennuti, and Whitaker (2009) observed there were many questions regarding how to overcome barriers to learning, how to deliver services in a multilevel framework, and which interventions should be used. These are the questions that many educators are facing in the development and measurement of interventions under the Response to Interventions process.

Risk Surveillance for American Youth

Notwithstanding the issues and controversies within the research community, large population-based surveys collect data on youth risk and resiliency. Results from these surveys are useful in identifying youth risk factors and can help inform prevention and intervention practices at the national, state, tribal, community, and school level. This data also helps inform the classroom teachers of the risks facing their students.

At the national level, The Centers for Disease Control and Prevention (CDC; 2007a, 2007b) developed the Youth Risk Behavior Surveillance System (YRBSS) to monitor priority health-risk behaviors and the prevalence of obesity and asthma among the nation's youth and young adults. The YRBSS includes a national school-based survey, National Youth Risk Behavior Survey (YRBS), conducted by the CDC in cooperation with state, territorial, tribal governments and local education and health agencies. The YRBS monitors priority health risk behaviors that contribute to the leading causes of death, disability, and social problems: violence, suicide, alcohol, tobacco, other drugs, sexual risks, HIV/AIDS, sexually transmitted diseases, body image, diet, and physical activity. The YRBS is conducted every two years during the school spring semester and provides data representative of ninth through twelfth grade students in public and private schools throughout the United States.

Highlights from the 2007 YRBS are 72% of all deaths among persons aged 10 through 24 years result from four causes: motor-vehicle crashes, other unintentional injuries, homicide, and suicide. Many high school students engaged

in behaviors that increased their likelihood of death from these four causes. 11.1% of high school students had never or rarely worn a seat belt when riding in a car driven by someone else. During the 30 days before the survey, 29.1% of high school students had ridden in a car or other vehicle driven by someone who had been drinking alcohol, 18.0% had carried a weapon, and 5.5% had not gone to school because they felt they would be unsafe at school or on their way to or from school. During the 12 months before the survey, 6.9% of high school students had attempted suicide. In addition, 20.0% had smoked cigarettes during the 30 days before the survey, 75.0% had drunk alcohol, and 4.4% had used methamphetamines. Substantial morbidity and social problems among youth also result from unintended pregnancies and STDs, including HIV infection. The percentage of high schools students who had sexual intercourse was 47.8%, 35.0% were currently sexually active, and 38.5% of the currently sexually active had not used a condom during the last sexual intercourse. The percentage for those who had watched television three or more hours per day on an average school day was 35.4%, and 13.0% were obese.

The prevalence of most risk behaviors does not vary substantially among cities and states. From 1991 to 2007, the YRBS reported a decrease in "rarely or never wore a seat belt" from 25.9% to 11.l%; "rode with a driver who had been drinking" from 39.9% to 29.1%"; "ever had sexual intercourse" from 54.1% to 47.8%; "had sexual intercourse with four or more persons during their life" from 18.7% to 14.9%." "Carried a weapon" decreased between 1991-1999 from 26.1% to 17.3%, and increased between 1999-2007 from 17.3% to 18.0%. "Attempted

suicide" remained the same from 1991- 2001 and decreased between 2001 to 2007 from 8.8% to 6.9%. "Current cigarette use" increased between 1991-1997 from 27.5% and decreased between 2001-2007 from 36.4% to 20.0%. "Current alcohol use" remained the same between 1991-1999 and decreased between 1999-2007 from 50.8% to 44.7%. "Were obese" increased between 1999-2007 from 10.7% to 13.0%.

Arizona Surveillance for Youth

The youth surveillance tools used by the state of Arizona are the Youth Risk Behavior Survey (YRBS), Arizona Safe and Drug Free Schools (SDFS), Arizona Youth Survey (AYS), School Health Education Profiles (SHEP) and School Health Policies Programs Study (SHPPS).

Youth Risk Behavior Survey (YRBS)

The 2007 Arizona YRBS was completed by 3,095 students, grades 9 through 12, in 81 district and charter high schools. Arizona students reported the following behaviors as occurring at school significantly more often than students throughout the nation: having access to illegal drugs; being threatened or injured with a weapon such as a gun, knife, or club; and having at least one drink of alcohol. The percentage for those who reported attending school under the influence of alcohol or illegal drugs was 20.4%. Of those surveyed, 23.5% reported having their first alcoholic drink before the age of 13 with 6% reporting having consumed alcohol at school in the past 30 days. Arizona youth have the fifth highest teen birth rate in the nation. Ten percent of Arizona respondents reported being physically forced to have sexual intercourse. Males were

significantly more likely than females to be overweight or at risk for being overweight

Arizona Safe and Drug Free Schools (SDFS)

The SDFS Report is an annual census of Arizona schools developed and administered by the Arizona Department of Education (2009c). Some version of the SDFS has been implemented since 1989. The SDFS is used to collect data about prevention programs, practices and educational services, communication, school policies, school environment, violence and injury at school, violent and criminal behavior at school, student disciplinary actions, and firearms and explosive devices at school.

The most recent summary report for the SDFS is for the 2003-2004 school year. During the 2003-2004 school year, 86% of the schools had a program intended to prevent or reduce violence; 80% of the schools had a formal process to obtain parent input on policies related to school safety and prevention; 95% of the schools enforced zero-tolerance policies for firearms, weapons and substance abuse; 95% had a written plan describing procedures to be performed in a crisis situation (School Safety Plan); and 62% of the schools had a threat assessment team in place to identify potentially violent students. Physical attacks without a weapon, intimidation/bullying, and threats of physical attack without a weapon were the incidents most frequently reported. Possession of a firearm/explosive device, rape or sexual battery, robbery with a weapon, and use of firearm/explosive device were the incidents least frequently reported.

Arizona Youth Survey (AYS)

The Arizona Criminal Justice Commission, in collaboration with the Governor's Office, the Department of Health Services, and the Office of Problem Gambling, conducted the Arizona Youth Survey (AYS) to assess the frequency of risky behavior among 8th, 10th, and 12th graders in Arizona. The 2008 survey consists of data from 319 schools with 54,734 students representing all 15 counties. The AYS is based upon the Risk and Protective Factor Model of Substance Abuse Prevention that defined a set of risk factors that place young people at risk for problem behaviors of substance abuse, delinquency, violence, teen pregnancy, and school dropout. The model also identifies a set of protective factors that help protect against the harmful effects of risk organized into community, family, peers and the individual. Data from AYS can be used to help schools and communities assess current conditions and identify and prioritize local prevention issues. Each risk and protective factor can be linked to specific types of interventions that have been shown to be effective in either reducing risk(s) or enhancing protection(s).

In 2006, 60,401 students in grades 8, 10, and 12 completed the AYS. Of the respondents 3,394 (5.8%) were AI/AN. The respondents indicated the most commonly used substances in Arizona are alcohol (61.7%), cigarettes (39.6%), marijuana (29.2 %), sedatives (13.2%), and inhalants (12.9%). Overall, binge drinking and being drunk or high at school appear to be the biggest antisocial problems among Arizona youth with 19.9% of the students binge drinking at least once in the past two weeks and 17.6% of the students being at school while drunk

or high at least once in the past year. Of the youth in Arizona, 21.3% have attacked someone with the idea of seriously hurting them at some time in their life, and 16.3/% attacked someone in the past 12 months. A comparison between the Arizona students and the average U.S. student found Arizona students are at greater risk for seat belt use (17.4% to 11.1%), feeling unsafe at school or on their way home from school (8.1% to 5.5%), and episodic heavy drinking (42.3% to 38.1%). Arizona was equal in all other categories to the U.S. average.

Arizona Youth Tobacco Survey

The 2007 Arizona Youth Tobacco Survey (YTS) was completed in the spring of 2007 and is the fourth in a series of biannual school-based tobacco-focused surveys first implemented in the spring of 2000. The survey is designed to help monitor trends in tobacco use among public school students in grades 6 through 12 and to compare changes in rates over time. The survey also collects data on topics including tobacco use, such as tobacco-related knowledge, attitudes and beliefs towards tobacco, access to tobacco products, exposure to environmental tobacco smoke, and initiation and cessation. Data is also collected on the influence of family, friends, and the media as to tobacco, and the impact of tobacco socially, at school, and in the community.

Cigarette smoking is continuing to decrease among Arizona students particularly among middle school youth, especially among boys. Though the decrease in cigarette use and exposure to second-hand smoke are encouraging, there is indication that the use of alternative tobacco products is rising, particularly among high school students. In fact, there has been an overall

increase in current use of tobacco products among Hispanic/Latino high school students. This increase is counter to the national trend that shows the use of tobacco products decreasing. Smokeless, bidi and hookah use among high school students have raised to their highest levels since the survey began in 2003, with hookah use showing stark increases from 2005.

School Health Education Profiles (SHEP)

The School Health Education Profiles is a system of surveys assessing school health policies and practices in states, large urban school districts, territories, and tribal governments. Profiles are conducted biennially by education and health agencies among middle and high school principals and lead health education teachers (Brener, T, Foti, Shanklin, Hawkins, & Speicher, 2009).

School Health Policies and Programs Study (SHPPS)

The School Health Policies and Programs Study (SHPPS) is a national survey periodically conducted to assess school health policies and practices at the state, district, school, and classroom levels. SHPPS was most recently conducted in 1994, 2000 and 2006. SHPPS 2006 is the most comprehensive study of school health policies and programs ever conducted in the United States to monitor the extent to which school health policies and practices in the areas of health education, physical education activity, health services, mental health and social services, nutrition services, healthy safe school environment and faculty and staff health promotion are addressing the leading causes of death, illness, and social problems among young people and adults.

Arizona Risk Data for AI/AN Youth

Of the 60,401 students surveyed on the 2006 Arizona YRBS, 3,394 (5.8 %) were identified as Native American. The AI/AN high school student had the highest percentage of risk of all racial or ethnic groups. On school safety issues, 25.3 % of the AI/AN high school students reported feeling unsafe at school, 15.1% reported not attending school due to safety issues in the last 30 days, 21.2% reported being in a fight at school within the last 30 days, 8.9% reported carrying a weapon to school within the last 30 days, and 5.8% reported being forced into sex. On suicide, depression, and self-abuse, 41.6% of the AI/AN high school students reported being sad or hopeless every day for two weeks or more, 15.5% reported attempting suicide, and 32.5% reported self-abusing (e.g. cutting or burning). On alcohol, tobacco, and other drugs, 9.9% of the AI/AN high school students reported using heroin, 20.1% reported using marijuana on school property in the past 30 days, 22.9% reported using methamphetamines, and 36.1% reported attending school under the influence of alcohol or illegal drugs.

The Arizona Youth Tobacco (YTS) survey found rates of cigarette smoking remain high among American Indian/Alaska Native youth, despite decreasing trends. The YTS does not differentiate between the degrees to which these high rates are driven by commercial tobacco use versus being influenced by reporting of traditional or ceremonial tobacco use.

Navajo Nation Youth Risk Factors

The Navajo Nation conducts the Navajo Youth Risk Behavior Survey (YRBS). The results of the 2006 survey indicate that youth attending school

within the boundaries of the Navajo Nation are not protected by their isolation or majority status. There were 10,347 students from 92 middle schools and 13,383 students from 46 high schools who completed the survey. Over 85% of the students were Native American. The Navajo Risk Behavior Survey reported that 40% of the middle school students and 39% of the high school students used alcohol. Nine percent of the middle school students and 18% of the high school students used cocaine. Fifty-three percent of the middle school students and 77% of the high school students smoked cigarettes. Thirty percent of the middle school students and 40% of the high school students reported having had sexual intercourse. Forty-six percent 46% of the middle school and 35% of the high school students reported having been in a physical fight during the past year. Equally disturbing was that 32% of the middle school students and 23% of the high school students reported carrying a weapon to school (gun, knife, or club) during the past 30 days.

AI/AN Youth Risk Factors

The AI/AN population are young with 44% of the AI/AN population under the age of 25, compared to 36% percent of the overall U.S. population (U.S. Census Bureau, 2008a, 2008b). In 2006, there were nearly one million AI/AN youth under the age of 18 and they accounted for 1% of the general population and youth population nationwide (U.S. Census Bureau, 2008a, 2000b). According to recent analyses by Child Trends of data from the National Longitudinal Survey of Adolescent Health (Suellentrop, 2008), 42% of AI/AN youth (ages 12-19) in the sample lived in a rural community compared to 15% of all other youth in the

sample. At the same time, 19% of AI/AN youth lived in an urban area and 38% lived in a suburban area compared to 27% and 58% of all other youth in the sample respectively. Approximately half of all AI/AN youth live with both of the biological parents and 22% live with one biological parent and a stepparent.

There are many risk factors that relate to AI/AN youth. AI/AN teenagers suffer from poverty, suicide, teen birth, and substance abuse at rates higher than the national average (Arya & Rolnick, 2008; Hartney, 2008; National Survey on Drug Use and Health, 2007). Data on the risk factors for AI/AN in the areas of health, poverty, education, victimization, mental health, gangs, and juvenile delinquency are alarming.

Health

Simeonsson (1994) stated AI/AN youth are significantly more likely than all other youth to report that they did not receive medical care that they needed (27% vs. 19%) The U.S. Department of Health and Human Services (2006) reported that AI/AN have a life expectancy that is 2.4 years less than the general population, AI/AN infants die at a rate of 8.5 per 1,000 live births compared to 6.8 per 1,000 for the general population. AI/AN also die at higher rates than other Americans from alcoholism (510% higher), diabetes (189% higher), homicide (61% higher), and suicide (62% higher). AI/AN have some of the highest rates of fetal alcohol syndrome (FAS) in the nation. Among some tribes, FAS rates are as high as 1.5 to 2.5 per 1,000 live births; U.S. Department of Health and Human Services, 2007).

A consistent framework for measuring health disparities has been developed for Healthy People (HealthyPeople.gov, 2011). Based upon the Healthy People objectives, Keppel (2007) found that AI/AN population shared four of its largest disparities with the Black and non-Hispanic populations: high rates of gonorrhea (new cases and cases among females aged 15–44 years), new tuberculosis cases, and drug-induced deaths. This group also shared four of its largest disparities with the Hispanic population: new tuberculosis cases, drug-induced deaths, cirrhosis deaths, and deaths from poisoning. In addition, the AI/AN population had the highest rates of fetal alcohol syndrome, smoking by pregnant women, alcohol-related motor vehicle deaths, and physical assault.

Data from the ADD Health survey (Suellentrop, 2008) revealed that AI/AN youth compared to their peers are more likely to have sex at a younger age than their peers, and are less likely to have used contraception the last time they had sex. The National Campaign to Prevent Teen and Unplanned Pregnancy reported that in 2007 the preliminary birth rate for Al/AN teen girls (age 15-19) was 59.0 per 1,000, up 7% from 55.0 in 2006, and well above the national birth rate of 42.5 per 1,000. Between 1991 and 2005, the teen birth rate among AI/AN teens decreased 37% from 84.1% to 52.7% per 1,000. However between 2005 and 2007, the teen birth rate among AI/AN teens increased 12%—more than twice the increase of any other racial/ethnic group. Compared to 16% of girls nationwide 21%, of AI/AN teen girls will become a mother before age 20.

Poverty

One in five AI/AN teens lives below the federal poverty level (Suellentrop, 2008). According to the U.S. Census Bureau in 2005, 25% of AI/AN people were living below the poverty level, compared with 10% of Whites and 13% of the population generally (2008b, Table 36). In the 2003-04 school year, the average AI/AN student attended a school where 39% of the students were poor, while the average White student attended a school where only 23% were poor (National Center for Education Statistics, 2008). Although Blacks and Latinos have a higher level of exposure to poor students in schools than AI/AN, AI/AN experienced the biggest increase in exposure to poor students, up from 31% in 1996-97 to 39% in 2002-03 (Hartney, 2008). As many as 61% of AI/AN eighth graders attended schools where more than half of the students are eligible for free or reduced-price lunch (Hartney, 2008). DeVoe, Darling-Churchill and Snyder (2008) found that at 36% the AI/AN poverty rate was higher among families on reservations than among families in other AI/AN areas; that a higher percentage of AI/AN, 16 and over, were unemployed in 2007 (12%) compared to the percentages of Whites (4%), Hispanics (6%), and Asian/Pacific Islanders (3%). In 2006, the median annual earnings for full-year and full-time 25 through 34 age group in the general population was $35,000 while the median annual earnings of the same group of AI/AN was $27,000.

Education

According to the U.S. Department of Education, the national graduation rate for AI/AN high school students was 50.6% during the 2004-05 school year,

compared to 77.6% for White students (DeVoe et al., 2008). Only 45.8% of AI/AN males and 52.5% of AI/AN females graduated with a regular diploma in the 2004-05 school year (DeVoe et al., 2008). Insufficient schooling during elementary and high school has significant ramifications for the community as these youth transition into adulthood. By the age of 25, nearly a quarter (24%) of AI/AN have not graduated from high school or obtained a GED, compared with 16% of the general population (DeVoe et al., 2008). In addition, 14% have obtained a bachelor's degree or higher, which is only half the percentage of people in the general population with these degrees (27%; DeVoe et al., 2008).

In November of 2008, The Alliance for Excellent Education published their Fact Sheet on AI/AN Students (Alliance for Excellent Education, 2008). The Alliance reviewed the literature in three areas: graduation, dropouts, and preparedness; school segregation and teacher quality; and special, gifted, and college preparatory education. In each of these areas, the Alliance found alarming statistics for AI/AN students in the current literature: The national graduation rate for AI/AN was 50.6% in the 2004-05 school year, compared to 77.6% for White students, only 45.8% of AI/AN males and 52.5% graduating with a regular diploma. AI/AN who graduated in 2005 were less likely to have completed a core academic track than their peers from other racial/ethnic groups. As high as 81% of AI/AN eighth graders read below grade level, compared to 62% of White eighth graders; 74% of AI/AN read below grade level, compared to 57% of White twelfth graders. The cultural discontinuity between the AI/AN communities and the average public school that serves these communities is a partial reason for the

achievement gap between AI/AN and White students (Alliance for Excellent Education, 2008).

The Alliance concluded of the 644,000 AI/AN students in the U.S. in grades K through 12 grades suffer from poverty, suicide, teen birth, and substance abuse at rates higher than the national average; often their civil rights and cultural identities are not supported in the classroom; they often experience difficulty establishing relationships with their teachers and other students; and are often subject to racist threats and frequent suspension (Alliance for Excellent Education, 2008).

Reyner (2006) found only 70% of AI/AN students graduate from high school, which is twice the national average and the highest dropout rate of any ethnic or racial group in the United States. These findings are consistent with the data published in the National Center for Educational Statistics (2008) which found that 8% of AI/AN/Alaska AI/AN were suspended from school at least once during the preceding month compared to 5% for Whites and 13% for Blacks, and that 15% of AI/AN/Alaska AI/AN students drop out of school compared to 1% of White students and 6% of African American students. Data from the National Assessment of Educational Progress (NAEP) for 2002 and 2003 (Rampey, Lutkus, & Weiner, 2006) confirmed fourth and eighth grade AI/AN/Alaska AI/AN youth scored lower on academic achievement assessments than corresponding White youth.

Recently a report commissioned by the Civil Rights Project at UCLA used a new method to calculate how many students drop out in states with large AI/AN

populations. The current tracking method used by school districts and states to track students' progress over a four-year period is more reliable than the traditional method of tracking only senior graduation rates (Faircloth & Tippeconnic, 2010). The dropout rate is actually closer to 60% for AI/AN students using this method (Faircloth & Tippeconnic, 2010).

DeVoe et al. (2008) found that the number of AI/AN students enrolled in colleges and universities has more than doubled in the past 30 years. Between the 1976-77 and 2005-06 school years, the number of degrees awarded by colleges and universities to AI/AN students more than doubled for each level of degree.

Victimization

AI/AN youth experience much higher rates of violent victimization than non-AI/AN youth (Hartney, 2008). Between 2001 and 2005, AI/ANs experienced violence rates more than twice that of Blacks, two and half times that of Whites, and more than five times that of Asians (U.S. Bureau of Justice Statistics, 2006). Rates of violent victimization for AI/AN males and females ages 25 to 34 were 2.5 times higher than for all persons the same age and higher than for all races (Perry, 2004). AI/AN youth also experience high rates of child abuse (15.5 per 1,000 compared to 10.7 for White youth (Perry, 2004). Amnesty International reported that one in three AI/AN woman will be raped at some point in their lives, a rate that is double that for non-Indian (Amnesty International, 2009).

Gangs

The National Council on Crime and Delinquency Center (Glesmann, Krisberg, & Marchionna, 2009) and the National Youth Gang Center (Howell &

Egley, 2009, cited by Glesmann, Krisberg, & Marchionna, 2009) defined a youth gang as "a self-formed association of peers having the following characteristics: three or more members, generally ages 12 to 24; a name and some sense of identity, generally symbolized by style of clothing, graffiti, and hand signs; some degree of permanence and organization; and an elevated level of involvement in delinquent or criminal activity" (p. 1).

The racial/ethnic groups most affected by gang involvement are AI/ANs (15%), Hispanics (8%), and African Americans (6%; Glesmann et al., 2009). A 2000 survey of youth gangs among AI/AN found that 23% of the respondents had active youth gangs in their communities (Arya & Rolnick, 2008). As early as 1977, the Navajo Nation estimated that approximately 60 youth gangs existed in Apache County. The Navajo Nation has been actively pursuing means to ameliorate the conditions that lead to gang formation (Henderson, Kunitz, & Levy, 1999). On the Navajo Nation youth gangs are facilitated by frequency with which families move off and on to the reservation, poverty, substance abuse, family dysfunction, cluster housing, and declining connection to traditional Navajo culture (Egley, Howell, Mendenhall, & Armstrong, 2004; Henderson et al., 1999). Youth cited friendship and sense of belonging as significant benefits derived from being in a gang (Egley et al., 2004; Henderson et al., 1999). Gang-involved youth tend to be less engaged in school compared to their non-gang peers, and gang-involved youth report higher levels of school-related problem behaviors (Glesmann et al., 2009).

The Arizona Criminal Justice Commission (2009) reported that Black youth had the largest gang involvement rate (7.5%), followed by Native Americans (6.2%), Alaskan Natives (5.5%) and Hispanics (5.2%); White youth had the lowest rate of gang involvement (1.7%).

Juvenile Delinquency

Arya and Rolnick (2008) found AI/AN youth make up 1% of the population nationwide but account for 2% of youth arrested for public drunkenness and driving under the influence; 3% of youth arrested for liquor law violations. In 2006, the top five crimes for AI/AN youth were liquor law violations, larceny-theft, disorderly conduct, running away, and drug abuse violations.

AI/AN youth are regularly prosecuted in three distinct justice systems: federal, state and tribal. Criminal jurisdiction depends on the location of the crime, the type of crime, the perpetrator's identity and the victim's identity. The National Council on Crime and Delinquency (Hartney, 2008) reported that the 2004 Inspector General Report found that many detention facilities on tribal lands are understaffed, overcrowded, and underfunded. The report documented a high number of youth suicides and problems separating juveniles from adults. In attempts by the Bureau of Indian Affairs to remove juveniles from adult jails, some youth have been moved hundreds of miles away from home. The NCCD (Hartney, 2008) found that AI/AN youth are more likely to receive the two most severe punishments in the justice systems: out-of-home placement and waiver to the adult system. Compared to white youth, AI/AN youth are 1.5 times more

likely to receive out-of-home placement and are 1.5 times more likely to be waived to the adult criminal system. Nationwide, the average rate of new commitments to adult state prison for AI/AN youth is 1.84 times that of White youth.

The NCCD (Hartney, 2008) found that the majority of youth in the federal juvenile system are AI/AN youth. Seventy percent of the youth committed to the Federal Bureau of Prisons as delinquents are AI/AN, as are 31% of youth committed to the Federal Bureau of Prisons as adults. Compared to youth prosecuted in county/state juvenile justice systems, youth tried in federal court spend more time in detention and face tougher and longer sentences that are often served hundreds of miles from home. The NCCD (Hartney, 2008) noted that the laws and practices of the federal system have been developed with little attention to the needs of AI/AN Youth. The Campaign for Youth Justice found evidence that racial bias may play a role in how AI/AN youth are treated in state juvenile justice systems (Arya & Rolnick, 2008).

Mental Health

AI/AN youth are twice as likely as White youth and three times as likely as other minority youth to commit suicide and was the second leading cause of death for AI/AN ages 10 to 25 with the highest incidence occurring in Arizona (U.S. Bureau of Justice, Office of Justice Program, 2006). Incidence in North and South Dakota in which eight young adults committed suicide by hanging during a 12-week period in 2004 and 2005, and on the Red Lake Reservation in Minnesota in which a 15 year-old AI/AN boy killed ten people including himself in a school

shooting, which was given national media attention (Walker, 2005). From 1999 to 2005, the incidence of suicide for AI/AN males ages 15 to 24 (28.72 per 100,000) was nearly triple the rate in the overall U.S. population (10.79 per 100,000) with the highest suicide rates (ranging from 5 to 7 times higher than the overall U.S. rates in the Tucson, Arizona, Aberdeen, South Dakota, and Alaska areas; Arya & Rolnick, 2008).

The National Survey on Drug Use and Health (2007), one of the few surveys that collect data on AI/AN substance use, found that in 2002-2005 AI/AN were more likely to suffer from substance use disorders than any other racial groups in the United States. The NSDUH survey defines illicit drug or alcohol dependence or abuse using the Diagnostic and Statistical Manual of Mental Disorders DSM-IV. Substance dependence or abuse include such symptoms as withdrawal; use in dangerous situations; trouble with the law; and interference in major obligations at work, school, or home during the past year.

The NSDUH (2007) survey reported that AI/AN males aged 12 or older were less likely to have used alcohol in the past year than males in other racial groups (65.5% vs. 70.2%), but they more likely to have a past year alcohol use disorder (13.6% vs. 10.5%). Additionally, generally consistent patterns were found within gender and age groups. The one exception found in the NSDUH (2007) survey was that AI/AN aged 12 to 17 were equally likely as same aged youths in other racial groups to report past year alcohol use, but were more likely than youths in other racial groups to have a past year alcohol use disorder (8.5% vs. 5.8%).

The NSDUH (2007, Table 2) survey reported AI/AN aged 12 or older were more likely than members of other racial groups to have used an illicit drug at least once in the past year (18.4% vs. 14.6%) and to have a past year illicit drug use disorder (5.0% vs. 2.9%). Again, generally consistent patterns were found within gender and age groups. For example, AI/AN females aged 12 or older were more likely to have used an illicit drug in the past year than females in other racial groups (16.0% vs. 12.2%). One exception was even though AI/AN aged 18 to 25 were more likely than same-aged adults in other racial groups to have used an illicit drug in the past year (37.3% vs. 34.5%), they were equally likely as same-aged adults in other racial groups to report a past year illicit drug use disorder. In summary, the NSDUH reported that AI/AN youth were more likely than other racial groups to have a past year alcohol use disorder (10.7% vs. 7.6%), a past year illicit drug use disorder (5.0% vs. 2.9%) and a past year marijuana, cocaine, and hallucinogen use disorders.

Substance abuse has a disproportionate impact on AI/ANs in Arizona, due to the rural and remote character of Indian lands, the lack of infrastructure on reservations to deliver treatment and prevention services, and significant social and cultural differences in urban areas where many AI/AN people move for education and work opportunities (Gerald, 2005). The lack of treatment and prevention services for AI/AN, especially those living on reservations, means that substance abuse conditions for most remain untreated. This is significant because co-occurring psychiatric problems with alcoholism is common. A study of 1,544 adolescent patients in alcohol treatment found 70% co-morbidity with one or

more psychiatric disorders. The co-mobility rates for alcoholism was 52% with conduct disorder, 49% with attention deficit/hyperactivity disorder; 27% with traumatic stress disorder; 13% with general anxiety disorder; 37% with high severity victimization; 22% with homicidal/suicidal thoughts in the past year; 12% with self-mutilation; and 64% with physical, sexual, or emotional victimization (Butler & Muck, 2008).

Cultural Resiliency: Generational Trauma

This is significant because co-occurring psychiatric problems with alcoholism is common. While the evidence base for historical trauma is limited, the condition appears often in AI/AN literature. Two measures relating to historical trauma, The Historical Loss Scale and The Historical Loss Associated Symptoms Scale, indicate the current generations of AI/AN adults have frequent thoughts pertaining to historical losses, and they associate these losses with negative feelings associated with anxiety/depression and anger/avoidance (Whitbeck, Adams, & Hoyt, 2004).

Maria Yellow Horse Brave Heart (Brave Heart, 1998; Brave Heart & DeBruyn, 1998) developed historical trauma and historical unresolved grief theory to explain what appears to be a generational phenomenon within AI/AN communities. Historical trauma is "cumulative emotional and psychological wounding, over the life span and across generations, emanating from massive group trauma experiences" (Brave Heart, 2003, p. 17). Research into the lingering effects of historic trauma and a related disorder, Post Traumatic Stress Disorder, suggest many adverse effects: identification with the dead, depression, psychic

numbing, attempts to numb the pain through substance abuse, suicidal ideation and gestures, hyper vigilance, fixation to trauma, somatic symptoms, survivor guilt, anger, victim identity, loyalty to ancestral suffering and the deceased, death wishes to join deceased ancestors, difficulty modulating and regulating affect, low self-esteem, vitality in own life seen as a betrayal to ancestors who suffered so much, compensatory fantasies, and parental boarding school trauma passed to offspring resulting in impaired parenting (Brave Heart, 2003; Manson, Beals, & Klein, 2005; Swesey & Carrasco, 2009).

Historical oppression among AI/AN populations spans several centuries from European colonization to modern federal policies which led to destruction of populations and loss of land and cultural practices that forced AI/AN individuals to assimilate with mainstream American culture through such traumatic programs as relocation and the separation of children from their families through foster homes and boarding schools (Swesey & Carrasco, 2009). The reaction to these cumulative traumas includes high levels of substance abuse, suicide, depression, anxiety, low self-esteem, anger, difficulty recognizing and expressing emotions, and unresolved historical grief (Brave Heart, 2003).

Brave Heart (Duran, Duran, Brave Heart, & Yellow Horse, 1998) cited the government-run Indian boarding schools as a major factor in the historical trauma where gender roles and family relationships were impaired at the boarding schools, where the focus was on the European tradition of male-female relationships, and not the Indian tradition of holding women and children sacred, which resulted in a loss of parenting skills, a loss of the child's identification with

the parents and other complex processes. The positive outcomes needed to overcome this intergenerational trauma such as a reduction in shame, a better feeling of self-worth, an increase in joy and health, a stronger sense of parental competence, greater use of traditional language, an improved relationship with children and the extended family, and increased sense of community is still an unmet need for most AI/AN (Swesey & Carrasco, 2009). Lisa Poupart (2003) purported that historical trauma leads to disenfranchised grief, the sense that you cannot grieve, that no one hears or is listening to your grief, and that the dominant culture acts as if you do not have grief, or do not need to grieve.

The generational connection to a root cause is suggested in the high incidents of alcoholism affecting AI/AN. Alcoholism has a long history, and every culture has developed its own unique relationship to this disease (Heath, 1995). Alcohol is the single most serious substance abuse problem among young people. Alcohol use is linked with teen deaths by vehicle accidents, drowning, suicide, and homicide. Teens that utilize alcohol are more likely to be sexually active at earlier ages, to have sexual intercourse more often, and to have unprotected sex than teens who do not drink. Young people who drink are more likely than others to be victims of violent crime, including rape, aggravated assault, and robbery. Problems with school work and school conduct problems are reported more with teens who use alcohol. The majority of boys and girls who drink tend to binge (5 or more drinks on an occasion for boys and 4 or more on an occasion for girls) when they drink. Alcoholism often co-exists in AI/AN communities, where behaviors of violence, abuse, depression, self-hate, cultural

shame, and stress are acted out. These behaviors may be related to a long-term social and economic process that began generations ago and is currently affecting three to four generations later (Gale, 1991).

The concept of historical trauma gained credibility after Post Traumatic Stress Disorder was added to the Diagnostic and Statistical Manual of Mental Disorders (PTSD) in 1980 when psychiatrists working with Vietnam veterans realized PTSD was an actual disorder. Since then, researchers realize survivors of torture, rape; natural disasters and man-made disasters shared symptoms with veterans suffering from PTSD. A traumatic event provokes intense fear, helplessness, or horror. Other researchers found trauma is often multigenerational (Brave Heart & DeBruyn, 1998). Survivors of childhood sexual or physical abuse often become the perpetrators of the same types of abuse as adults. And PTSD research demonstrated the disorder can produce high rates of violence, alcohol and substance abuse, anxiety disorders, and depression (Schiraldi, 2000).

Researchers began looking for PTSD in AI/AN populations. A study of 89 AI/AN adolescents in substance abuse treatment found an average of 4.1 lifetime traumas. The most common traumas were adolescents who had been faced with the threat of injury and those who had witnessed injury. Fourteen percent of the adolescents met the Statistical Manual IV Text Revision (DSM-IV-TR) criteria for full PTSD. Researchers found that trauma was a pervasive phenomenon among this population, especially with individuals who experienced sexual trauma. This resulted in high rates of posttraumatic symptomatology (Deters, Novins, Fickenscher, & Beals, 2006).

In one large study of two reservations, the AI/AN population survived physical attacks, witnessed traumatic events, or experienced trauma to loved ones much more often than the general population. Urban Indian women may experience even higher rates of trauma. A study of AI/AN women living in New York City found that over 65% had experienced some form of interpersonal violence. Of that group, 28% reported childhood physical abuse, 48% reported rape, and 40% reported a history of domestic violence. When people have been victimized, they often pass it on to the next generation (Manson et al., 2005).

Childhood Traumatic Grief (CTG) is a condition related to loss or death of a loved one through traumatic circumstances including unexpected deaths such as heart attack (Cohen, Mannarino, & Deblinger, 2006; Cohen et al., 2004). CTG shares PTSD symptoms but does not require that the child is present at the time of the loss (Cohen et al., 2004). AI/AN children frequently report it is the loss of friends and relatives that is causing PTSD symptoms (Cohen et al., 2004). AI/NA may not meet the clinical definition for PTSD (Brave Heart & DeBruyn, 1998). Two thirds of AI/AN youth who affirm multiple traumas do not meet the PTSD criteria (Manson et al., 2005). AI/AN may have a higher trauma threshold, due to severe and chronic trauma exposure; there may be cultural bias in the PTSD assessment (Manson et al., 2005).

Although historical trauma is not a diagnosable condition in the modern taxonomies, assessment and treatment criteria, such as the DSM-IV-TR or the ASAM PPC IIR, some physicians take this into account when treating AI/AN patients. Joseph B. Stone (2008), Ph.D., Gallup Indian Medical Center, believes

that this is a real syndrome and incorporates this condition into his treatment approach. Informed clinicians should also take this position when working with AI/AN patients. Many mental health programs incorporated healing historical trauma among AI/AN especially programs that address substance abuse (Struthers, 2003). Edward Red Owl (1991), for example, created a therapy program centered on the visualization of cultural images in the treatment of historical trauma.

Although historical trauma is limited and inclusive as to the effect on the present generation, historical trauma is discussed often in the AI/NA communities. Although some AI/ANs may experience historical trauma, it is also possible that others may experience PTSD symptoms stemming from ongoing losses and/or traumatic experiences (Cohen et al., 2006).

Cultural Resilience

Sha Zukang (2009) in his introduction to The United Nations report, *State of World's Indigenous People,* stated,

> Indigenous peoples are custodians of some of the most biologically diverse territories in the world. They are also responsible for a great deal of the world's linguistic and cultural diversity, and their traditional knowledge has been and continues to be an invaluable resource that benefits all of mankind. Yet, indigenous peoples continue to suffer discrimination, marginalization, extreme poverty and conflict. Some are being dispossessed of their traditional lands as their livelihoods are being undermined. Meanwhile, their belief systems, cultures, languages and ways of life continue to be threatened, sometimes even by extinction. (p. v)

Protective factors are often rooted in culture. Cultural traditions, religious rituals and ceremonies and community support play an important role in resilience

(Wright & Littleford, 2002). Ethnic identity, competence, and comfort in relating to members of different groups and racial socialization are particularly important in dealing with challenges that arise due to experiences of oppression and discriminations (Wright & Masten, 2005). Systematic investigations into culturally-based protective processes are limited but are seen as important by fourth wave researchers (LaFromboise, Hoyt, Oliver, & Whitbeck, 2006; Luthar, 2009; Wright & Littleford, 2002; Wright & Masten, 2005).

Despite the many risk factors, AI/AN continuance as a distinct and identifiable cultural minority is a fact which seems to attest to their resilience and to support the resiliency theory. The theory postulates human beings have a genetic disposition for survival. Longitudinal research found that the majority of people do survive adversity. Although not well researched, the role of culture may be a significant protective factor in the resilience of AI/AN. Metha and Webb (1996) concluded, for example, the reason for lower suicide rates among the Navajo and Cree is the result of the Navajo's separatist cultural identity and the Cree's long history of integration into cultural, economic, and political structure of the dominant culture.

A cultural bias is seen in resiliency research. Most of the literature on AI/AN youth has focused predominantly on pathological and behavior problems. There is a lack of research that addresses ethnic differences in defining successful or positive functioning for AI/AN youth. There is often the assumption that outcomes that are considered desirable for youths in general population are also desirable for AI/AN youth (Silmere & Stiffman, 2006). Risk-focused prevention

often leads to identification, labeling, and stigmatizing of youth, their families, and communities. Resiliency assets, especially those that are culturally different from the teachers, parents, and other helpers are often ignored. Many adult helpers do not understand what does work, and what they can do to prevent problems. This lack of understanding often leaves them feeling overwhelmed and paralyzed (Constantine, Benard, & Diaz, 1999).

One recent study did examine the environmental and cultural factors related to resiliency in AI/AN youth. This is one of the first studies to focus on the successful functioning of AI/AN youths, and the first to use multiple positive outcomes with several indicators based upon the ecological systems theory: family environment, social environment, and religion and culture. Using data from interviews with 401 Southwestern urban and reservation-based youth in 2001, researchers found over one-third of the youths were functioning at a moderately successful level (38%), and one-fourth were clearly highly successful (Silmere & Stiffman, 2006). Approximately one-fifth to on-half of the AI/AN youths experienced positive outcomes in at least one out of seven different areas of functioning: good mental health, being alcohol and drug free, clean police record, absence of serious misbehavior, good grades, positive behavior/emotions, and positive psychosocial functioning.

Over one-half of the youth had a clean police record (56.8%) and also reported no serious misbehavior that was indicted by law enforcement (54.2%). Nearly one-half of the youth received good grades (45.6%) and one-third reported hardly any involvement with alcohol or drugs (32.0%). However, less than one-

quarter of the AI/AN youths qualified as successful in the domains of positive psychosocial functioning (23.6%), good mental health (20.2%), and positive behavior and emotions (16.8%). One-third (36%) of the youths had almost no areas of successful functioning (Silmere & Stiffman, 2006).

Another hopeful study of 120 interviews with AI/AN youth provided firsthand accounts of how AI/AN students developed strong cultural identities which help them cope with troubles in their families, communities, and schools. The study concluded the youth learned to appreciate their own intellectual gifts and abilities, to meet the academic and social challenges they encounter in school, and to find and stayed on the "Good Path" in life (Bergstrom, Cleary, & Peacock, 2003). While the students were well aware of the obstacles that can lead to school failure such as absenteeism, anger, teen pregnancy, alcohol and drugs, sexism and low expectations, they found strength in their cultural identity. This identity provided them with the ability to feel more comfortable with living in both worlds, their AI/AN community, and their mainstream schools (Bergstrom et al., 2003). The students had strong positive feelings of belonging to an AI/AN community and family; participated in AI/AN cultural activities like powwows and ceremonies; had respect for the influences of traditional people, especially elders, grandparents and parents; and participated in a school curriculum that included AI/AN history, language, and culture (Bergstrom, et al., 2003).

Although not well studied, the protective function of culture is of particular to AI/AN (Reyhner & Elder, 2004). Navajo epistemology, metaphysics, axiology and learning in relationship to the Navajo concept of "hozho," living a

holistic and balanced life, form an excellent foundation upon which to build an educational system (Leonard, 2008). Herbert Benally (1987) developed the Navajo philosophy of learning that has become the foundation of many attempts to create a Navajo system of education. Benally explains,

> The strength of T'áá Diné philosophy of a harmonious life is a holistic view of life that strives for beauty, peace, joy and harmony in daily living. Inherent to this philosophy is the balancing of all sacred knowledge of the Four Cardinal Directions. Understanding and practicing the essence of the principles placed in each of the Four Directions will give us a strong foundation to make wise decisions for ourselves, our families and our communities. When we recognize and activate the Divine Power-Within, we experience the Beauty Way of Life, Hózho'. Through this realization, we live with respect and reverence for all of creation. It is up to each one of us to inspire our youth to cherish and perpetuate beauty, peace, and joy as a Way of Life. (p. 13)

Ivin Morris (1997) explained that as a Navajo

> true poverty is unknown to us. . . . There is the land; and we have K'e, the intricate and enduring clanship ties that provide us with relatives wherever we go on the reservation; and we have our language, our stories, and our songs. (p. 46)

While the Navajo educational system continues the struggle to implement the Navajo philosophy of learning into the school systems, the Navajo judicial system offers an excellent model for what might some day be accomplished with the educational system. The Navajo Nation court system is the largest and most established tribal legal system in the world. Since the landmark 1959 U.S. Supreme Court decision in *Williams v. Lee* that affirmed tribal court authority over reservation-based claims, the Navajo Nation has taken the leadership in transforming jurisprudential movement among AI/NA and indigenous peoples around the world. This court system retrieves and uses traditional values to

address contemporary legal issues. In *Navajo Courts and Navajo Common Law,* Justice Austin (2009) explained key Navajo foundational concepts like Hózhó (harmony), K'é (peacefulness and solidarity), and K'éí (kinship) both within the Navajo cultural context and as they are adapted and applied by Navajo judges in virtually every important area of legal life in the tribe. As a result of this effort, the Navajo Peacemaker Court system places outcomes on the harmonious relationships between family and clan members rather than punishment which are common to English and American common law (Yazzie, 1997).

Traditional ceremonies, rituals, and mythology are the cultural foundations of AI/AN. They must be preserved in order to restore physical and psychological well-being. It took a special act of Congress, the 1978 American Indian Religious Freedom Act (AIRFA), to affirm religious freedom for AI/NA (Long, 2000). After the AIRFA, ceremonies and rituals are used openly for physical, emotional, and spiritual healing and are finding great acceptance by AI/NA and non-natives for their efficacy in healing individuals, families, clans, tribes, and nations (Bucko, 1998). Many of the ceremonies and rituals from various AI/AN groups are shared and adapted from one group to another such as sweat lodge ceremonies, peyote ceremonies, vision questing, sun dancing, and pow-wows. Many of these pan-Indian ceremonies are also shared with non-natives sometimes with negative effects (Bucko, 1998).

Although there is a wealth of information on AI/AN ceremonies and many testimonies as to their efficacy, there is virtually no research on the efficacy of these practices (Silmere & Stiffman, 2006). Luthar (2009) found few studies that

supported protective factors in religious communities and a few studies that found religiousness to be a negative factor for some populations (Luthar, 2009). A few studies have found that participation in AI/AN traditions and activities was related to various problem behaviors but the reasons for these findings remain unclear and need further investigation (Silmere & Stiffman, 2006).

AI/NA are extremely sensitive about the use of what they see as their cultural heritage especially the healing ceremonies. While research on the efficacy of the healing ceremonies would provide valuable to prevention and intervention, great care will need to be taken by the researchers in the design, implementation, and uses of the research.

Arizona State Senator, Albert Hale (Navajo), crafted a bill that would require the Arizona Department of Health Services to regulate individuals or businesses that charge people to participate in what are claimed to be "traditional and authentic Native American practices" (Fischer, 2010). Hale was quoted as saying, "The dominant society has taken all that we have: our land, our water, our language, now they're trying to take our way of life, and I think it has to stop at some point" (Fischer, 2010, p. 1). In support of Senator Hale, Joe Shirley, President of the Navajo Nation, commented that "for too long, I believe, our ways of life, our ceremonies, even our sacred stories, our culture has been abused, misused, misunderstood, we need to be respected, our ways cannot be abused (Fischer, 2010, p. 1).

C.A.R.E. (Culturally Aware, Anti-racist, Relationally Focused, Educational Communities)

The importance of education was recognized by both cultures soon after the conquest of AI/AN. After the military defeat of the Lakota Nation in 1876, Tatanka Lotanka (Sitting Bull) said to the U.S. Federal government, "Let us put our minds together and see what life we will make for our children" (Sitting Bull Quotes). AI/AN individuals were often willing to adapt what was useful from their own culture and the dominate culture in their struggle for resilience. The Navajo are especially skillful in cultural adaptation (Dennetdale, 2007; Iverson, 2002). The difficulty for the AI/AN is having an equal voice in the educational process. Seldom are their cultural values and beliefs honored in the educational process of their own children. Although AI/AN peoples continue to fight for an educational system based upon their cultural values, the struggle seems even more difficult than in the legal and spiritual domain of their 400-year history of American Indian education, Reyhner and Eder (2004) concluded, "The time has come for equal recognition of the basic human right of American's Native people to control the education of their children" (p. 330). Federal and state policies continue to control AI/NA education. The Navajo Nation continues to make major efforts to control its educational system but is limited in their efforts due to the loss of federal and state funding (Iverson, 2002). From past history to the present one, the dominate cultural beliefs and values continue to control the educational, political, religious, and economic systems under which AI/NA are forced to live, creating a major obstacle to self-determination (Ripple & Zigler, 2003; Thayer-Bacon, 2006).

Wright and Masten (2005) observed that "in various cultural/ethnic groups there can be a great deal of difference in the relative importance placed on individualism, collectivism and familism, and these dimensions might mediate resilience in different ways in different groups" (p. 30). Thayer-Bacon (2006) concluded cultural differences in the educational system are a major barrier for AI/NA communities that will only be overcome by the creation of an educational community that is culturally aware, anti-racist, and relationally focused.

After an extensive six-year research study of schools that serve minority populations, Thayer-Bacon (2006) made a powerful argument for why the current school system fails and will continue to fail minority groups like AI/AN. The basic belief in the individual and community are different. Federal educational programs are guided by the vision of the democratic process conceived by Locke and Rousseau. This vision stresses individualism and ignores and excludes the needs of students raised in cultures with strong communal traditions.

Thayer-Bacon (2006) noted AI/AN face critical issues in restoring balance and harmony into their tribes and communities related to identity and assimilation, tribal sovereignty, revitalization of AI/AN culture, preserving families, and economic development. An antidote to this problem is a transactional view of "individuals-in-relation-to-others sharing identities in a democracy-always-in-the-making" (p. 84).

Teaching Methodologies Supporting AI/AN Students

While schools and classroom teachers working with AI/NA children must adhere to the current federal and state policies, No Child Left Behind (NCBL)

(2002) legislation supports accommodations in teaching methodologies for all students. Language and culture are factors that must be considered and understood in the design and implementation of academic and social/behavioral interventions so that all students have increased opportunities to succeed (Harris-Murri, King, & Rostenberg, 2006). Culturally responsive pedagogy draws on cultural knowledge, prior experiences, and learning styles and teaching to the students' strengths (Gay, 2000). Schools and classroom teachers should use the strengths of AI/AN culture and the current resiliency research to support all AI/AN students.

When developing and implementing teaching strategies, schools and teachers should work in consultation and collaboration with Native families, communities, and organizations (Faircloth & Tippeconnic, 2010). Unfortunately, the education of Native students has historically been conducted without their input, thus nurturing a sense of distrust and detachment from the educational system for many Native families and communities. Janice Tso (2010), a Navajo school psychologist, believes education professionals

> must use creative ways to reveal that embedded cultural knowledge in children and foster an early sense of competence as learners . . . by promoting cognitive, emotional, and social processes that will enhance student confidence and bridge concepts between home and school. (p. 37)

Demmert, Ed, & Towner (2003) defined culturally based education programs for AI/AN students as having six critical elements: 1) Recognition and use of AI/AN (AI/AN, Alaska AI/AN, AI/AN Hawaiian) languages (this may include use bilingually, or as a first or second language); 2) Pedagogy that stresses traditional cultural characteristics, and adult-child interactions as the starting place for one's education (mores that are currently practiced in the community, and

which may differ community to community); 3) Pedagogy in which teaching strategies are congruent with the traditional culture as well as contemporary ways of knowing and learning (opportunities to observe, opportunities to practice, and opportunities to demonstrate skills); 4) Curriculum that is based on traditional culture, that recognizes the importance of AI/AN spirituality, and places the education of young children in a contemporary context (e.g., use and understanding of the visual arts, legends, oral histories, and fundamental beliefs of the community); 5) Strong AI/AN community participation (including parents, elders, other community resources) in educating children and in the planning and operation of school activities and; 6) Knowledge and use of the social and political mores of the community.

Over 20 years ago, the National Education Association (1983) recommended teachers of AI/NA students build self-confidence and positive self-image, provide many opportunities for academic and no-academic success, provide leadership experiences, teach mutual understanding and tolerance for differences in cultural values and behaviors, show mutual respect at all times, teach the best in all cultures, create a classroom environment that matches the students' learning styles, never imply that a student's AI/AN is not good or valid, emphasize language arts skills, recognize the influence of traditional AI/AN values on students' behavior in the classroom, neither ignore the AI/AN students or show them favoritism, be firm but fair, and incorporate a variety of teaching styles and methodologies that coincide with AI/AN students' background. In order to create a positive learning environment for AI/AN students, the National

Education Association (1983) recommended that teachers recognize and accept that several conflicting value systems are always at work in most school settings, read and learn more about AI/AN value systems, meet and interact with AI/AN leaders and community members, and become aware of religious and tribal taboos.

Teaching methodologies grounded in resiliency research are well suited to AI/AN students. These researched-based methodologies include cooperative learning (Gibbs, 1995; Johnson & Johnson, 1989; Slavin, 1990), group process (Cohen, 1994), mentoring (Herrera, Sipe, & McClanahan, 2000), conflict resolution (Johnson & Johnson, 1996), learned optimism (Seligman, 1995), emotional intelligence (Goleman, 1997) and multiple intelligences (Armstrong, 1994; Gardner, 1993). Unfortunately, the classroom instruction for students at risk of academic failure is typically the direct instructional model, where teachers teach to the whole class at the same time and control all of the classroom discussions (Waxman, Padron, & Arnold, 2001). The teacher-directed instructional model emphasizes lecture, drill-and-practice, remediation, and student seatwork that consists mainly of worksheets (Stephen, Varbvel, & Taitt, 1993). Haberman (1991) called the overreliance on direct instruction for minority students a "pedagogy of poverty." Although teachers are generally aware of the nonresilient students in their classroom and that they are not doing well academically, the research indicates that little or no concerted effort is made to help them or to address their specific learning needs (Waxman, Gray, & Padron, 2003).

Besides the accommodations in teaching methodologies, educators need to understand the resiliency models available to support overall school and classroom resilience. These include taxonomies, ecological models, positive behavioral supports and social emotional learning models, comprehensive school counseling models, student assistance models, mental health models, response-to-intervention models, and psychological models.

Resiliency Taxonomies and Models

Resiliency taxonomies and models are helpful to conceptualize and focus resiliency research for practical application in classrooms. Taxonomy is the science of classification according to a pre-determined system, with the resulting catalog used to provide a conceptual framework for discussion, analysis, or information retrieval. In theory, the development of a good taxonomy takes into account the importance of separating elements of a group into subgroups that are mutually exclusive, unambiguous, and taken together, including all possibilities. In practice, a good taxonomy should be simple, easy to remember, and easy to use. Researched-based taxonomies are a tool to help teachers understand and focus on student resiliency. Taxonomy of cognitive function familiar to most educators is the Bloom's Taxonomy developed in the 1950s and of the Anderson and Krathwohl's (2000) revision of Bloom's taxonomy.

Several taxonomies have been developed to characterize resilience factors in the school environment (Baker, 2008). Seligman's (2002) taxonomy identified 24 internal assets that promote positive adaptation under six main virtues. The Collaborative for Academic, Social, and Emotional Learning taxonomy has

defined a set of six overall competencies, consisting of 14 adaptive skills that contribute to positive school adjustment and well-being (Baker, 2008, p. 55). The CASEL taxonomy was developed specifically for children and school-based applications (Zins, Weissberg, Wang, & Walberg, 2004). The Character Education taxonomy identified six core ethical values with specific character traits associated with each value (Baker, 2008, p. 55). The Search Institute's Developmental Assets taxonomy (Scales & Leffert, 1999) defined 20 internal and 20 external assets associated with positive child adaptation.

The problem with these popular taxonomies of resilience factors is the lack of research to substantiate the importance of each of the assets, or to help schools prioritize which assets to emphasize in school-based programming (Doll & Cummings, 2008). Sandra Prince-Embury (2008) observed that previous research has identified lists of risk and protective factors, but in ways that are not simple to measure, are not systematically related to each other, may not be generalized across populations, and are not easily translated into tools for clinical application. She concluded that researchers "have not reached consensus on terminology, on the underlying constructs of vulnerability and resiliency, or on whether they are systematically related to each other" (p. 6).

Ecological Models of Child Development

Besides the taxonomies of protective and risk factors, resiliency models are used to help schools incorporate resiliency into their practice. Ecological models help explain the relationship between the child and environmental factors. According to Doll and Cummings (2008), ecological-systems states that "children

are embedded within multiple, mutually influencing systems with which they interact to affect their development" (p. 44) and that within this approach the "traditional focus on individuals broadens to include the contexts within which problems are occurring and to permit interventions at those levels" (p. 45). The ecological perspective suggests that treating children as isolated units of cognitive functioning is a limited approach and that resiliency is not attributable to any single individual but to communities, schools, and families. Bronfenbrenner's (1990) ecological model of child development provides a graphic representation of the levels of protective and risk factors with its concentric circles with the child in the center, surrounded by circles representing the micro system, other larger circles representing the meso system, and still larger circles representing the macro system. While each child has their innate qualities for resiliency, protective factors reside in the micro and meso systems (Nickolite & Doll, 2008). Bronfenbrenner's model highlights the importance of bi-directional interactions with caring adults in the child's life.

In *Rebuilding the Nest,* Urie Bronfenbrenner (1990) set out five propositions that describe the processes that foster the development of human competence and character. At the core of these principles is a child's emotional, physical, intellectual, and social need for ongoing, mutual interaction with a caring adult—and preferably with many adults.

The Bronfenbrenners's (1990) ecological model of child development has been validated by research in developmental resilience (Doll et al., 2004). In a review of large-scale longitudinal studies, Werner (2006) found that much of the

variance in children's socio-emotional well-being and school success can by predicted by key characteristics of their social environments such as their family income, the adequacy of the parenting that they receive, their parents' mental and physical health, their access to other adult caretakers, the availability of youth mentoring organizations in the community, and the quality of their schools. Other research indicates that interventions that systematically alter and strengthen children's social contexts move them toward successes and away from failure (Nickolite & Doll, 2008).

Nan Henderson's Ecological Model

Nan Henderson's (1999) ecological model of resiliency, The Resiliency/Youth Development Asset/Development Continuum, illustrates how assets are developed at the different levels. In Henderson's model, the individual child is in the inner circle supported with attitudes and messages of optimism, strength, and overcoming in the here and now. The next circle is fostering resiliency through caring, empowering relationships that invite participation, communicating positive expectations, and providing support. The next circle is youth development through organizational interactions, programs and curricula that foster competency, meeting the child's developmental needs, and teaching needed skills. The outer circle is asset development through community-wide mobilization and increased interconnectedness that support, teach, and empower families; build cohesive neighborhoods; provide youth leadership and service opportunities; immerse youth in shared pro-youth vision and culture; and sustain and expand inter-generational connections.

Mental Health Models

Current school-based resiliency research and practice is focusing on comprehensive population mental health services for all students. The Center for Mental Health in Schools (2010) promotes a comprehensive, cohesive, and coherent system of learning supports that enables all students to have an equal opportunity for success at school by addressing barriers to learning, enhancing engagement, and reengaging disconnected students in order to reduce the dropout rates, narrow the achievement gap among students, and strengthen school improvement. This continuum of integrated systems encompasses resources, strategies, and practices that provide physical, social, emotional, and cognitive supports for all students (Center for Mental Health in Schools, 2010). Doll and Cummings (2008) recommended that mental health services in the schools

> promote the psychological well-being of all students so that they can achieve developmental competence, promote caretaking environments that nurture students and allow them to overcome minor risks and challenges, provide protective support to students at high risk for developmental failures and remediate social, emotional, or behavioral disturbances so that students can develop competence. (p. 3)

In order to deliver a comprehensive school program, Doll and Cummings (2008) suggested monitoring students' mental health status, including their academic, social-emotional, and relational competence; diagnosing and investigating psychological disturbances in students; mobilizing school-family-community partnerships to identify and solve psychological disturbances; developing polices and plans that support student, family, school, and community mental health efforts; implementing policies and practices that protect students'

mental health; and ensure developmental competence, linking students and their families to universal, selected, and intensive interventions as needed; providing appropriate staff training; monitoring throughout interventions; evaluating the effectiveness, accessibility, and quality of school mental health services; and researching new insights and innovative approaches to promoting mental health in schools.

Regardless of the approach schools take toward their students in matters of academics, behavior, discipline, emotional, and physical well-being, Doll and Cummings (2008) stated that schools need to promote the psychological well-being of all students so that they can achieve developmental competence; promote caretaking environments that nurture students and allow them to overcome minor risks and challenges; provide protective support to students at high risk for developmental failures; and remediate social, emotional, or behavioral disturbances so that students can develop competence.

Short and Strein (2008) presented a model for delivering mental health services for schools based upon the Simeonsson's (1994) epidemiology/prevention framework and the Short and Shapiro (1993) model. The Short and Strein (2008) model recommends schools operationally target risk and protective factors; generate risk models; define risk in terms of child/environmental transitions; differentiate the characteristics of universal, selected, and indicated prevention; propose temporal frames; specify and prioritize primary prevention efforts; and monitor and evaluate prevention outcomes.

With the introduction of the Response to Intervention in No Child Left Behind (2002) and the Individuals with Disabilities Education Act reauthorization (2004) alignment (IDEA Regulations: Alignment with NCLB, 2007) many schools are developing systematic methods for evaluating the needs of all students and for fostering positive student outcomes through carefully selected and implemented interventions (Fox, Carta, & Strain, 2010). Response to intervention (RtI) is defined as the change in behavior or performance as a function of intervention (Gresham, 2002). Martinez and Nellis (2008) stated that RtI is a "data-driven systemic method for identifying and responding to the needs of students who demonstrate academic and behavioral difficulties" (p. 143). Under an RtI model, regular education and special education teachers, paraprofessionals, school psychologists, administrators, parents, and other related services provides a twofold system of reliable high-quality instruction and frequent formative assessment of student progress (McIntosh, Chard, Boland, & Horner, 2006).

The RtI model is a multi-tiered approach to providing services and interventions to students at increasing levels of intensity based on progress monitoring and data analysis (Arizona Department of Education, 2009b). Primary interventions consist of a general education program based upon evidence-based practices; secondary interventions involve more intensive, relatively short-term interventions; and tertiary interventions are long-term and may lead to special education services (Arizona Department of Education, 2009).

While the RtI model is generally limited to academic and behavioral interventions, the RtI model is much like the three-tiered mental health model

described by Osher, Dwyer, and Jackson (2004) which addresses the universal mental health needs of students within system-wide or building-wide interventions to promote psychological wellness and to prevent disturbances. Under the mental health model, primary interventions are universal interventions that all students can obtain a benefit, such as social problem-solving strategies or a school-wide bullying prevention program (Martinez & Nellis, 2008). Secondary interventions are selected mental health interventions that are provided to students with demographic risks (i.e., evidence of poverty, family violence, or other characteristics that predict poor outcomes) or functional risks (i.e., evidence of early or emerging systems or disturbances; Martinez & Nellis, 2008). The third tier of selected interventions is necessary for students who show evidence of adjustment disturbances so pronounced that they are not able to benefit from schooling without accommodations (Martinez & Nellis, 2008).

Psychological Models

Psychological Models are commonly used as the foundation for intervention therapies. The Pen Resiliency Program (Reivich & Gillham, 2010) uses the ABC model developed by Albert Ellis to enhance resilience, prevent depression and anxiety symptoms, enhance problem solving, and improve overall well-being in youth in a school based intervention.

Psychological models are useful to classroom teachers in supporting classroom resiliency. These models provide teachers with insight into human motivation and support best teaching practices in relationship building and autonomy. Several psychological models that are based upon established

psychological therapies are suitable for the school environment: Rational-Motive Behavior Therapy (Vernon, 2009), Cognitive-Behavioral Therapy (Christner, Mennuti, & Pearson, 2009), Behavior Modification (John, 2009), Family Systems Therapy (Alvarez, 2009), Adlerian Therapy (Caterino & Sullivan, 2009), and Choice Theory/Reality Therapy (Wubbolding, *Applying Reality Therapy Approaches in Schools,* 2009).

A brief description of one psychological model, Choice Theory/Reality Therapy (CT/RT) will serve to illustrate how psychological models are useful to the classroom teacher in supporting student resiliency. William Glasser introduced his distant distinct method of therapy with the publication of *Reality Therapy* (1965). Following the publication of Glasser's *Schools Without Failure* (1968), which described the application of reality therapy to schools and classrooms especially through the use of the class meetings, the principles of *Reality Therapy* found a foothold in schools (Wubbolding, 2009). The theory of the therapeutic method of Reality Therapy became known as Choice Theory (Glasser, 1998) and found application to marriage, parenting, workplace, and education. In *The Quality School: Managing Students Without Coercion* (1990, 1992), *The Quality School Teacher* (1993), and *Every Student Can Succeed* (2000), Glasser directly addressed the role of the classroom teacher. Perhaps more than any other psychological model, William Glasser's Choice Theory provides classroom teachers with a comprehensive theory for supporting the resiliency factors of autonomy and supportive relationships (Sullo, 2007). Choice Theory concepts like internal motivation, quality work, rewards and bribes, relationship

building, and basic needs were incorporated into many educational books, programs, in-service trainings, and into the daily practice of many classroom teachers with or without acknowledgment to Choice Theory. Choice Theory is an internal control psychology (Glasser, 1998) in which human beings are genetically motivated to find autonomy and relationships. Autonomy and relationships are the two classroom resiliency factors to be measured in this dissertation and are, therefore, grounded in Choice Theory.

Choice Theory postulates all living organisms have a purpose and are internally driven by genetic instructions that arise in the brain. Choice Theory categorizes these basic genetic instructions as survival, belonging, power, freedom, and fun. Choice Theory postulates that human beings are motivated to fulfill these basic physical and psychological needs and wants. The needs are general, universal, and genetic. The wants are specific to each individual. The need for belonging and love is the driving force behind seeking out relationships with others. This may include relationships with non-human entities: animals, God, Spirits, and Mother Nature. For almost all human beings, human relationships are required to satisfactorily fulfill needs. How individuals fulfill the needs is unique to them and requires a multitude of unique individual choices. Individuals are motivated internally to act or behave in a variety of ways in order to fulfill their genetic needs. How and why these internal decisions are made is the subject of much fourth wave resiliency research (Benard, 2004).

Besides love and belonging which motivates human beings to seek out relationships, Choice Theory postulates other universal human needs. The need

for power or inner control motivates people to achieve, gain recognition, maintain self-esteem, reach varying levels of competence, and compete. The need for freedom motivates people to make independent choices and explains a human's negative reaction to external controls. The need for fun or enjoyment leads human beings to laugh, to see incongruities, and to enjoy their relationships, their talents, their time, their choices, and the satisfaction of their curiosity. The need for self-preservation or survival sustains life even in severe adversity.

Human beings do not satisfy their basic needs directly. We do not, for example, search for love directly but from a specific person to love and who will love us in return. Choice Theory postulates that there is often a discrepancy between what a human being wants (that specific person to love) and what they perceive they are getting from the environment around them (lack of love from that specific person). Human beings perceive their environment through their five physical senses and a creative or intuitive sense of reality. Choice Theory uses the metaphor of an out-of-balance scale to explain this discrepancy between "a want and a got" (Wubbolding, 2009). When the scale is out of balance, the human being strives to balance the scale. The Navajos call this state of equilibrium "hozho," to be in a state of beautiful balance and harmony with all relationships (Yazzie, 1997).

Choice Theory postulates that human behavior is a composite of action, cognition, emotions, and physiology, and is designed to satisfy the universal wants and close the frustration gap between a want and the perception of an unfulfilled want and to communicate with the world around us (Wubbolding,

2009). Each individual's interpretation of reality is individualistic; however, human beings usually behave within the norms of some social group within their environment for fear of being rejected and/or punished by the group.

Since our behavior is our best attempt in the present moment to meet our basic needs, our behavior is internally motivated and any attempt to motivate us against our will is unnatural. Unless we perceive the external motivation as useful in helping us fulfill our basic needs, we will resist the external motivation. External motivation often relies heavily on rewards and punishment and often has a detrimental effect on relationships. Internal motivation, on the other hand, inspires the natural drive within us to meet our basic needs. Teachers who rely on external motivation assume the full responsibility for motivating their students. Teachers who focus on internal motivation to create the conditions for their students to be motivated allow the students to develop their autonomy and relationships within the classrooms.

Choice Theory states that teachers are, first and foremost, managers of the conditions for students to be motivated for learning or performing by providing the structures, strategies, and activities that will encourage quality learning and performance (Crawford, Bodine, & Hoglund, 1993). Teachers manage the learning space, time, materials, and mental, physical, and emotional states of individuals and peers within small and large groups. Choice Theory states that external motivation often prevents students from learning what we want them to learn: love of learning and relationship building (Glasser, 2000).

Schools Promote Resiliency

School is one of the most powerful protective factors for at-risk children (Luthar, 2009; Werner, 2006). The National Longitudinal Study of Adolescent Health found school failure to be the single strongest predictor of adolescent risk, calling school failure a "public health problem" (Blum, Sieving, & Resnick, 2000). Positive student outcomes are associated with caring relationships among teachers, between teachers and family members, and among students (Pianta, 1999). The Developmental Studies Center (Eric, 2005) found that caring schools and classroom communities promote positive developmental outcomes in students and their teachers. The Yale School Development Program (Haynes & Comer, 1993) has found positive and behavioral outcomes in students when the classrooms are relationship-driven. Bryk and Schneider (2002) found that schools in Chicago with high levels of "trusting" relationships among members of the school community outperformed on standardized test, including reading and math test, than those schools with low levels of trusting relationships.

Bonnie Benard (2004) stated that "while much of recent research about effective schooling focuses on students' academic performance, the role of schools in young people's lives is clearly broader than pedagogy and more important than test scores; especially in the absence of positive family relationships, schools can provide AI/AN source of protective and nurturing support" (p. 65). Using a risk and resilience instrument (California Healthy Kids Survey: Resilience Assessment Module) with a randomly selected sample of 10,000 seventh, ninth, and eleventh grade students, Sharkey, You, and

Schnobebelen (2008) found that school assets were associated with student engagement for all groups, even when accounting for individual resilience factors.

Short and Strein (2008) provided several reasons why schools are well suited to address student resiliency within the school environment. Schools are currently being held accountable by the public and by policy makers for providing programs such as substance abuse, school violence, bullying, academic achievement, and drop-prevention to large numbers of students. Collecting data on large numbers of students is easier in schools than in other environments, and schools can and do collect data that allow for the development of prevention and research programs. Schools already provide services to groups of children rather than individuals through school-wide curriculums and intervention plans and programs that already exist in schools that are based on demographic data such as the minority achievement gap and over-representation of minorities in disciplinary referrals. Schools can have a powerful influence on students, parents, families, and communities. The last reason, but not the least, schools can have a systematic and comprehensive influence on students over the course of time, across developmental stages and milestones.

Schools support student resiliency when they provide the external supports and resources to help students develop inner personal strengths and social interpersonal skills (Grotberg, 1998). From the student perspective with the external supports and resources, the child can say,

> I have people around me I trust and who love me, no matter what. I have people who set limits for me so I know when to stop before there is danger or trouble. I have people who show me how to do things right by how they

> do things. I have people who want me to learn to do things on my own, and I have people who help me when I am sick, in danger or need to learn. (p. 36).

With the inner personal strengths, the child can say,

> I am a person people can like and love, I am happy to do nice things for others and show my concern, I am respectful of myself and others, I am willing to be responsible for what I do and I am sure things will be alright. (Grotberg, 1998, p. 37)

With social interpersonal skills, the child can say,

> I can find ways to solve problems that I face, I can control myself when I feel like doing something not right or dangerous, I can talk to other about things that frighten me or bother me, I can figure out when it is a good time to talk to someone or take action and I can find someone to help me when I need help. (Grotberg, 1998, p. 39)

School-Wide Strategies to Promote Resiliency

Many school-wide researched based strategies are designed to foster student resiliency, academic achievement and school completion. Some of these programs adventure learning, arts learning, authentic assessment, class size reduction, community-based youth-serving organizations, community schools, community service learning, conflict resolution, cooperative learning, family centers, restorative justice, peer helping, and school-to-work (WestEd, 2009). Three school wide approaches that are common in Arizona public schools are Positive Behavioral Supports/ Social Emotional Leaning, Competency-Based Comprehensive Counseling Programs, and Student Assistance Programs (Arizona State Department of Education, 2009b).

Positive Behavioral Supports and Social Emotional Learning

Positive Behavioral Supports (PBS) is a behavior modification model that aims to prevent inappropriate behavior through teaching and reinforcing appropriate behaviors. PBS programs offer a range of interventions that are systematically applied to students based on their demonstrated level of need. The programs are advocates for using evidence-based interventions, which require resources appropriate to the student's level of need, which require progress monitoring, which require fidelity to the interventions, and which require effective team decision-making (Sailor, Doolittel, Bradley, & Danielson, 2009).

A contrasting approach to the behavior modification approach of PBS is the cognitive approach of the Social/Emotional Learning models (SEL). SEL are comprehensive school-wide programs that focus on not only on issues of socially appropriate behavior but also the social and emotional development to the students (Zins et al., 2004). SEL programs emphasize developing self-discipline, preventing discipline problems, and increasing academic motivation and achievement through creating a strong sense of belonging or connectedness to school (Elias, 2009). Caring School Community (What Works Clearinghouse, 2006) and the closely related Responsive Classroom (Kaufman, 2006) programs are examples of such approaches.

While both the PBS and SEL models share many of the same positive, and empirically supported, techniques such as the strategic use of positive reinforcement and modeling, they often differ greatly in the extent to which behaviorally oriented and teacher-centered techniques are used versus more

cognitively and emotionally orientated student-centered techniques (Doll & Cummings, 2008). Both approaches have their proponents and critics, both use research to support their position, and research continues to strengthen both approaches. George Bear (2008) observed that

> it is unfortunate that many schools adopt one or the other of the two types of positive approaches. In so doing, they often ignore the weaknesses of the program adopted and the strengths of other programs. As a result few schools are sufficiently comprehensive in their school-wide discipline program to achieve the two traditional aims of school discipline with all students—to develop self-discipline and to establish and maintain an orderly, safe, and positive environment conducive to learning. (p. 115)

Many programs for teaching resiliency skills to children based upon the PBS and SEL models are available to elementary classroom teachers. The Arizona State Department (2011) provides a detailed explanation of its system of behavioral supports and a resource list including online courses, intervention resources, and effective strategies.

The WhyTry (2009) program is an example of a program that is based on current SEL resiliency research and is easy to use within the classroom setting by a classroom teacher. The WhyTry Program is a simple, hands-on curriculum which is aimed at helping youth overcome their challenges and improve outcomes in the areas of truancy, behavior, and academics. WhyTry teaches critical social and emotional principles to youth (K-12) using a series of ten pictures (visual analogies) which each teach a principle, such as resisting peer-pressure, or that decisions have consequences. The visual components are then reinforced by music and physical activities. The major learning styles—visual, auditory, and body-kinesthetic—are all addressed. A WhyTry study in Los Angles found that a

significant positive change was students' willingness to "keep trying to succeed"; a significant decrease in the desire to be "mean to others" when provoked; and a slight improvement in the areas of "asking for help" after attending a WhyTry program. The WhyTry Program is now in use in over 5,000 schools, mental health facilities, and correctional facilities in the U.S, Canada, Australia and the United Kingdom.

Competency-Based Comprehensive School Counseling

The American School Counselor Association (American School Counselors Association, 2010) created a population-based school counseling model by which schools and school districts can establish the school counseling program as an integral component of the academic mission of the school, ensure every student has equitable access to the school counseling program, identify and deliver the knowledge and skills all students should acquire, and ensure that the school counseling program is comprehensive in design and is delivered systematically to all students.

The ASCA National Model (American School Counselors Association, 2010) consists of four interrelated components: foundation, delivery system, management systems, and accountability. The first component, foundation, dictates how the program is managed and delivered, which in turn, leads to the accountability of the program. The information gathered through the accountability process should refine and revise the foundation. Infused throughout the program are the qualities of leadership, advocacy, and collaboration, which lead to systemic change.

Student Assistance Programs

Comprehensive primary prevention and early intervention student assistance programs (SAP) for students in all grades aim to support student resiliency through a systematic effort to educate, identify, assess, refer, and support students with drug abuse problems and other high-risk behaviors that are interfering with a student's education and life development. SAPs are a collaborative approach to prevention, intervention, and support services with the school interfacing with student services professionals; social service providers; community-based organizations; law enforcement officials; and religious, business, and community leaders (WestEd, 2009). An effective school wide student assistance program has the following components: (a) an advisory board; (b) school district policies, philosophy, procedures; (c) education of all staff; (d) identification and referral process; (e) student support groups; (f) prevention activities; (g) education and support of parents and community; (h) curriculum infusion; (i), community networking; (j) evaluation; (k) program leadership and administration support at all levels; and (l) staff wellness program (Watkins, 2008). Direct service is provided to students through a variety of support groups. At the elementary level these support groups might include helping children deal effectively with angry feelings, coping with parental separations and divorce, managing attention deficit disorder, building a healthy relationship with food, dealing with the loss of a loved one; problem solving, and dealing with bullies (Watkins, 2008).

Resiliency in the Elementary Classrooms

The early years of development are accepted as a critical time for acquiring many of the basic skills, attitudes, and values that tend to remain over the life span. Werner (1992) specifically stated that children 11 years of age and younger are the most likely age group to develop many resilience factors. The classroom is the primary environment for academic and social and emotional learning within the school. Adelman (2008) noted while teachers, administrators, and parents may perceive the quality of the classroom learning environment differently depending upon a multitude of factors, the environment of the classroom ultimately reflects the influences of a school's overall culture which emerges from the institutionalized values and belief system, norms, ideologies, rituals, and traditions of the school that are shaped by the school's surrounding and embedded political, social, cultural, and economic contexts. Doll and her colleagues (2004) noted from their extensive review of resiliency research including their own research that most of the powerful predictors of student's emotional, social and academic success were not innate to the child but were innate within the families and communities they were raised (Doll et al., 2004).

Students' exposure to poverty, family violence, parental mental illness, or community violence significantly increases their chances of adverse outcomes (Benard, 2004). Teachers with students from high-risk homes and communities must plan to address a far greater range of resiliency and risk factors than classrooms serving more affluent or less violent communities (Doll, & Cummings, 2008, p. 7). The current research supports the definition that

classrooms support resiliency when the classroom environment allows all children to be successful emotionally, academically, and socially despite adversity imposed upon them in other domains of their life (Doll et al., 2004). The good news is fostering resilience in the elementary classroom does not require a separate curriculum, program, or resiliency activities, but fostering resilience occurs when teachers provide children many opportunities to develop and practice behaviors associated with resilience during daily instruction (Bernard & Slade, 2009).

Luthar (2009) noted positive social orientation, friendships, internal locus of control, positive self-concept, achievement orientation, and community engagement support resiliency. Glasser (2000) argued that classrooms need to be places where all students experience caring relationships, autonomy, freedom, and enjoyment. Bickart and Wolin (1997) noted teachers can support student autonomy by involving students in assessing their own work by setting goals for themselves, having opportunities to make choices, playing an active role in setting rules for the classroom, and participating in developing standards for their work. Teachers can support student relationships by providing opportunities to work collaboratively, participating in meetings to solve classroom problems, and feeling connected to a classroom structured as a community.

Characteristics of Resilient Classrooms

Doll et al. identified (2004) six characteristics that describe the classrooms where children can be more successful academically and interpersonally:
(a) students are able to see themselves as competent and effective learners

(academic efficacy), (b) students set and work toward self-selected learning goals (academic self-determination), (c) students behave appropriately and adaptively with a minimum of adult supervision (behavioral self-control), (d) there are caring and authentic relationships between teachers and their students (teacher-student relationships), (e) students have ongoing and rewarding friendships with their classmates (peer relationships), and (f) families know about the importance of learning that occurs in the classroom as well as home-school relationships. Doll et al. concluded that the research supports building strong interpersonal relationships and self-regulated learning within the classroom and that the research supports specific characteristics that foster resiliency in the classroom in the areas of student-teacher relationships, academic efficacy, peer relationships, behavioral self-control, and home school involvement. According to Doll and colleagues, these classroom resiliency characteristics can be classified into two broad categories with six subcategories: autonomy (academic efficacy, self-determination, and behavioral self-control) and relationships (teacher-student, peer, and home-school).

Student-Teacher Relationship

Researchers first noticed the positive effect of teachers on student achievement in the 1970s when they began to examine effective teaching practices (Luthar, 2009). After reviewing hundreds of studies conducted in the 1970s, researchers Brophy and Good (1986) concluded that teachers do make a difference in student learning. Werner (2006) found that the most positive role model for children outside of the family is a favorite teacher (Addison, 1992).

Teachers are found to provide the most important protective factor of caring, meeting emotional safety needs and respect (Benard, 2004). Luther's synthesis of resiliency research found several significant studies that supported the protective functions of supportive relationships of teachers (Luthar, 2009).

Assessing more than 3,000 teacher-child relationships, Howes and Ritchie (1999) demonstrated in a sample of toddlers and preschoolers with difficult life circumstances, the quality of attachment with teachers was significantly related to measures of behavior problems as well as social competence with peers. Meehan, Hughes, and Cavell (2002) found among a group of aggressive second and third graders, African-American and Hispanic students benefited more than did Caucasian students from supportive relationship with their teachers. Noting that minority group students typically have lower access to positive relationships with school teachers, Hughes, Cavell, and Jackson (1999) suggested they could be more responsive than Caucasians to supportive teachers. Similarly, among African-American 7- to 15-year olds from low-income households with the mother as the head, Brody, Dorsey, Forehand, and Armistead (2002) demonstrated protective stabilizing effects among children whose classrooms reflected organized, predictable environments in which students participated in procedures governing their behaviors. Furthermore, positive classrooms were beneficial even when parent-child relationships were compromised as well as vice versa, indicating unique, significant contributions from both parents and classrooms.

The teacher-student relationship is a major resiliency factor. The famous report entitled *Equality of Educational Opportunity* (Coleman, 1996) analyzed data from some 600,000 students and 60,000 teachers in more than 4,000 schools concluded that individual teachers can have a powerful effect on their students even if the school as a whole has little effect. Robert Marzano et al. (2001) in their meta-analysis of effective classroom instruction supported Coleman's findings with their conclusion that individual teachers can have profound influence on student learning even in schools that are relatively ineffective.

Deiro's (2005) review of the research found caring teachers hold six common beliefs: students' growth and maturation is the key educational goal, the purpose of teaching is to be of service and make a difference for young people, teachers handle their power ethically, curriculum is a means of promoting student growth, teaching is a valued and valuable profession, and classroom teaching is more fulfilling than administrative work. Deiro found seven personal qualities helped teachers connect with students: genuineness, tolerance for imperfection, sense of personal accountability, tolerance for ambiguity, nonjudgmental attitude, sense of humor, and ability to personally detach.

Glasser (2000) taught that the seven caring habits of supporting, encouraging, listening, accepting, trusting, respecting, and negotiating differences build strong teacher-student relationships while the seven deadly habits of criticizing, blaming, complaining, nagging, threatening, punishing, and rewarding to control destroys relationships.

Peer Relationships

Besides the teacher-student relationship, positive peer relationships in schools is a critical factor in fostering resiliency (Wentzel & Watkins, 2002). The classroom environment is a critical place to foster peer relationships and the overall climate within the schools (Benard, 2004). Pianta (1999) asserted the importance of caring and authentic relationships between students and teachers. Pianta (1999) explained supportive and rewarding friendships with peers within the classroom are consistent with the general developmental importance of a sense of relatedness experienced by the individual child. Nickolite and Doll (2008) explained the sense of relatedness and self-controlled student behavior are to some extend context specific and may be modified for the purpose of increased learning within the classroom. Students may, for example, behave differently at home than in the classroom and changing the environment of the home or classroom may affect student behavior.

Social and Emotional Health and Academic Achievement

Academic research suggests that many resiliency factors support academic achievement such as academic confidence, sense of well-being, motivation to succeed, ability to set goals, strong connections with adults and peers, and ability to handle stress (McLemore, 2010). The research suggests, for example, that some of the most effective instructional strategies are identifying similarities and differences, summarizing, note taking, nonlinguistic representations, setting objectives, student-to-student feedback, and generating and testing hypotheses (Marzano et al., 2001).

A recent correlation study found that students in states with policies promoting students' health demonstrated higher academic scores and higher rates of high school completion (Vinciullo & Bradley, 2009). The research further suggests that the classroom learning environment contributes to student achievement. Based on a meta-analysis of more than 100 studies on classroom management, Marzano identified seven research-based elements of effective classrooms: rules and procedures, discipline and consequences, teacher-student relationships, mental set, student responsibility, getting off to a good start and management at the school level (Marzano, Gaddy, Foseid, & Marzano, 2005). Resiliency research suggests that student achievement is supported when students perceive the classroom learning environment to be supportive of their individual efforts at autonomy in regards to academic efficacy, self-determination, and behavioral self-control and in their classroom relationships in regards to their teacher, peers, and home (Nickolite & Doll, 2008).

Theoretically, external resources (e.g., support from teacher, involvement in school-based activities) help meet youths' basic developmental needs, which, in turn, promote the enhancement of internal assets (e.g., ability to problem solve and empathize with others; Bernard & Slade, 2009). Ideally, these internal assets contribute to healthy social and academic outcomes among youth (Bernard & Slade, 2009). A substantial body of research supports the relationship between positive developmental outcomes and students' positive character assets while attending a school with a caring and supportive environment (Appleton, Christenson, & Furlong, 2008; Centers for Disease Control and Prevention, 2009;

Dunleavy & Milton, 2009; Engle & Conant, 2002; Furlong, Rlichey, & O'Brennan, in-press).

Within the classroom, Luthar (2007) found that a combined focus on social-emotional and academic learning improved academic outcomes more than an exclusive focus on academics. A meta-analysis of more than 200 school-based research studies on the impact of interventions to promote social and emotional skills in children and adolescents between the ages of 5 and 18 revealed an 11% improvement in achievement test scores (Collaborative for Academic, Social, Emotional Learning, 2010). This same meta- analysis found that school-based social and emotional learning approaches also yield benefits in feelings, attitudes, and indicators of behavioral adjustment (Collaborative for Academic, Social, Emotional Learning, 2010). More specifically, youth show significant improvement in social and emotional school bonding; prosocial norms; self-perceptions; positive social behaviors; academic achievement; and significant reductions in such areas as conduct problems, substance use, and internalizing symptoms (Collaborative for Academic, Social, Emotional Learning, 2010). The gains produced by SEL school-based programs translates into a 23% improvement in social and emotional skills; 9% improvement in attitudes about self, others, and school; 9% improvement in school and classroom behavior; 9% decrease in conduct problems such as classroom misbehavior and aggression; 10% decrease in emotional distress such as anxiety and depression; and 11% gain in academic achievement (Collaborative for Academic, Social, Emotional Learning, 2010). To achieve these impressive gains, administrators, support staff,

and especially classroom teachers focused not just on the academics but also on the social and emotional aspects of education (Collaborative for Academic, Social, Emotional Learning, 2010).

Current school-based resiliency research focuses on the quality of the relationships in the student's life and on the student's internal strengths. Positive student outcomes are associated with caring relationships among teachers, between teachers and family members, and among students (Pianta, 1999).

The Developmental Studies Center in Oakland, California found that caring schools and classroom communities promote positive developmental outcomes in students and their teachers (Battistich, 2003). Similarly, the Yale Child Study Center's School Development Program found positive behavioral outcomes in students when their classrooms were relationship-driven (Yale School Development Program, 2004).

Benard (1992) found that peer relationships were a critical element in fostering resiliency in schools. Bryk and Schneider (2010) found students in Chicago schools who had high levels of trusting relationships among members of the school community out-performed on standardized tests, including reading and mathematics tests, compared to those schools with low levels of trusting relationships.

Dr. Jeffrey Charvat (2008), director of the Research and Information Services of the National Association of School Psychologist, found 24 major research studies between 1992 and 2007 that supported the relationship between mental health and academic achievement.

Greenberg et al. (2003) and Zins et al., (2004) reported that several hundred well-designed studies have documented the positive effects of social and emotional learning programming on students of diverse backgrounds, from preschool through high school, in urban, suburban, and rural settings. Longitudinal evaluation of a positive youth development initiative in 11 Alaska school districts revealed that not only are several aspects of school climate and connectedness related to student achievement, but positive change in school climate and school connectedness is related to significant gains in student scores on statewide achievement tests (Spier, Cal, Osher, & Kendziora, 2007).

Changing a school's climate and connectedness for the better is associated with increases in student performance in reading, writing, and mathematics regardless of whether a school starts with high or low school climate and connectedness or high or low achievement scores (Spier, Cai, & Osher, 2007). A longitudinal study provided strong empirical evidence that interventions that strengthen students' social, emotional, and decision-making skills also positively impact their academic achievement, both in terms of higher standardized test scores and better grades (Fleming et al., 2005). Longitudinal research has demonstrated positive impact on elementary students' academic performance of the Raising Healthy Children, a school-based program that focuses on promoting positive youth development, reducing risk factors, and preventing adolescent problem behaviors (Catalano et al., 2003). There is a strong tie between students' overall health and resilience and their academic achievement (West Ed, 2003). Longitudinal research employing the California Healthy Kids survey indicated

that increasing sadness or hopelessness among students was related to subsequent declines in test scores in reading, language, and mathematics; however, students' reports of caring relationships in school, high expectations at school, and meaningful community participation were related to increases in test scores (Hanson, Austin, & Lee-Bayha, 2004). A longitudinal study of third and fourth grade students provided support for a causal relationship between good social skills and higher academic achievement (Malecki & Elliott, 2002).

Students' perceptions of teacher support and the teacher as promoting interaction and mutual respect are related to positive changes in the students' academic motivation and engagement (Ryan & Patrick, 2001). Longitudinal research demonstrates that adjustment variables (e.g., forming secure attachments, functioning autonomously, moving toward self-regulation) measured in the first three years of life predict achievement in math and reading in elementary school (Teo, Carlson, Mathieu, Egeland, & Sroufe, 1996).

Research has shown that healthy peer relationships predict students' grades both concurrently and over time (Wentzel & Caldwell, 1997). Research with sixth and seventh graders found that prosocial classroom behavior is significantly related to better academic outcomes, and evidence suggests that the former causes the latter (Wentzel, 1993).

In an examination of motivational and interpersonal variables believed to guide the development of student-teacher relationships and the elementary classroom achievement, the results suggest their social self-concept beliefs about their relationships with teachers are consistent with their nonverbal

communication skills. Positive perceptions of relationships and academic achievement, valuing the relationship with the primary teacher, may compensate for nonverbal difficulties (Davis, 2001). Klem and Connell (2004) concluded that "studies show students with caring and supportive interpersonal relationships in school report more positive academic attitudes and values, and more satisfaction with school" (p. 262).

A study that investigated the effectiveness of using an intensive counseling program consisting of group counseling, family counseling, and teacher training with 55 emotionally disabled students between kindergarten and twelfth grade who were certified for special education and diagnosed as severely emotionally disabled, needing mental health services in order to function in their family, school, and community setting, found that students' grades improved dramatically as their state of mind improved (Mills & Shuford, 2002).

In a study of 235 African American children (mean age = 10.37 years), positive parenting was predictive of higher achievement and lower behavior problems (Gaylord-Harden, 2008). Using longitudinal, school-level test-score data, as well as data from the state-sponsored California Healthy Kids survey, Hanson et al. (2004) found that schools with high percentages of students who reported high levels of caring relationships at school, high expectations at school, and meaningful participation in the community exhibited greater subsequent gains in test scores than other schools.

Where the Girls Are: The Facts About Gender Equity in Education (Corbett, Hill, & Andresse, 2008) presents a comprehensive look at girls'

educational achievement during the past 35 years, paying special attention to the relationship between girls' and boys' progress. Analyses of results from national standardized tests, such as the National Assessment of Educational Progress (NAEP) and the SAT and ACT college entrance examinations, as well as other measures of educational achievement, provide an overall picture of trends in gender equity from elementary school to college and beyond (Corbett, Hill, & Andresse, 2008).

The Corbett analyses (2008) found that girls' successes do not come at the boys' expense; that educational achievement on the average is increasing for both boys and girls. Family income level and race/ethnicity are closely associated with academic performance for both genders. Gender differences seen in one group are not always replicated within another group. The gender gap in academic achievement is most consistent among White students, less so among other ethnic students. The long-standing inequalities in U.S. education is not a crisis specific to gender, but rather specific to African American, Hispanic, AI/NA, and low-income children. With the above understandings, the Corbett analyses (2008) found that gender studies did support the following:

1. Boys are more likely to be tested and diagnosed for a learning disability than girls.
2. Boys comprise two-thirds of special education classes.
3. Regardless of racial or ethnic group, boys have higher rates of suspension and expulsion than girls.
4. Girls are much less likely than boys to drop out of school.

5. Boys tend to be bigger risk takers.
6. Boys and girls may be motivated by different factors in the classroom.
7. Girls are more likely to ask for help if they need it.
8. Boys and girls mature mentally at different rates and in different ways.
9. More attention and praise may be given to male students than females.
10. Single-sex classrooms can improve outcomes for both boys and girls.
11. The way boys and girls use technology at home and school differs.
12. Girls are much more likely to be bored, disengaged, or stressed in science classes.
13. Boys and girls respond differently to certain teaching methods.
14. The achievement gap between American boys and girls is among the smallest in the world.
15. Girls are less likely to take AP exams in math and science subjects.
16. Educational differences based on gender are more pronounced in childhood than adulthood.
17. Some gender differences may be hardwired into the brain from birth.
18. Research has found differences between the ways boys and girls respond to stress.
19. The average eleventh grade boy writes at the same level as the average eighth grade girl.

20. Boys tend to perform better on standardized tests, while girls get better grades overall.
21. There are differences in perception between boys and girls.
22. Boys often develop speaking, reading, and writing abilities more slowly than girls.
23. Boys and girls use their left and right hemispheres skills differently in early years.
24. Women are more likely than men to continue on to college and get a bachelor's degree.
25. While there are developmental differences between boys and girls, overall there is little to indicate that educational performance can be explained by biological differences alone.

Gender Roles

Gender roles refer to the rights, responsibilities, expectations, and relationships of men and women. Learning the roles of male or female is a complex and demanding task for every member of society. Every society has certain expectations for women and men, as well as elaborate ways of producing people who are much like these expectations.

Gender differences in cognitive, social, and personal characteristics have been investigated since the early 1900s. Research has identified differences in several specific cognitive skills as well as in a range of social and personal characteristics (Cook, 2009). The cross-cultural research shows a wide variation of behaviors for the sexes (Gneezy, 2009). Gneezy, for example, found that

competitiveness of children in matrilineal and patriarchal societies starts around puberty, but in the patriarchal society boys become more competitive with age but girls become less competitive.

Gender role and gender structure are two approaches to understanding gender differences (Eitzin & Baca-Zinn, 2006). The gender role approach emphasizes characteristics that individuals acquire during the course of socialization, such as independent or dependent behaviors and how men and women relate to each other.

The gender structure approach emphasizes factors that are external to individuals, such as the organization of social institutions, including the concentration of power, the legal system, and organizational barriers that promote sexual inequality. These approaches tend to differ in how they view the sexes, in how they explain the causes and effects of sexism, and in the solutions they suggest for elimination of inequality (Eitzen & Baca-Zinn, 2000: p. 252). Both individual and structural approaches are necessary to a complete understanding of gender differences. The foundation of gender research is the genetic-specific strengths and vulnerabilities of each gender. In a longitudinal study, Fergusson, Horwood, and Ridder (2007), for example, found that being female reduced the risk of developing external responses to adversity, whereas being male reduced the risk of developing internal responses, suggesting that "the prescience of gender-specific strengths and vulnerabilities . . . may act to mitigate or exacerbate the effects of family adversity on risk of problems in adolescence" (p. 25). Numerous other studies have documented that girls report more internalizing

symptoms and psychopathology than males such as depression, anxiety, and somatic complaints (Hoffmann, Powlishta, & White, 2004). Males, on the other hand, report more externalizing symptoms and psychopathology such as delinquency, aggression, and conduct disorder (Hoffmann et al., 2004). In a review of the literature on gender differences in adolescents Hoffmann et al. found that globally boys tend to perceive themselves more competent than girls, including physical appearance and athletic abilities. As assessed by others or by direct behavioral measures, girls tended to be rated as more academic, better behaved, and being more socially competent than boys (Hoffmann et al., 2004). Boys are far more likely to be rated by parents and teachers as noncompliant, disruptive and aggressive (Noakes, 2006). Noakes found that among fourth and eighth graders, girls reported having more relational issues and used more conflict-mitigating strategies; whereas, boys reported having more conflicts related to status/dominance.

While research does not find any difference in the structure of the brain, it does find differences in the sequence of development of the various brain regions that may account for the variation (Sax, 2006). The different regions of the brain develop in a different sequence and different tempo in girls compared with boys (Sax, 2006). The difference in brain activity can create differences in language development (Burman, Bitan, & Booth, 2008). While there is much overlap in language skills among boys and girls, Burman and Bitan found that girls seem to have greater brain activity in the inferior frontal gyrus on both sides of the brain which affects word meanings, in the superior gyrus on both sides of the brain

which affects the sounds of words, in the fusiform gyrus on the left side of the brain which is involved in the sounds of words, and in the fusiform gyrus on the left side of brain which is involved in the spelling of words and their visual identifications. Generally, the language-related brain activity in girls was on both sides of the brain; whereas, the activity in boys was only evident on the left side (Burman & Bitan, 2008). Development in different areas of the brain for language processing suggests that boys and girls process language information differently (Burman & Bitan, 2008). This might account for girls developing speech earlier than boys and for boys being diagnosed with language problems more often than girls (Burman & Bitan, 2008).

Brain imaging has also confirmed that boys have more advanced spatial abilities than girls due to more responsivity in the right hemisphere (Hines, 2004). Females have a relative advantage in perceptual tasks that involve matching objects and pictures (Hines, 2004).

While genetics can provide strengths and vulnerabilities to adversity, gender roles within a society are learned. Learning the gender roles is a complex and demanding task for every member of society. From infancy, children learn what is expected of boys and girls, and they learn to behave according to those expectations (Eitzin & Baca-Zinn, 2006). The roles that are taught often create their own adversity for individuals. Boys and girls are perceived and treated differently by parents, grandparents, relatives, and all members of their society (Eitzin & Baca-Zinn, 2006). Girls generally have more restrictions and controls, talked to more, and receive more gentle physical contact. Boys generally receive

greater achievement demands and higher expectations than girls (Eitzin & Baca-Zinn, 2006).

Fathers use stronger pressures or techniques as to gender-specific behaviors (Kazura, 2000). They reward their daughters and give them positive feedback for gendered behaviors. With their sons they use more negative feedback and punish them for gender inappropriate behaviors (Kazura, 2000). Mothers are more likely to reinforce behavior of both boys and girls with rewards and positive feedback (Eitzin & Baca-Zinn, 2006). Peers, in contrast, are more likely to use punishment on both sexes (Eitzin & Baca-Zinn, 2006).

Gender role messages are constantly presented in the media. Even a preschool child receives gender messages from the picture books parents select for their children (Eitzin & Baca-Zinn, 2006). In these books, females are virtually invisible. In one study, the ratio of male pictures to female pictures was 11:1 and the ratio of male to female animals was 95:1 (Eitzin & Baca-Zinn, 2006). The activities of boys and girls varied greatly. Boys were active in outdoor activities; whereas, girls were passive and most often found indoors. The activity of the girls typically was that of some service for boys (Eitzen & Baca-Zinn, 2000). Adult men and women role models were very different in the picture books. Men led, women followed (Eitzen & Baca-Zinn, 2000). Females were passive and males active. Not one woman in these books had a job or profession; they were always mothers and wives (Eitzen & Baca-Zinn, 2000).

Children's stories often present stereotyped models of the male and the female. The narratives and the stereotype images of Indian princesses and

warriors, for example, have a negative effect on Native American children (Caldwell, Kaye, & Mitten, 2007).

Gender roles are also learned and reinforced in children's play. Children's play groups stress particular social skills and capabilities for boys and others for girls. Boys play at competitive games that require aggressiveness and toughness; girls tend to play indoors with dolls and play-acting scenarios of the home (Eitzin & Baca-Zinn, 2006).

The school curriculum contributes to the development of gender roles (Eitzin & Baca-Zinn, 2006). Home economics, business education, shop classes, and vocational agriculture have traditionally been rigidly segregated by gender. Reflecting society's expectations, schools taught girls child-rearing, cooking, sewing, and secretarial skills. Boys, on the other hand, were taught mechanics, woodworking, and other vocationally oriented skills. These courses were usually segregated by custom and sometimes by official school policy.

Even when girls and boys are in the same classrooms, they are educated differently (Sadker, 2000). Teachers react differently to girls and boys. Teachers have different kinds of contact with them and different expectations for them. Girls and boys have to act differently to get attention from their teachers (Sax, 2006). Girls who were physically close to their teachers receive more attention than did boys who were physically close. Boys who were aggressive received more attention than did girls who were aggressive (Eitzin & Baca-Zinn, 2006). Male students receive more attention from teachers and are given more time to talk in class (Sadker, 2000). Boys are more assertive than girls. They are eight

times more likely to call out answers (Sadker, 2000). Teachers also call on boys more often and give them more positive feedback than girls (Sadker, 2000). Boys also receive more precise feedback from teachers—praise, criticism, or help—with the answers they give in class (Sadker, 2000). Boys generally get more attention whether the teachers are male or female (Sadker, 2000).

Based upon the evidence that there are gender differences, researchers have explored a host of questions related to the classroom. There is a long-standing debate as to whether public school classrooms are better suited for boys or for girls. The research is clear that both boys and girls are disadvantaged when teachers do not understand gender differences (Sax, 2006).

There is strong interest in single-sex public education since the United States Department of Education amended Title IX on October 25, 2006, allowing single-sex education in public schools. Historically, it has been difficult to evaluate outcomes since there is variability in the way in which gender-specific teaching practices have been employed and a differential selection occurring in coed and single-sex environments (Chadwell, 2009). Students in single-sex schools and classrooms, for example, demonstrate better behavior; there are fewer discipline referrals (Chadwell, 2009).

Recent research in the last decade has shown that, in general, boys and girls have different bio-behavioral responses to stress, which are, at least in part, due to underlying hormonal differences between the two sexes (Taylor et al., 2000). When males are stressed, they tend to seek out a safe place in action, moving toward a danger when stressed (fight), or running away from the danger

(flight) — the fight or flight response. When females are stressed, they are more likely to turn to other females for support and defend each other from perceived threats—the "tend-and-befriend" response.

Some researchers suggest that male infants are more emotionally reactive than female babies, but that culture socializes boys to express less emotion as they get older (with the possible exception of anger; Pollack, 2006). As a result, boys become less skilled at understanding both their own and others' emotions (Pollack, 2006). As this view predicts, research shows that by adolescence there are clear gender differences in the expression of emotions, particularly negative ones. For example, girls are more likely to show symptoms of depression or anxiety and to attempt suicide; boys are significantly less likely to report that they experience sadness, shame, or guilt (Pollack, 2006). However, boys are significantly more likely to actually commit suicide. It seems that adolescent boys learn to bear their negative feelings alone and in silence, with potentially deadly results (Eisenberg, 2000; Kindlon & Thompson, 2000; Pollack, 1998).

Boys and girls experience neurological conditions such as ADHD (Gershon, 2002), autism, and aspersers differently (Sax, 2006). More boys, for example, are diagnosed with ADHD than girls with recent estimates of ratios ranging from 2:1 to 6:1 (Rucklidge, 2008). Rucklidge hypothesized the following as explanations for the observed gender differences. A referral bias may exist that underidentifies ADHD in girls. The global deficits that have been documented in boys with ADHD, such as having difficult time processing information, holding information on line, estimating time, and stopping a behavior once started may

not extrapolate to girls. Some research suggests that girls who are diagnosed with ADHD are largely ignored because it is believed that they are not as impaired.

Although the differences between the genders are important and significant and gender roles can have negative effects on life outcomes, the most striking finding in the study of gender is that in most areas the similarities between girls and boys far outweigh the differences. One comprehensive review found that of the 124 meta-analyses included (which represented over 7,000 individual research reports investigating a wide range of cognitive, social, and personality variables), 78% showed small or close-to-zero effect sizes—this indicates few statistical differences between males and females in these studies (Hyde, 2005). For some variables, context affects whether gender differences were found. For example, when participants were told that gender differences had been found on previous administrations of a math test, males taking the test performed better than females. In contrast, when the participants were told the test was gender-fair, no gender differences were found (Spencer, Steele, & Quinn, 1999). Hyde (2005) warned that overinflated claims of gender differences can carry substantial costs in relationships.

While it is important to understand how, when, and why gender differences exist, it is equally important to know when they do not exist so that neither girls nor boys are kept from developing their individual potentials (Cook, 2009). It is also equally important to understand how, when, and why gender roles are preventing boys and girls meeting their basic psychological needs (Pollack, 2006).

Population School-Based Assessments

While there is widespread acceptance that the school environment plays a significant role in supporting student resiliency, schools seldom place a high priority on assessing their environment for researched-based risks and protective factors or identifying individual student vulnerability that is not based upon preexisting syndrome-related symptoms (Prince-Embury, 2008). Population-based resiliency assessments are for school-wide planning in order to identify the nature and extent of a school's need for selected interventions, to develop and evaluate selected interventions, and to implement universal interventions that are based upon the research in developmental competence that defines factors that predict students' success in the social, academic, and behavioral competencies (Doll & Cummings, 2008). Comprehensive population-based assessments need to measure the relationships (the nature and intensity of personal relationships within the environment, the extent to which people are involved in the environment and support and help each other), the personal development (basic directions along which personal growth and self-enhancement tend to occur), and the system maintenance and change (the extent to which the environment is orderly, clear in expectations, maintains control, and is responsive to change (Adelman, 2008).

Collecting population-based data for a research study can yield significant information; but obtaining useful data on a regular and frequent basis has been a major obstacle for school administrators and classroom teachers, especially in terms of time and money. However with the advent of No Child Left Behind and the Response to Intervention Process, schools are beginning to conduct large

population screenings on a frequent and regular basis in order to establish baseline data to identify underperforming classrooms and underperforming students within performing classroom. Academic assessments for large scale populations that are easy to administer and cost effective are being used, such as Dynamic Indicators of Basic Early Literacy Skills (DIBELS) and Curriculum Based Assessments. In the nonacademic area, data on discipline and attendance referrals are used to address school-wide problems areas. The State of Arizona (2009b), for example, requires all schools to track discipline incidents and report moderate to high level incidents to the Arizona State Department of Education for data analysis and encourages schools to use this data analysis to develop behavioral supports. The State Department of Arizona (Arizona Department of Education, 2009b) also requires every public school to conduct parent, student, and staff surveys once each year. These surveys generally measure the degree to which these groups are satisfied with the school's performance.

Current methods of measuring schools and classrooms use teacher and student perceptions, external observers' ratings, systematic coding and/or naturalistic inquiries, ethnographies, case studies, and interpretative assessment techniques (Adelman, 2008). External observer ratings and surveys are the most commonly used classroom assessments.

External Observer Ratings

Observing what is happening in a classroom in order to determine the effectiveness of the instruction is an extremely effective tool. To be most effective, the observer needs to be trained to use this technique. One of the most

popular observational techniques is the Walkthroughs (Downey, Steffy, English, Frase, & Poston, 2004). A walkthrough, typically about three to five minutes in duration, is used by administrators, supervisors, and instructional coaches. Walkthroughs provide a snapshot of the overall behavior of teachers in a building or district. As opposed to walkthroughs, complete observations occur for an extended period of time within one classroom. Observations can also be used by teachers themselves for self-observation after the teacher videotapes himself or herself (Airasian & Gullickson, 1997). Observations are most effective when they follow a protocol based upon best practice research (Marzano et al., 2001).

Based upon Marzano's extensive research for effective classroom instruction, the Marzano Research Laboratory (2010) developed a classroom observational protocol. This protocol is based upon Marzano's (2006) book, *The Art and Science of Teaching*. The protocol is built around ten areas that are used by teachers to plan effective units and lessons within those units representing three general types of effective observable teacher and student behaviors. The lesson segments are routine events that might be observed in every lesson (establishing and communicating goals, tracking student progress, and celebrating success), segments on the content of the lesson (helping students effectively interact with new knowledge, helping students practice and deepen their understanding of new knowledge, and helping students generate and test hypotheses about new knowledge), and lesson segments that are enacted on the spot (engaging students, establishing and maintaining classroom rules and

procedures, establishing and maintaining effective relationships with students, and communicating high expectations for all students).

Classroom Surveys

One of the easiest ways for a school to gather data about the various stakeholders' perceptions of school and/or classrooms is to use surveys. Surveys can measure any number of variables in many different combinations, which can be chosen and customized by a school (Tagiuri & Letwin, 1968). Several resiliency surveys that are most useful to elementary classroom teachers are reviewed below. Each of these surveys meets the following criteria established by Norm and Benard (2001): cost effective, can be group administered to elementary age students, can be used as a screener and/or a progress monitor, and can be used to develop researched-based interventions. Each survey contains as few items as possible, is built upon a strong and explicit research-based theoretical framework, and provides a comprehensive and balanced coverage of external and internal assets. Each survey also demonstrates cultural and developmental appropriateness, demonstrates high subscale level reliability as measured by internal consistency within subscales, demonstrates high subscale level reliability as measured by stability of responses over time, and demonstrates subscale level construct validity as measured by associations among subscales and associations between subscales and background characteristics and risk behaviors that are congruent with the literature (Snyder, Hoza, Pelham, Rapoff, & Ware, 1997).

The CHS is a 6 item self-report questionnaire assessing children's (ages 8 – 19) dispositional hope. The CHS assesses two components of hope: agency and

pathways. Agency is defined as the ability to initiate and sustain action towards goals and pathways and defined as the capacity to find a means to carry out goals. Also assessed are problem-solving and decision-making abilities, as well as self-attributions. Hopeful thinking has shown benefits in terms of obtaining desired outcomes and pursuit of goals. There is no cost for this measure and it is available from www.psych.ku.edu/faculty/rsnyder/child.htm (Norm & Benard, 2001).

The California Department of Education requires that all local education agencies receiving Safe and Drug-Free Schools and Communities funds biennially administer the California Healthy Kids Survey to students and the California School Climate Survey (CSCS) to school staff to assess student and school needs, monitor progress in addressing those needs, and demonstrate accountability. These surveys provide data on fundamental learning supports and barriers, and can be customized to collect additional information to guide these efforts. The 2009-2010 elementary editions of CHKS contain 60 that explore six clusters of assets, three external and three internal. Within these clusters are 19 of the assets most consistently referenced in the research literature as being associated with positive outcomes and health risk factors for young peoples. The three protective factors (external assets) are clusters of caring relationships, high expectations, and meaningful participation. Each include a set of home-, school-, and community-based assets. Additional assets involving peers are included in the caring relationships and high expectations clusters. The three resilience traits (internal assets) clusters are social competence, autonomy and sense of self, and sense of meaning and purpose.

The Social Skills Improvement System (SSIS) Performance Screening Guide is a universal screener of key social, motivational, and academic behaviors of children in preschool through high school in four skill areas: prosocial behaviors, motivation to learn, reading skills, and math skills. Raters identify the level of performance for the student using criterion-referenced performance continua for each of these areas to measure the student's skills against grade-level expectations. For intervention materials, a companion program offers tools for improving social skills in the classroom or a group setting. The benefits of this screener (*BASC-2 Behavioral and Emotional Screening System)* are the assessment of both social and academic behaviors for a comprehensive view of students' performances and the ability to target developmental deficiencies and changing grade-level expectations (Kamphaus & Reynolds, 2007).

The *BASC-2 Behavioral and Emotional Screening System* offers a quick and systematic method to screen for behavioral and emotional issues in children and adolescents ages 3 to 18. The screener has been normed on a representative sample that closely matches recent U.S. Census population characteristics. It is a comprehensive set of evidence-based interventions covering behavioral and emotional categories: academic problems, conduct problems, somatization, adaptability, depression, aggression, functional communication, anxiety, hyperactivity, attention problems, and leadership/social skills.

The *Beck Youth Inventories* (BYI; Beck, Beck, & Jolly, 2005) for children and adolescents offer five brief self-report inventories to assess depression, anxiety, anger, disruptive behavior, and self-concept in children ages

7-18 years. Each of the scales contains 20 questions about thoughts, feelings, and behaviors associated with emotional and social impairment in youth. The depression inventory helps early identification of negative thoughts about self, life, and the future; feelings of sadness and guilt; and sleep disturbances. The anxiety inventory reflects children's and adolescents' specific worries about social performance, the future, and negative reactions of others; fears including loss of control; and physiological symptoms associated with anxiety. The anger inventory evaluates a child's or adolescent's thoughts and behaviors of being treated unfairly by others and feelings of anger and hatred. The Disruptive Behavior Inventory identifies thoughts and behaviors associated with conduct disorder and oppositional-defiant behavior. The Self-Concept Inventory touches on cognitions of competence, potency, and positive self-worth. The BYI-II was developed and normed using standardized samples of U.S. youth stratified to match the U.S. Census. T-scores allow profile analysis and help conceptualize how depression, anxiety, and anger all may contribute to the child's distress. The DESSA is a 72-item, standardized, norm-referenced behavior rating scale that assesses the social emotional competencies that serve as protective factors for children in kindergarten through the eighth grade. The DESSA can be completed by parents/guardians, teachers, or staff at schools and child-serving agencies, including after-school, social service, and mental health programs. The assessment is entirely strength-based, meaning that these items query positive behaviors (e.g., get along with others) rather than maladaptive ones (e.g., annoy others). Administration time is less than 10 minutes.

The Resiliency Scales for Children and Adolescents (Prince-Embury, 2007) developed for ages 9-18 years is a tool to profile personal strengths and vulnerability. This measure has been co-normed with the Beck Youth Inventories allowing a link with the Resiliency Profile with specific symptoms for more targeted treatment planning. This tool evaluates the child's own perception of their personal attributes through self-reporting rather than evaluating the environmental factors. Prince-Embury believes that environmental factors such as family attributes or environmental protective factors might best be evaluated by objective measures. The Resiliency Scales fulfills a need for a field-friendly assessment of personal resiliency in children and adolescents. While this instrument would not be used as a universal screener, it would be used for those groups of children who were identified by a universal screener in order to determine their personal strengths and vulnerability level and for those children in need of interventions. This tool would be most useful to a school counselor or a school psychologist working as a Response to Intervention team member. This tool is useful with a range of children including those who are victims of bullying; who suffer from depression or anxiety; are experiencing post-traumatic stress disorder; or exhibit adjustment reactions to divorce, loss, or other life events. This instrument contains three stand-alone global scales (20-24 questions each), 10 subscales, and an index. The scales measure Sense of Mastery (optimism, self-efficacy, and adaptability) to evaluate whether the child will be able to cope with adverse circumstances; Sense of Relatedness (sense of trust, perceived access to support, comfort with others, and tolerance of differences) to serve as a buffer

against stress; and Emotional Reactivity (sensitivity, recovery, impairment) to evaluate vulnerability to stress or impact from adversity, as it relates to the child's preexisting condition. The Personal Vulnerability Index allows comparison between a child's experiences of personal resources to their experiences of emotional reactivity. The scales are flexible and quick to administer, can be administered individually or to groups. The global scales may be used separately, together, or with other symptom-based measures such as the Reynolds Bully Victimization Scales or the Brown Attention-Deficit Disorder Scales to obtain a balanced view. The scales focus on strengths as well as symptoms and vulnerabilities. The third grade reading level allows use with those who have special needs, including reading difficulty. The results are easy to interpret and discuss with children, teachers and parents.

Summary

Being an AI/AN youth is not a barrier to academic excellence but being an AI/AN in a classroom where teachers fail to provide educational equality with non-AI/AN peers in order to develop their autonomy is a frequent barrier. A supportive classroom environment for all students is the foundation to addressing barriers to learning (Doll & Cummings, 2008). Classroom teachers need to address the barriers to learning and teaching, enhance engagement of students, and reengage disconnected students (Adelman & Taylor, 2010). Like all academically achieving students, AI/AN students need classroom environments that support academic efficacy, self-determination, and behavioral self-control.

AI/AN students need classrooms that support positive relationships with their teachers, their peers, and with their parents.

CHAPTER 3

METHODOLOGY

This quantitative study measured students' perception of their classroom environments. The following research questions were answered:

1. What are the resiliency characteristics of children in an elementary school on the Navajo reservation as measured by ClassMaps resilience inventory?
2. Do resiliency characteristics differ between boys and girls? If so, in what areas?
3. Do the resiliency characteristics differ with respect to grade level?
4. Is there a relationship between students' gender and grade level and their resiliency characteristics?

Population and Sample

The study was completed within a public school district located in a rural community on the Navajo Nation in Arizona. During the 2008-2009 school year, the student population of the school district was 1,733 students from kindergarten to twelfth grades. All the participants were elementary school students within the public school district. The students attended two schools within the district, a primary school and an intermediate school. The sample was 273 males and 302 females. Of the 575 total students, 276 students were enrolled at primary grades (first, second, and third) and 299 at the intermediate grades (fourth, fifth, and sixth). Ninety-one percent of the participants in this research study were of Navajo ethnicity and 9% other ethnicities (Native Americans, African American,

multi-racial, Asian/Pacific Islander, Hispanic, and White). Four of the participants did not identify their ethnicities but were included in this study as they completed the rest of the survey.

At the time data were collected, the Arizona Department of Education rated the primary school as meeting the state mandated academic standards. The intermediate school was rated academically underperforming. Currently, both schools are currently recognized as performing by the Arizona academic mandates.

The students from both participating schools are bussed daily from within a 50-miles radius from seven communities (chapters) surrounding the school district. A profile of the school district by the school's superintendent (2010) reported 99.9% Native students, 88% free/reduce meals, longest bus route of 46 miles one way, and 55% of the student population identified as underachieving educationally. This school district received funding from state equalization and federal impact aid. The school district and local private hospital are the primary employers within the community where the school district is located. This school district is typical of public school districts on the Navajo Nation in its demographics. According to the Dine' Corporation Division (November 2011), the demographics of the 2000 census on the Navajo Nation were as follows:

The population of the Navajo Nation was 180,462 (male 49.02%, female 50.98%, Navajo 96.41%, Non-Navajo 2.89%, other Indians 0.70%) with a median age of 24 years. Twenty-eight percent of the population comprises the labor force. The median household income is $20,005; the median family income is $22,392,

with a per capita income of $7,269. Unemployment was reported at 42%, and 43% of the population live below the poverty rate. Fifty-six percent of the population of ages 25 and above had high school degrees; 7% had college degrees. The average household was indicated as 3.77 in size, and the average family size was 4.36 (Dine' Development Corporation, n.d.).

Instrumentation

The ClassMaps survey instrument (Appendix A) was used in this research because it meets the criterion for a research instrument and the requirements of this study. ClassMaps is cost-effective, can be administered to elementary age students, is built upon a strong and explicit research-based theoretical framework, provides a comprehensive and balanced coverage of external and internal assets, demonstrates cultural and developmental appropriateness, demonstrates high subscale level reliability as measured by internal consistency within subscales, and demonstrates high subscale level reliability as measured by stability of responses over time.

ClassMaps is offered at no cost to any interested person by the author and may be easily downloaded by members of the National Association of School Psychologist at http://www.nasponline.org/index.aspx.

ClassMaps focuses directly on the assessment of resiliency factors within the individual classrooms. The assessment research is grounded in the developmental research that predicts risk and resilience in vulnerable children and the educational research that identifies the factors for social and emotional development. Much of the prior research was the results of

longitudinal studies of resilient classrooms that were initiated in the 1940s and complete in the 1990s. This research consistently identified a small list of risk and resilience factors that untimely predicted life outcome (Doll & Cummings, 2008). These resilience factors were not characteristic of the children but instead described the families and communities of the children (Doll & Cummings, 2008). From this body of research, ClassMaps was created based upon six characteristics that describe the classrooms where children can be more successful academically and interpersonally. ClassMaps measures the degree to which (a) students are able to see themselves as competent and effective learners (academic efficacy); (b) students set and work toward self-selected learning goals (academic self-determination; (c) students behave appropriately and adaptively with a minimum of adult supervision (behavioral self-control); (d) there are caring and authentic relationships between teachers and the students (teacher-student relationships); (e) students have ongoing and rewarding friendships with their classmates (peer relationships); and (f) families know about and strengthen the learning that occurs in the classroom (home-school relationships).

In the ClassMap assessment relationships are measured by five maps (My Teacher, My Classmates, Kids in This Class, and I worry that . . . , Talking With My Parent) and autonomy is measured by three maps (Believing in Me, Taking Charge, Following Class Rules).

My Teacher (MT) measures the students' perceptions of their relationship with their classroom teacher by rating their agreement to the

following statements: My teacher listens carefully to me when I talk; My teacher helps me when I need help; My teacher respects me; My teacher likes having me in this class; My teacher makes it fun to be in this class; My teacher thinks I do a good job in this class; My teacher is fair to me (Doll, 2007).

The ClassMap My Teacher is based upon the research that describes teachers who support resiliency. Nickolite & Doll (2008) explained that these teachers interact authentically and often with their students, establish developmentally appropriate academic and interpersonal standards, and provide quality instruction that will allow their students to be successful. The teacher understands that the presence of negativity in the classroom environment has a negative impact on student learning; that student-teacher relationships are reciprocal; that all the relationships in the classroom are interdependent; that the teacher-student relationships are almost always the strongest factor of the learning environment and have a significant impact on student engagement (Nickolite & Doll, 2008).

Three ClassMaps (MC, KITC, and IWT) measures relationships among peers. The peer relationships measured within the classroom consist of friendships, conflicts, and bullying, an extremely destructive behavior.

The ClassMap My Classmates (MC), measures the students' perceptions of their peer friendships, rating their agreement to the following statements: I have a lot of fun with my friends in this class; My friends care about me a lot; I have friends to eat lunch with and play with at recess; I have

friends that like me the way I am; My friends like me as much as they like other kids; I have friends who will stick up for me if someone picks on me.

The ClassMap 2007, Kids in This Class (KITC), measures the students' perception of peer conflicts within the classroom by asking the students to rate their agreement to the following statements: Kids in this class argue a lot with each other; Kids in this class pick on or make fun of each other; Kids in this class hit or push each other; Kids in this class say bad things about each other.

The ClassMap 2007, I worry that . . ." (IWT), measures the students' perceptions of classroom bullying by rating their agreement to the following statements: I worry that other kids will do mean things to me; I worry that other kids will tell lies about me; I worry that other kids will hurt me on purpose; I worry that other kids will leave me out on purpose; I worry that other kids will try to make my friends stop liking me, I worry that other kids will make me do things I don't want to do; I worry that other kids will take things away from me.

The ClassMap IWT is supported by recent research on bullying in the classrooms. A recent study of 10,000 middle school students found that despite the common misperception that bullying at school takes place only in unsupervised locations, the classroom setting is one of the places where bullying occurs most often and being bullied in the classroom as compared with being bullied in other areas of the school was associated with a greater

tendency among students to feel threatened and unsafe at school (Perkins, Perkins, & Craig, 2009).

The measure of peer relationships in ClassMaps is founded upon the research that supports minimizing the large group mentality that supports anonymity, by minimizing the boredom of unstructured times, by creating rules that prevent negative behaviors, by teaching social skills and conflict resolution skills, by playing inclusive cooperative games and cooperative learning activities, and by having regular class meetings to solve problems (Doll, 2008).

The ClassMap 2007, Talking With My Parents (TWP), measures the students' perceptions of parental support for their classroom learning by rating their agreement to the following statements: My parents and I talk about my grades in this class; My parents and I talk about what I am learning in this class; My parents and I talk about my homework in this class; My parents help me with my homework when I need it; My parents and I talk about ways I can do well in school; My parents and I talk about good things I have done in this class; My parents and I talk about problems I have in this class.

The ClassMap TWP is built upon the research that supports home-school involvement where families, teachers, and students have shared high expectations, where families talk with students about their support for learning, where there is a regular system of communication between the classroom and family, where the school contacts provide parents with specific

suggestions about what they can do to help their child and the classroom, where there are clear indications that parents are welcome in the classroom, and where parents visit the classroom, and where parents are engaged in tasks central to the students' learning (Doll, 2008).

The ClassMap 2007, Believing in Me (BIM), measures the students' perceptions of academic efficacy by rating their agreement to the following statements: I can do my work correctly in this class; I can do as well as most kids in this class; I can be a very good student in this class; I can do the hard work in this class; I know that I will learn what is taught in this class; I expect to do very well when I work hard in this class.

Academic self-efficacy refers to an individual's belief or conviction that they can successfully achieve at a designated level on an academic task or attain a specific academic goal. A student with academic self-efficacy believes in his or her ability to organize, execute, and regulate performance in order to solve a problem or accomplish a task at a designated level of skill and ability (McGrew, 2008). The ClassMap BIM foundation is the research that supports the impact of efficacy on learning and engagement (Doll, 2008).

The ClassMap, Taking Charge (TC; Doll, 2007), measures students' perceptions of their academic self-determination by rating their agreement to the following statements: I want to know more about the things we learn in this class; In this class, I can guess what my grade will be when I turn in my work; I work as hard as I can in this class; I find and fix my mistakes before turning in my work; I learn because I want to and not just because the teacher

tells me to; When the work is hard in this class, I keep trying until I figure it out; I know the things I learn in this class will help me outside of school; I can tell when I make a mistake on my work in this class.

Students have academic determination when "they have personal goals for their own learning, can identify and solve problems that might block their achievement of those goals, and systematically select and implement actions that allow them to progress toward their goals" (Doll et al., 2004, p. 11).

The ClassMap 2007, Following the Class Rules (FCR), measures the students' perception of their behavioral self-control within the classroom by rating their agreement to the following statements: Most kids work quietly and calmly in this class; Most kids in this class listen carefully when the teacher gives directions; Most kids follow the rules in this class; Most kids in this class pay attention when they are supposed to; Most kids do their work when they are supposed to in this class.

Data Collection

The ClassMaps survey (Appendix A) was installed on to Surveymonkey.com, a commercial computerized online program developed for administration of surveys. Students logged on to Survey Monkey, entered a password, and completed the survey during the spring of 2009 as part of a district school climate survey. The ClassMaps survey is a 55-question, Likert-scale survey measurement of the classroom environment from the students' perspective. The school counselor assisted the students in the first through third grades, and

the psychologist and academic coach assisted the students in the fourth to sixth grades taking the survey.

A week prior to the administration of the survey, the classroom teachers at the primary and intermediate schools were requested to sign up for a time slot. The survey was given over a five-day period. The survey was administered to 15 classrooms (5 first-grade classes, 5 second-grade classes, and 5 third-grade classes) at the primary school and 16 classrooms (5 fourth-grade classes, 5 fifth-grade classes, and 6 sixth-grade classes) at the intermediate school.

Participants completed the survey on their school laptops within their respective classrooms. Those classrooms that did not have classroom laptops used the computer labs within their respective schools. Participants logged on to the ClassMaps survey with the use of their school lunch numbers. Students who were absent were provided an opportunity to complete the surveys which were administered to them individually or within small groups.

The school counselor read the entire survey to the students at the primary school (grades 1 through 3). Students at the intermediate grades read the survey on their own. The proctors stayed in the classroom throughout the survey session to ensure that the computers worked properly and to answer questions.

Data Analysis

The data were analyzed using the two-factor ANOVA, Pearson Correlation Coefficient and Tukey HSD procedure to determine error analysis. These assessment instruments were used as they have been determined to be psychometrical sound to evaluate the variables in this research. The Pearson

Coefficient Correlation method was used to determine if there was a correlation between gender and the eight resiliency factors.

> The Pearson correlation is defined only if both of the standard deviations are finite and both of them are nonzero. The Pearson correlation is +1 in the case of a perfect positive (increasing) linear relationship (correlation). -1 in the case of a perfect decreasing (negative) linear relationship (anticorrelation), and some values between -1 and 1 in all other cases, indicating the degree of linear dependence between the variables. As it approaches zero there is less of a relationship (closer to uncorrelated). The closer the coefficient is to either -1 or 1, the stronger the correlation between the variables. (Wikipedia, n.d.)

The 2 x 6 ANOVA was used to evaluate means of gender (male and female) and grade levels (1 through 6). In statistics, analysis of variance (ANOVA) is a collection of statistical models and their associated procedures, in which the observed variance in a particular variable is partitioned into components attributable to different sources of variation. ANOVA provides a statistical test of whether or not the means of several groups are all equal, and therefore generalizes *t*-tests to more than two groups. Doing multiple two-sample t-tests would result in an increased chance of committing a type I error. ANOVAs are useful in comparing two, three, or more means (Investopedia, n.d.).

The research data were analyzed by downloading the survey results on to a spreadsheet from surveymonkey.com and examined for missing data. Then, descriptive statistics were delineated by ethnicity, gender, and grade. The total sample included 273 males and 302 female students. The sampling size varied on the eight CMS subscales due to students not answering survey questions. All the surveys including those missing answers were included in the analysis. The two-way Pearson Correlation Coefficient was used to determine relationship between

the ClassMaps' eight factors (Believing in Me—BIM, My Teacher—MT, Taking Charge—TC, My Classmates—MC, Following the Class Rules—FCR, Talking With My Parents—TWP, I Worry That—IWT, Kids In This Class—KITC) and gender. A 2 x 6 ANOVA was used to evaluate the effects of gender and grades (first through sixth grade) on each of the eight factors (BIM, MT, TC, MC, FCR, TWP, IWT, KITC) with the use of the Tukey HSD procedure for *post hoc* analysis.

CHAPTER 4

FINDINGS

The purpose of this research was to determine if students in a predominantly Navajo population (91%) in a public school on the Navajo Nation perceived their classroom environments as healthy places to learn and build positive relationships with others. The following research questions guided this study.

1. What are the resiliency characteristics of children in an elementary school on the Navajo reservation as measured by ClassMaps resilience inventory?
2. Do resiliency characteristics differ between boys and girls? If so, in what areas?
3. Do the resiliency characteristics differ with respect to grade level?
4. Is there a relationship between students' gender and grade level and their resiliency characteristics?

The research data was downloaded to a spreadsheet from Survey Monkey and examined for missing data. The majority of the participants completed the survey in entirety. Four participants did not indicate ethnicity and others had random unanswered questions which caused varying sample sizes on the eight subscales. Nine percent of the participants indicated an ethnicity other than Navajo. Given the relatively small number of non-Navajo participants and the relative difficulty to clean their responses from the data, these participants were included in this research. Then, descriptive statistics were delineated by ethnicity,

gender and grade. The two-way Pearson Correlation Coefficient was used to determine relationship between the Classmaps' eight factors: *Believing in Me* (BIM), *My Teacher* (MT), *Taking Charge* (TC), *My Classmates* (MC), *Following Class Rules* (FCR), *Talking With My Parents*(TWP), *I Worry That* (IWT), *Kids In This Class* (KITC), and gender. A 2x 6 ANOVA was used to evaluate the effects of gender and grades (1 through 6) on each of the eight factors (BIM, MT, TC, MC, FCR, TWP, IWT, KITC) with the use of the Tukey HSD procedure for *post hoc* analysis.

DATA RESULTS

The population of this study was predominantly Navajo elementary students (91%) with a small percentage (9%) identified as African American, multi-racial, other, Asian/Pacific Islander, Hispanic, and White. Four students did not identify their ethnicity but were still included in the research as they completed the rest of the survey.

Table 1

Sample by Ethnicity

Ethnicity	Totals
Native American/Navajo	505
Native American	43
African American	8
Multi-Racial	6
Other	4
Unidentified ethnicity	4
Asian/Pacific Islander	1
Hispanic	1
White	1
Total	575

Table 2

Sample by Grades and Percentage (*N* = 575)

Grade	Total	Percentage
1st Grade	85	14.8
2nd Grade	103	17.9
3rd Grade	87	15.1
4th Grade	103	17.9
5th Grade	98	17.0
6th Grade	99	17.2

The following research questions guided this study:

1. What are the resiliency characteristics of children in an elementary school on the Navajo reservation as measured by ClassMaps resilience inventory?
2. Do resiliency characteristics differ between boys and girls? If so, in what areas?
3. Do the resiliency characteristics differ with respect to grade level?
4. Is there a relationship between students' gender and grade level and their resiliency characteristics?

The research questions (resiliency characteristics of a predominantly Navajo student population) were answered by the examination of differences in the means and standard deviations on gender, grade, and comparison between gender and grade. The research question was also answered with analysis on gender, grade, and comparison between gender and grade for each of the ClassMaps subscales (BIM, FCR, TC, MT, MC, IWT, KITC and TWP).

Table 3 shows the analysis of variance on ClassMaps Survey subscale means and standards deviations for males and females. Two subscales (*I Worry That* and *Kids in this Class*) were reverse coded. The questions were reverse coded in order for the questions to be worded in the positive. *Never* becomes the highest point question rather than *Almost Always.* Significant differences were observed within some of the subscales as shown on Table 4 at the .05 and .01 levels. Females in grades 2, 4, 5 and 6 indicated they have more confidence than their male counterparts. On the *My Teacher* subscale female students in grades 1, 2, 5, and 6 suggested a closer relationship with their teachers than the male students. Second and fifth grade female students on the *Taking Charge* subscale believed they have the ability to set goals for their own learning and to be successful. Female students in grades 2, 3, 5 and 6 perceived having a positive relationship with their classroom peers more than the male students. In grades 2, 3, and 5, females reported that they talked more to their parents about their academic learning and about school than did the males. Although the females perceived higher levels of success at school, they also worried (*I Worry That*) more often than males regarding relationships with peers. No significant differences in perceptions between genders were noted for the *Following Class Rules* and *Kids In This Class* subscales.

Table 3

Means and Standards Deviations by Gender and Grade for Each CMS Subscale

		BIM	MT	TC	MC	FCR	TWP	IWT	KITC
Grade 1	Boy	2.91 (0.73)	2.85 (0.71)	3.16 (0.57)	3.17 (0.67)	2.92 (0.69)	3.04 (0.73)	2.32 (0.74)	2.46 (0.88)
	Girl	3.19 (0.64)	3.26 (0.57)	3.30 (0.50)	2.91 (0.85)	2.74 (0.71)	2.99 (0.74)	2.55 (0.83)	2.51 (0.81)
Grade 2	Boy	2.69 (0.59)	2.75 (0.75)	2.79 (0.72)	2.62 (0.59)	2.54 (0.56)	2.78 (0.72)	2.38 (0.80)	2.49 (0.81)
	Girl	3.03 (0.52)	3.08 (0.51)	3.08 (0.52)	3.06 (0.56)	2.46 (0.66)	3.19 (0.53)	2.44 (0.76)	2.51 (0.92)
Grade 3	Boy	2.83 (0.56)	3.08 (0.75)	3.05 (0.58)	2.75 (0.80)	2.56 (0.59)	2.82 (0.70)	1.83 (0.67)	2.10 (0.78)
	Girl	3.00 (0.55)	3.27 (0.55)	3.21 (0.53)	3.22 (0.62)	2.74 (0.69)	3.12 (0.67)	2.27 (0.87)	2.06 (0.72)
Grade 4	Boy	2.90 (0.56)	3.22 (0.73)	3.01 (0.51)	2.85 (0.79)	2.51 (0.62)	3.07 (0.70)	2.22 (0.69)	2.57 (0.74)
	Girl	3.22 (0.49)	3.35 (0.60)	3.10 (0.58)	2.85 (0.74)	2.46 (0.75)	3.00 (0.79)	2.30 (0.82)	2.55 (0.68)
Grade 5	Boy	2.71 (0.57)	2.86 (0.77)	2.71 (0.62)	2.74 (0.86)	2.21 (0.71)	2.60 (0.74)	1.87 (0.77)	2.66 (0.90)
	Girl	3.08 (0.51)	3.20 (0.65)	3.04 (0.62)	3.31 (0.62)	2.33 (0.73)	3.12 (0.77)	2.30 (0.80)	2.82 (0.82)
Grade 6	Boy	2.82 (0.59)	3.02 (0.59)	2.88 (0.56)	2.96 (0.79)	2.32 (0.59)	2.77 (0.76)	1.73 (0.83)	2.39 (0.91)
	Girl	3.06 (0.57)	3.28 (0.75)	2.99 (0.61)	3.37 (0.74)	2.27 (0.64)	2.97 (0.79)	1.76 (0.71)	2.49 (0.83)

Note. CMS = ClassMaps Survey

Table 4

Grades Where Girls' Means Greater Than the Boys

Resiliency Factors	Grade
BIM	2, 4, 5, 6
MT	1, 2, 5, 6
TC	2, 5
MC	2, 3, 5, 6
FCR	
TWP	2, 3, 5
IWT	3, 5
KITC	

Table 5 represents the group means and standard deviation on each of the eight Classmaps subscales for the male population. The level of significance was analyzed at the .05 and .01 levels.

Table 5

Descriptive Statistics and CMS Subscale Means and Standard Deviations by All Males

	M	*SD*	*N*
BIM	2.8109	.60046	275
MT	2.9754	.72879	273
TC	2.9341	.60549	273
MC	2.8434	.77141	266
FCR	2.4949	.65412	263
TWP	2.8463	.73421	263
IWT	2.0461	.78623	263
KITC	2.4460	.84855	261

Table 6 shows a comparison of the eight resiliency factors for all the male students sampled (n = 273). The *Believing in Me* (BIM) subscale correlated at a statistical significant level with *My Teacher* (MT), *Taking Charge* (TC), *My*

Classmates (MC), *Following Class Rules* (FCR), Talking With Parents (TWP) and *I Worry That* (IWT). The *My Teacher* (MT) subscale correlated at significant levels with *Taking Charge* (TC), *My Classmates* (MC), *Following Class Rules* (FCR) and *Talking With My Parents*(TWP). Significant correlation was also measured with *Taking Charge* (TC) when compared with *My Teacher* (MT), *Following Class Rules* (FCR), *Talking With My Parents*(TWP) and *I Worry That* (IWT). Similarly, the *My Classmates* subscale correlated significantly with the *Following Class Rules* (FCR) and *Talking With My Parents*(TWP). The *Following Class Rules* (FCR) was measured at a statistical significant level with *Talking With My Parents*(TWP) and *Kids In This Class* (KITC). *Talking With My Parents* correlated at a statistical significant level with *I Worry That*. Lastly, the *I Worry That* correlated at a statistical significant level with *Kids In This Class*. These correlations were measured at the 0.01 level on a 2-tailed Pearson Correlations.

Table 6

Intercorrelations of the Main Variables of Males (Pearson Correlation, n =273)

		BIM	MT	TC	MC	FCR	TWP	IWT	KITC
BIM	Pearson Correlation	1	**.634(**)**	**.641(**)**	**.465(**)**	**.194(**)**	**.428(**)**	**.171(**)**	.100
	Sig. (2-tailed)		.000	.000	.000	.002	.000	.005	.107
	N	275	273	273	266	263	263	263	261
MT	Pearson Correlation	.634(**)	1	**.605(**)**	**.385(**)**	**.270(**)**	**.504(**)**	.113	-.044
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.067	.481
	N	273	273	273	266	263	263	263	261
TC	Pearson Correlation	.641(**)	.605(**)	1	**.489(**)**	**.385(**)**	**.488(**)**	**.219(**)**	-.024
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.696
	N	273	273	273	266	263	263	263	261
MC	Pearson Correlation	.465(**)	.385(**)	.489(**)	1	**.297(**)**	**.475(**)**	.067	.038
	Sig. (2-tailed)	.000	.000	.000	.	.000	.000	.281	.543
	N	266	266	266	266	263	263	263	261
FCR	Pearson Correlation	.194(**)	.270(**)	.385(**)	.297(**)	1	**.347(**)**	.079	**-.193(**)**
	Sig. (2-tailed)	.002	.000	.000	.000		.000	.203	.002
	N	263	263	263	263	263	263	263	261

Table 6 continued

		BIM	MT	TC	MC	FCR	TWP	IWT	KITC
TWP	Pearson Correlation	.428(**)	.504(**)	.488(**)	.475(**)	.347(**)	1	**.230(**)**	.034
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.586
	N	263	263	263	263	263	263	263	261
IWT	Pearson Correlation	.171(**)	.113	.219(**)	.067	.079	.230(**)	1	**.440(**)**
	Sig. (2-tailed)	.005	.067	.000	.281	.203	.000		.000
	N	263	263	263	263	263	263	263	261
KITC	Pearson Correlation	.100	-.044	-.024	.038	.193(**)	.034	.440(**)	1
	Sig. (2-tailed)	.107	.481	.696	.543	.002	.586	.000	.
	N	261	261	261	261	261	261	261	261

** Correlation is significant at the 0.01 level (2-tailed).

Table 7 represents the group means and standard deviation on each of the eight Classmaps subscales for the female population. The level of significance was analyzed at the .05 and .01 levels.

Table 7

Descriptive Statistics and CMS Subscale Means and Standard Deviations by All Females

	M	*SD*	*N*
BIM	3.0945	.54524	303
MT	3.2313	.60783	302
TC	3.1082	.56662	298
MC	3.1261	.70246	296
FCR	2.4797	.71241	295
TWP	3.0707	.71047	295
IWT	2.2649	.82640	293
KITC	2.4997	.82967	287

Table 8 shows a comparison of the eight resiliency factors for the females sampled (n = 302). These correlations were measured at the 0.01 level on a 2-tailed Pearson Correlations.

The *Believing in Me* (BIM) correlated at statistical significant levels with *My Teacher* (MT), *Taking Charge* (TC), *My Classmates* (MC), *Following Class Rules* (FCR) and Talking With Parents (TWP. The *My Teacher* (MT) correlated at significant levels with *Taking Charge* (TC), *My Classmates* (MC), *Following Class Rules* (FCR) and *Talking With My Parents*(TWP). *Taking Charge* resulted in a statistical significant correlation with *My Classmates* (MC), *Following Class Rules* (FCR), *Talking With My Parents*(TWP) and *I Worry That* (IWT). Similarly, the *My Classmates* subscale resulted in a statistical significant correlation with the

Following Class Rules (FCR) and *Talking With My Parents*(TWP). The *Following Class Rules* (FCR) was measured at a statistical significant level with *Talking With My Parents*(TWP) and *Kids In This Class* (KITC). *I Worry That* correlated at statistical a significant level with *Kids In This Class*.

Table 8

Intercorrelations of the Main Variables of Females (Pearson Correlations, *n* = 302)

		BIM	MT	TC	MC	FCR	TWP	IWT	KITC
BIM	Pearson Correlation	1	**.538(**)**	**.628(**)**	**.409(**)**	**.241(**)**	**.430(**)**	.056	.075
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.338	.205
	N	303	302	298	296	295	295	293	287
MT	Pearson Correlation	.538(**)	1	**.549(**)**	**.362(**)**	**.260(**)**	**.355(**)**	.068	-.068
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.244	.253
	N	302	302	298	296	295	295	293	287
TC	Pearson Correlation	.628(**)	.549(**)	1	**.366(**)**	**.367(**)**	**.494(**)**	**.123(*)**	-.089
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.036	.131
	N	298	298	298	296	295	295	293	287
MC	Pearson Correlation	.409(**)	.362(**)	.366(**)	1	**.250(**)**	**.360(**)**	-.090	-.086
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.124	.148
	N	296	296	296	296	295	295	293	287

Table 8 Continued

		BIM	MT	TC	MC	FCR	TWP	IWT	KITC
FCR	Pearson Correlation	.241(**)	.260(**)	.367(**)	.250(**)	1	**.263(**)**	.054	**-.340(**)**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.359	.000
	N	295	295	295	295	295	295	293	287
TWP	Pearson Correlation	.430(**)	.355(**)	.494(**)	.360(**)	.263(**)	1	.110	.034
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.059	.571
	N	295	295	295	295	295	295	293	287
IWT	Pearson Correlation	.056	.068	.123(*)	-.090	.054	.110	1	**.479(**)**
	Sig. (2-tailed)	.338	.244	.036	.124	.359	.059		.000
	N	293	293	293	293	293	293	293	287
KITC	Pearson Correlation	.075	-.068	-.089	-.086	-.340(**)	.034	.479(**)	1
	Sig. (2-tailed)	.205	.253	.131	.148	.000	.571	.000	
	N	287	287	287	287	287	287	287	287

* Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed).

BIM: Believing in Me

A 2 x 6 ANOVA was conducted to evaluate the effects of gender and grades (1 through 6) on *Believing in Me* (BIM), one of eight resiliency factors. The means and standard deviations for BIM as a function of the two factors are presented in Table 9.

Table 9

Dependent Variable: BIM Means and Standard Deviations

Gender	Grade	*M*	*SD*	*N*
Boy/male	1st grade	2.9048	.73086	42
	2nd grade	2.6890	.58572	41
	3rd grade	2.8314	.56292	43
	4th grade	2.8958	.55994	54
	5th grade	2.7092	.57255	46
	6th grade	2.8163	.58858	49
	Total	2.8109	.60046	275
Girl/Female	1st grade	3.1932	.63764	44
	2nd grade	3.0323	.51956	62
	3rd grade	3.0028	.54583	45
	4th grade	3.2219	.49428	49
	5th grade	3.0778	.50729	53
	6th grade	3.0600	.56596	50
	Total	3.0945	.54524	303
Total	1st grade	3.0523	.69596	86
	2nd grade	2.8956	.56963	103
	3rd grade	2.9190	.55774	88
	4th grade	3.0510	.55197	103
	5th grade	2.9066	.56676	99
	6th grade	2.9394	.58722	99
	Total	2.9596	.58899	578

The ANOVA indicated no significant interaction between gender and grade, $F(5, 566) = .378$, $p = .864$, partial η^2 (effect size) = .003, but significant

main effects for gender, $F(1, 566) = 36.789$, $p = .000$, partial $\eta 2 = .061$. The significant gender main effect indicated that girls ($M = 3.10$) endorsed greater levels of confidence that they could be successful in the classroom than boys ($M = 2.81$).

In details, the mean of second grade girls ($M = 3.03$) was greater than second grade boys ($M = 2.69$) by .34 and the mean difference was statistically significant, $F(1, 101) = 9.727$, $p = .002$. The mean of fourth grade girls ($M = 3.22$) was greater than fourth grade boys ($M = 2.90$) by .32 and the mean difference was statistically significant, $F(1, 101) = 9.735$, $p = .002$. The mean of fifth grade girls ($M = 3.08$) was greater than fifth grade boys ($M = 2.71$) by .37 and the mean difference was statistically significant, $F(1, 97) = 11.535$, $p = .001$. The mean of sixth grade girls ($M = 3.06$) was greater than sixth grade boys ($M = 2.82$) by .24 and the mean difference was statistically significant, $F(1, 97) = 4.410$, $p = .001$. In summary, second, fourth, fifth, and sixth grade girls had greater levels of confidence that they could be academically successful in the classroom than boys (Figure 1).

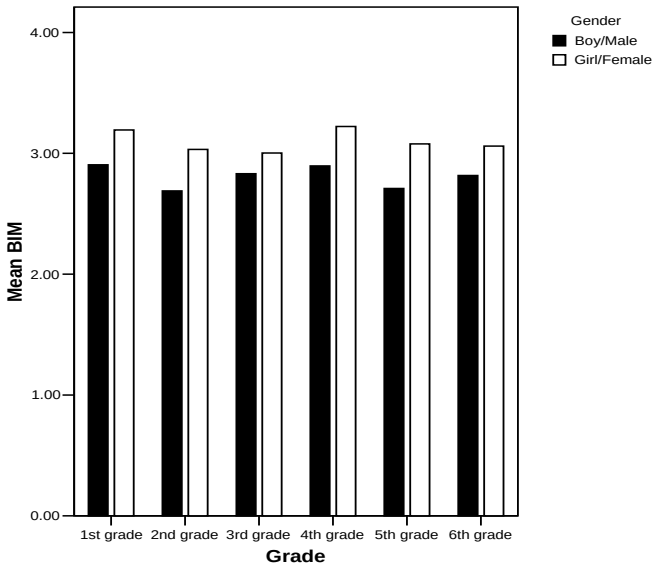

Figure 1. Differences by gender in each grade

There were no significant main effects for grade, $F(5, 566) = 2.003$, $p = .077$, partial $\eta 2 = .017$, which means there were mean differences among grades (first through sixth grade) but the mean differences were not statistically significant (Figure 2).

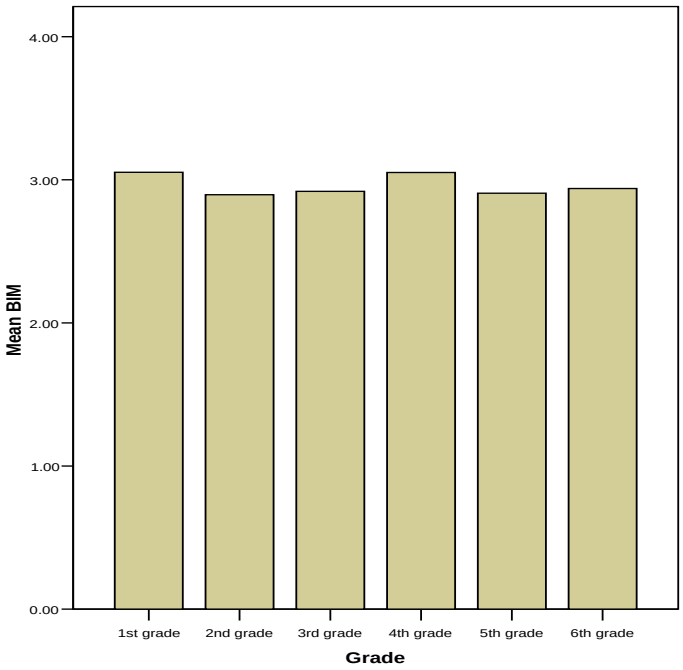

Figure 2. BIM mean differences by grade

TC: Taking Charge

A 2 x 6 ANOVA was utilized to evaluate the effects of gender and grades (1 through 6) on *Taking Charge* (TC), one of eight resiliency factors. The means and standard deviations for TC as a function of the two factors are presented in Table 10.

Table 10

Dependent Variable: TC—Means and Standard Deviations

Gender	Grade	*M*	*SD*	*N*
Boy/male	1st grade	3.1637	.57215	42
	2nd grade	2.7927	.71895	41
	3rd grade	3.0506	.57915	42
	4th grade	3.0116	.50834	54
	5th grade	2.7111	.61458	45
	6th grade	2.8750	.56308	49
	Total	2.9341	.60549	273
Girl/female	1st grade	3.3013	.50305	39
	2nd grade	3.0806	.52406	62
	3rd grade	3.2056	.52505	45
	4th grade	3.0969	.57806	49
	5th grade	3.0354	.61452	53
	6th grade	2.9925	.61102	50
	Total	3.1082	.56662	298
Total	1st grade	3.2299	.54107	81
	2nd grade	2.9660	.62210	103
	3rd grade	3.1307	.55409	87
	4th grade	3.0522	.54163	103
	5th grade	2.8865	.63258	98
	6th grade	2.9343	.58775	99
	Total	3.0250	.59145	571

The ANOVA indicated no significant interaction between gender and grade, $F(5, 559) = .702$, $p = .622$, partial η^2 (effect size) = .006, but significant main effects for gender, $F(1, 559) = 14.391$, $p = .000$, partial $\eta 2 = .025$. The gender main effect indicated that girls ($M = 3.11$) tended to have more willingness to try hard and take responsibility for their learning than boys ($M = 2.93$).

In details, the mean of second grade girls ($M = 3.08$) is greater than second grade boys ($M = 2.79$) by .29 and the mean difference is statistically significant,

$F(1, 101) = 5.522$, $p = .021$. Next, the mean of fifth grade girls ($M = 3.04$) is greater than fifth grade boys ($M = 2.71$) by .32 and the mean difference is statistically significant, $F(1, 96) = 6.776$, $p = .011$. In summary, second and fifth grade girls have more willingness to try hard and take responsibility for their learning than boys (Figure 3).

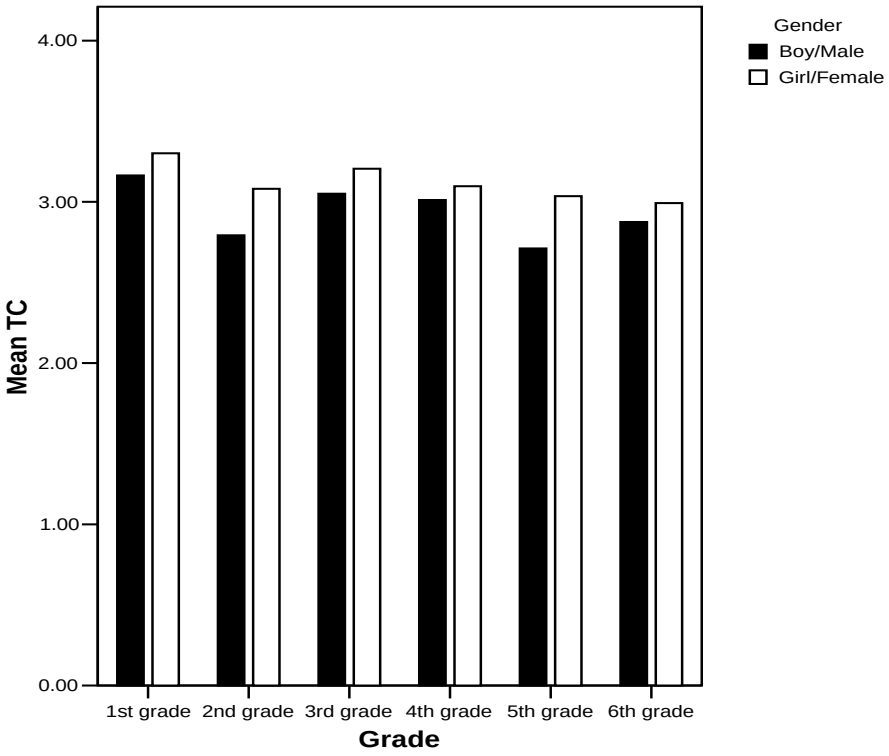

Figure 3. TC mean differences by gender in each grade

There were significant main effects for grade, $F(1, 559) = 4.996$, $p = .000$, *partial* $\eta 2 = .043$, which means there were mean differences among grades (first through six grade) and the mean differences were statistically significant. Follow-up analyses to the main effect for Grade were examined. The follow-up tests consisted of all pairwise comparisons among the six different grades (first through

sixth). The Tukey HSD procedure was used to control for Type 1 error across the pairwise comparisons. The results of this analysis indicated that first grade students (M = 3.23) have more willingness to try hard and take responsibility for their learning than second grade students (M = 2.97), fifth grade students (M = 2.89), and sixth grade students (M = 2.93); the mean differences among grades were statistically significant but effect size was small, $F(5, 559) = 4.996$, $p = .000$, partial $\eta^2 = .043$. In summary, first grade students have more willingness to try hard and take responsibility for their learning than second, fifth, and six grade students (Figure 4).

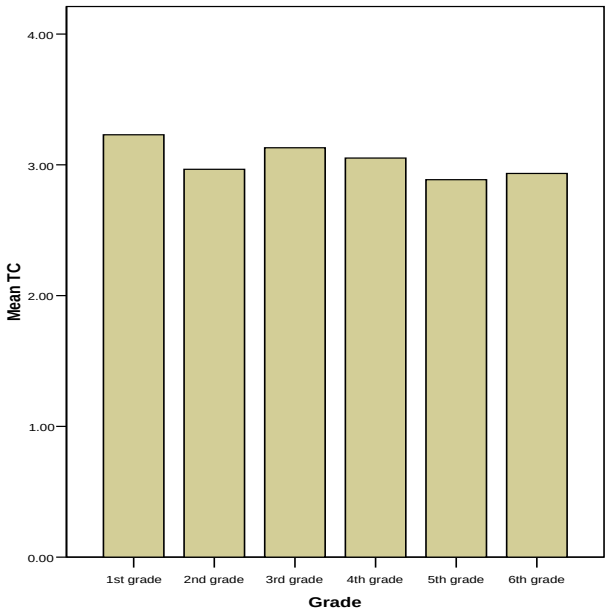

Figure 4. TC mean differences by grade

FCR: Following Class Rules

A 2 x 6 ANOVA was conducted to evaluate the effects of gender and grades (1 through 6) on *Following Class Rules* (FCR), one of eight resiliency

factors. The means and standard deviations for FCR as a function of the two factors are presented in Table 11. The ANOVA indicated no significant interaction between gender and grade, $F(5, 546) = .842$, $p = .521$, partial η^2 (effect size) = .008.

Table 11

Dependent Variable: FCR—Means and Standard Deviations

Gender	Grade	*M*	*SD*	*N*
Boy/male	1st grade	2.5366	.69292	36
	2nd grade	2.5635	.55717	41
	3rd grade	2.5131	.58545	42
	4th grade	2.2121	.61810	51
	5th grade	2.3231	.70561	44
	6th grade	2.4949	.58670	49
	Total	2.7432	.65412	263
Girl/female	1st grade	2.4570	.70666	37
	2nd grade	2.7370	.66045	62
	3rd grade	2.4549	.69403	45
	4th grade	2.3270	.75147	48
	5th grade	2.2667	.72939	53
	6th grade	2.4797	.64065	50
	Total	2.8311	.71241	295
Total	1st grade	2.4887	.70080	73
	2nd grade	2.6533	.61978	103
	3rd grade	2.4848	.64611	87
	4th grade	2.2749	.68308	99
	5th grade	2.2946	.71728	97
	6th grade	2.4869	.61206	99
	Total		.68499	558

The analysis revealed that there were no significant main effects for gender, $F(1, 546) = 061$, $p = .806$, partial $\eta 2 = .000$, but existence of mean

differences between boys and girls in terms of following class rules were not statistically significant (Figure 5).

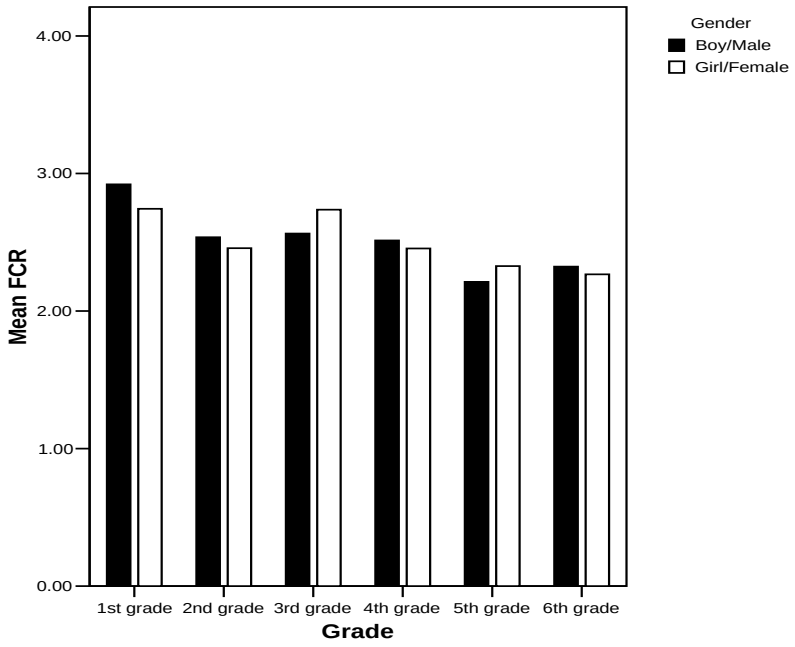

Figure 5. FCR mean differences by gender in each grade

There were significant main effects for grade, $F(1, 546) = 8.733$, $p = .000$, partial $\eta 2 = .074$. The follow-up tests consisted of all pairwise comparisons among the six different grades (first through sixth). The Tukey HSD procedure was used to control for Type 1 error across the pairwise comparisons. The results of this analysis indicated that first grade students ($M = 2.83$) were more willing to follow classroom rules than fourth ($M = 2.49$), fifth ($M = 2.28$), and sixth ($M = 2.30$) grade students. Third grade students ($M = 2.65$) had more willingness to

follow classroom rules than fifth (M = 2.28) and sixth (M = 2.30) grade students (Figure 6).

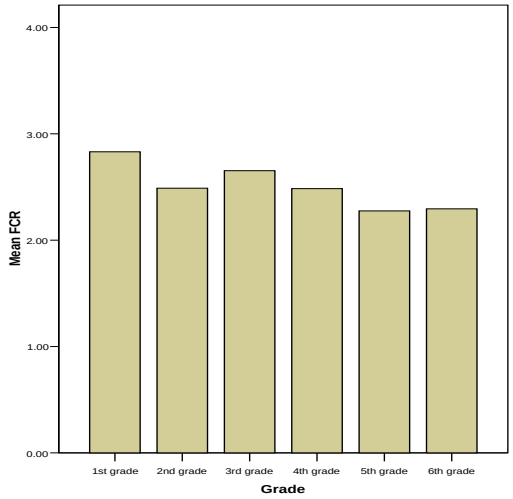

Figure 6. FCR mean differences by grade

MT: My Teacher

A 2 x 6 ANOVA was utilized to evaluate the effects of gender and grades (1 through 6) on *My Teacher* (MT), one of eight resiliency factors. The means and standard deviations for MT as a function of the two factors are presented in Table 12.

Table 12

Dependent Variable: MT—Means and Standard Deviations

Gender	Grade	*M*	*SD*	*N*
Boy/male	1st grade	2.8537	.71008	42
	2nd grade	2.7456	.74745	41
	3rd grade	3.0850	.75399	42
	4th grade	3.2169	.72618	54
	5th grade	2.8635	.77229	45
	6th grade	3.0146	.59279	49
	Total	2.9754	.72879	273
Girl/female	1st grade	3.2558	.56764	43
	2nd grade	3.0783	.50800	62
	3rd grade	3.2730	.54977	45
	4th grade	3.3499	.59979	49
	5th grade	3.1968	.64695	53
	6th grade	3.2829	.74454	50
	Total	3.2313	.60783	302
Total	1st grade	3.0571	.66941	85
	2nd grade	2.9459	.63262	103
	3rd grade	3.1823	.65924	87
	4th grade	3.2802	.66914	103
	5th grade	3.0437	.72304	98
	6th grade	3.1501	.68371	99
	Total	3.1098	.67955	575

The ANOVA indicated no significant interaction between gender and grade, $F(5, 563) = .545$, $p = .742$, partial $\eta 2$ (effect size) = .005, but significant main effects for gender, $F(1, 563) = 24.726$, $p = .000$, partial $\eta 2 = .042$. The gender main effect indicated that girls ($M = 3.23$) tended to have a closer relationship with their teachers than boys ($M = 2.98$).

In details, the mean of first grade girls ($M = 3.26$) was greater than first grade boys ($M = 2.85$) by .40 and the mean difference was statistically significant,

$F(1, 83) = 8.335$, $p = .005$. The mean of second grade girls ($M = 3.08$) was greater than second grade boys ($M = 2.75$) by .33 and the mean difference was statistically significant, $F(1, 101) = 7.244$, $p = .008$. The mean of fifth grade girls ($M = 3.20$) was greater than fifth grade boys ($M = 2.86$) by .33 and the mean difference was statistically significant, $F(1, 96) = 5.405$, $p = .022$. The mean of sixth grade girls ($M = 3.28$) was greater than sixth grade boys ($M = 3.02$) by .27 and the mean difference was statistically significant, $F(1, 97) = 3.924$, $p = .050$. In summary, first, second, fifth and sixth grade girls had a closer relationship with their teachers than boys (Figure 7).

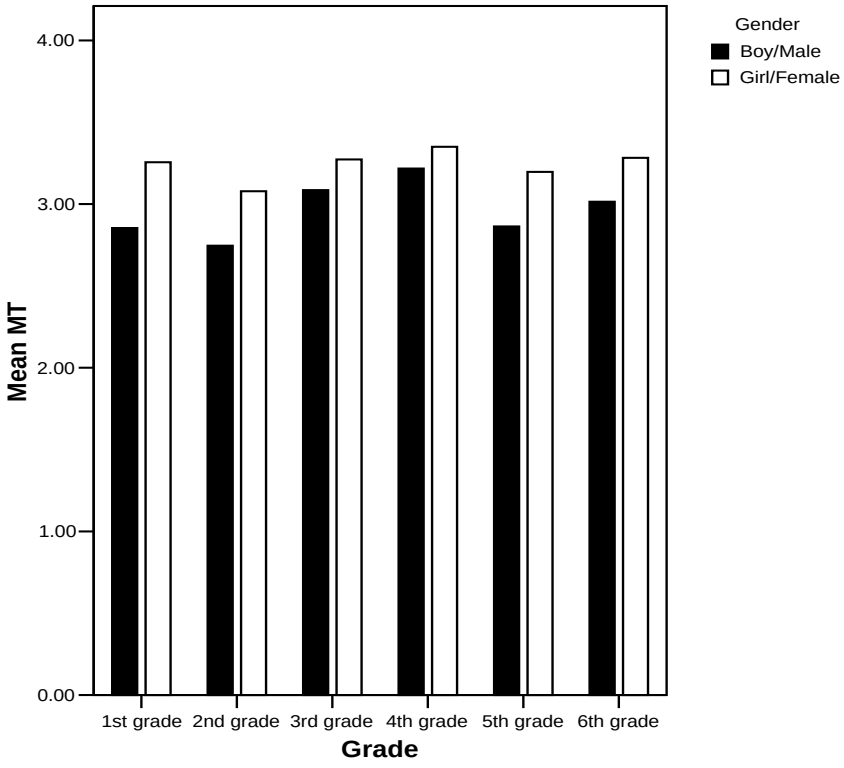

Figure 7. MT mean differences by gender in each grade

There were significant main effects for grade, $F(1, 563) = 3.828$, $p = .002$, partial $\eta 2 = .033$, which means there were mean differences among grades (first through six grade) and the mean differences were statistically significant. Follow-up analyses to the main effect for grade were examined. The follow-up tests consisted of all pairwise comparisons among the six different grades (first through sixth). The Tukey HSD procedure was used to control for Type 1 error across the pairwise comparisons. The results of this analysis indicated that fourth grade students ($M = 3.28$) described closer relationships with their teachers than second grade students ($M = 2.95$) and the mean differences were statistically significant but effect size was small, $F(5, 563) = 3.828$, $p = .002$, partial $\eta^2 = .033$. In summary, fourth grade students perceived a closer relationship with their teachers than second grade students (Figure 8).

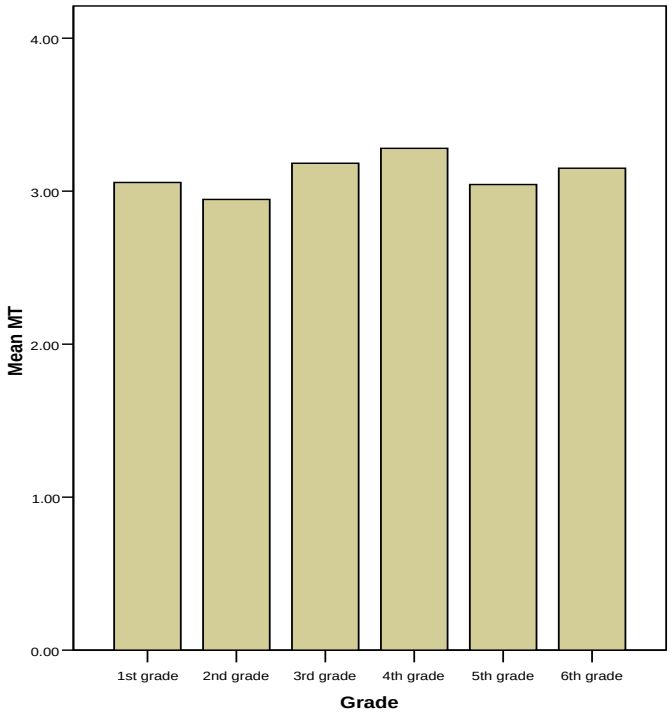

Figure 8. MT mean differences by grade

MC: My Classmates

A 2 x 6 ANOVA was conducted to evaluate the effects of gender and grades (1 through 6) on one of eight resiliency variables, *My Classmates* (MC). The means and standard deviations for MC as a function of the two factors are presented in Table 13. The ANOVA indicated significant main effect for gender, $F(1, 550) = 19.384$, $p = .000$, partial η^2 (effect size) = .034, a significant effect for Grade, $F(5, 550) = 2.843$, $p = .015$, partial $\eta 2 = .025$, and a significant interaction between gender and Grade, $F(5, 550) = 4.352$, $p = .001$, partial η^2 (effect size) = .038.

Table 13

Dependent Variable: MC—Means and Standard Deviations

Gender	Grade	*M*	*SD*	*N*
Boy	1st grade	3.1713	.66605	36
	2nd grade	2.6179	.59072	41
	3rd grade	2.7540	.80247	42
	4th grade	2.8519	.78885	54
	5th grade	2.7348	.86065	44
	6th grade	2.9558	.78453	49
	Total	2.8434	.77141	266
Girl	1st grade	2.9099	.84947	37
	2nd grade	3.0618	.56073	62
	3rd grade	3.2185	.62038	45
	4th grade	2.8469	.73821	49
	5th grade	3.3050	.62081	53
	6th grade	3.3667	.73540	50
	Total	3.1261	.70246	296
Total	1st grade	3.0388	.77056	73
	2nd grade	2.8851	.61038	103
	3rd grade	2.9943	.74728	87
	4th grade	2.8495	.76145	103
	5th grade	3.0464	.78864	97
	6th grade	3.1633	.78390	99
	Total	2.9923	.74870	562

Due to findings of a significant interaction between gender and Grade, the researcher chose to ignore the gender and Grade main effect and instead examined the gender simple main effects and Grade simple main effects.

Gender simple main effects. To control for Type I error across the two simple main effects, set alpha for each at .025. The analysis revealed that the mean of second grade girls ($M = 3.06$) was greater than second grade boys ($M = 2.62$) by .44 and the mean difference was statistically significant, $F(1, 101) =$

14.825, p = .000. The mean of third grade girls (M = 3.22) was greater than third grade boys (M = 2.75) by .47 and the mean difference was statistically significant, $F(1, 85) = 9.195$, p = .003. The mean of fifth grade girls (M = 3.30) was greater than fifth grade boys (M = 2.73) by .57 and the mean difference was statistically significant, $F(1, 95) = 14.309$, p = .000; the mean of sixth grade girls (M = 3.37) was greater than sixth grade boys (M = 2.96) by .41 and the mean difference was statistically significant, $F(1, 97) = 7.231$, p = .008. In summary, second, third, fifth, and sixth grade girls had a closer relationship with their classmates than boys in the same grade (Figure 9).

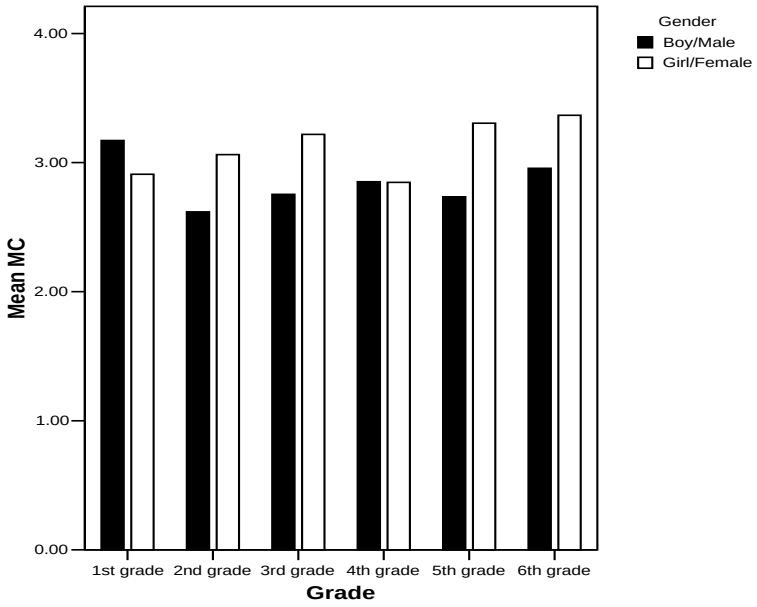

Figure 9. MC mean differences by gender in each grade

Grade simple main effect. To control for Type I error across the two simple main effects, the alpha for each was set at .025. There were significant

differences between Grade levels for boys, $F(2, 550) = 6.058$, $p = .002$, but there were no significant differences for girls, F (2, 550) = 1.876, $p = .154$.

Follow-up tests were conducted to evaluate the 15 pairwise differences among the means for boys, with alpha set at .0017 (.025/15 = .0017) to control for Type I error over the 15 pairwise comparisons. There were significant mean differences between first grade boys (3.17) and second grade boys (2.91), $F(1, 550) = 11.327$, $p = .001$ (Figure 10).

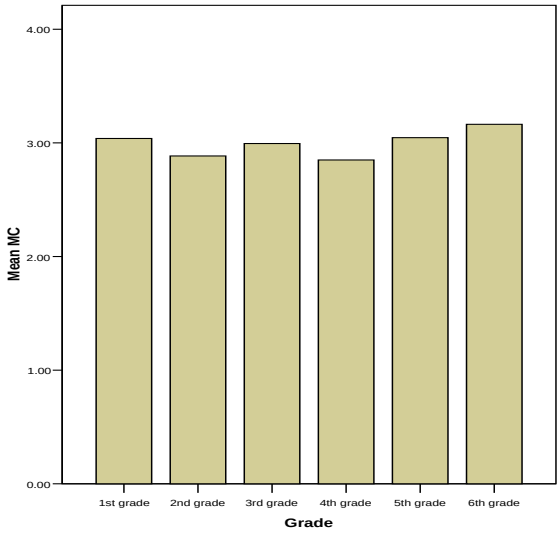

Figure 10. MC mean differences by grade

IWT: I Worry That

A 2 x 6 ANOVA was utilized to evaluate the effects of gender and grades (1 through 6) on *I Worry That* (IWT), one of eight resiliency factors. The means and standard deviations for IWT as a function of the two factors are presented in

Table 14. The ANOVA indicated no significant interaction between gender and grade, $F(5, 544) = 1.387$, $p = .227$, partial η^2 (effect size) = .013.

Table 14

Dependent Variable: IWT—Means and Standard Deviations

Gender	Grade	*M*	*SD*	*N*
Boy/male	1st grade	2.3160	.73587	36
	2nd grade	2.3811	.80378	41
	3rd grade	1.8274	.66715	42
	4th grade	2.2206	.68902	51
	5th grade	1.8693	.76722	44
	6th grade	1.7321	.82758	49
	Total	2.0461	.78623	263
Girl/female	1st grade	2.5541	.83309	37
	2nd grade	2.4385	.76124	61
	3rd grade	2.2667	.86709	45
	4th grade	2.2995	.82382	48
	5th grade	2.3053	.79498	52
	6th grade	1.7625	.71082	50
	Total	2.2649	.82640	293
Total	1st grade	2.4366	.79033	73
	2nd grade	2.4154	.77519	102
	3rd grade	2.0546	.80349	87
	4th grade	2.2588	.75450	99
	5th grade	2.1055	.80833	96
	6th grade	1.7475	.76702	99
	Total	2.1614	.81430	556

The analysis showed significant main effects for gender, $F(1, 544) = 10.318$, $p = .001$, partial $\eta 2 = .019$. This gender main effect indicated that girls had more worries about peer conflict within their classrooms than boys. First, the mean of third grade girls ($M = 2.27$) was greater than second grade boys ($M = 1.83$) by .44 and the mean difference was statistically significant, $F(1, 85) =$

6.942, $p = .010$. Second, the mean of fifth grade girls ($M = 2.31$) was greater than fifth grade boys ($M = 1.87$) by .44 and the mean difference was statistically significant, $F(1, 94) = 7.400$, $p = .008$. In summary, third and fifth grade girls have more concerns about peer conflict within their classrooms than boys in the same grade (Figure 11).

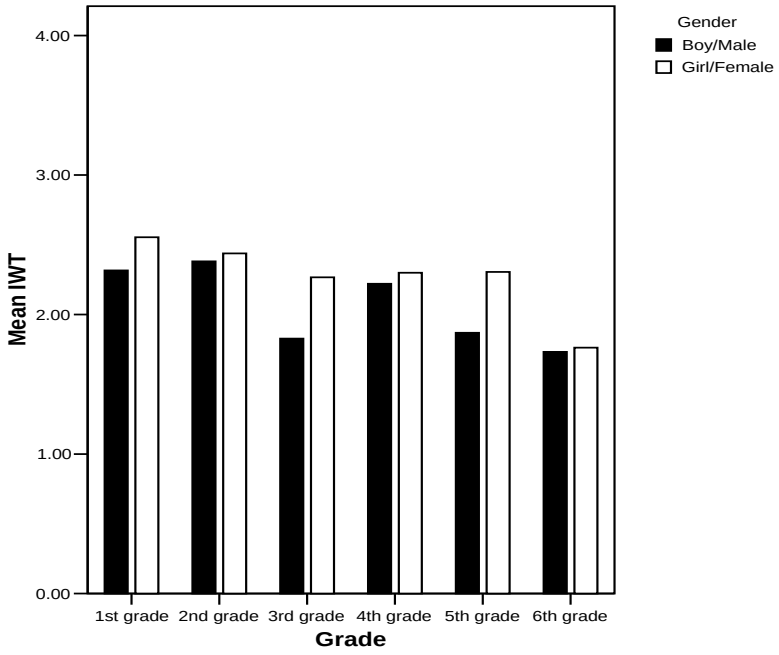

Figure 11. IWT mean differences by gender in each grade

There were significant main effects for grade, $F(1, 544) = 10.352$, $p = .000$, partial $\eta 2 = .087$. Follow-up analyses to the main effect for grade were examined. The follow-up tests consisted of all pairwise comparisons among the six different grades (first through sixth). The Tukey HSD procedure was used to control for Type 1 error across the pairwise comparisons. The results of this analysis indicated that first grade students worry more about peer conflict within

their classroom than third and sixth grade students. Second grade students worry more about conflict within their classroom than third and sixth grade students. Fourth and fifth grade students worry more about peer aggression (bullying by non-friends) than sixth grade students (Figure 12).

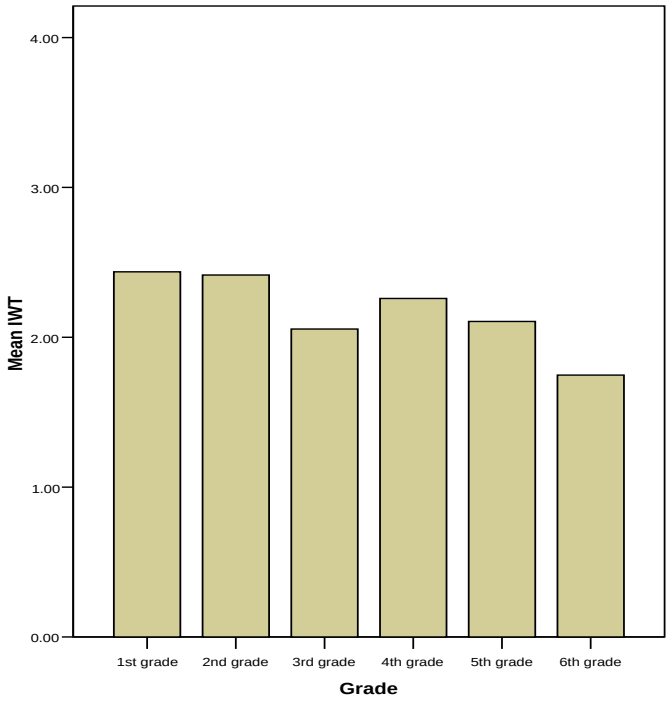

Figure 12. IWT mean differences by grade

KITC: Kids in This Class

A 2 x 6 ANOVA was conducted to evaluate the effects of gender and grades (1 through 6) on *Kids In This Class* (KITC), one of eight resiliency factors. The means and standard deviations for KITC as a function of the two factors are presented in Table 15. The ANOVA indicated no significant interaction between gender and grade, $F(5, 536) = .198$, $p = .963$, partial η^2 (effect size) = .002.

Table 15

Dependent Variable: KITC—Means and Standard Deviations

Gender	Grade	*M*	*SD*	*N*
Boy/Male	1st grade	2.4556	.88364	36
	2nd grade	2.4872	.81279	39
	3rd grade	2.0952	.78304	42
	4th grade	2.5686	.73471	51
	5th grade	2.6545	.89895	44
	6th grade	2.3918	.91101	49
	Total	2.4460	.84855	261
Girl/Female	1st grade	2.5135	.80766	37
	2nd grade	2.5053	.91971	57
	3rd grade	2.0591	.71863	44
	4th grade	2.5500	.68230	48
	5th grade	2.8192	.82344	52
	6th grade	2.4898	.83373	49
	Total	2.4997	.82967	287
Total	1st grade	2.4849	.84058	73
	2nd grade	2.4979	.87347	96
	3rd grade	2.0767	.74655	86
	4th grade	2.5596	.70623	99
	5th grade	2.7438	.85825	96
	6th grade	2.4408	.87010	98
	Total	2.4741	.83838	548

The analysis revealed that there were no significant main effects for gender, $F(1, 536) = .446$, $p = .505$, partial $\eta 2 = .001$, which means that mean differences between girls and boys in each grade were small and the difference was not statistically significant (Figure 13).

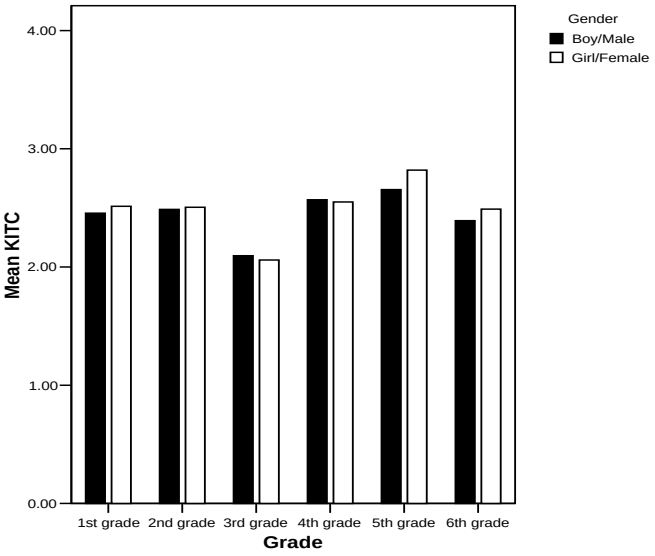

Figure 13. KITC mean differences by gender in each grade

There were significant main effects for grade, $F(5, 536) = 6.219$, $p = .000$, partial $\eta 2 = .055$. Follow-up analyses to the main effect for grade were examined. The follow-up tests consisted of all pairwise comparisons among the six different grades (first through sixth). The Tukey HSD procedure was used to control for Type 1 error across the pairwise comparisons. The results of this analysis indicated that first, second, fourth, fifth, and sixth grade students had more worries about peer conflict within their classroom than third grade students (Figure 14).

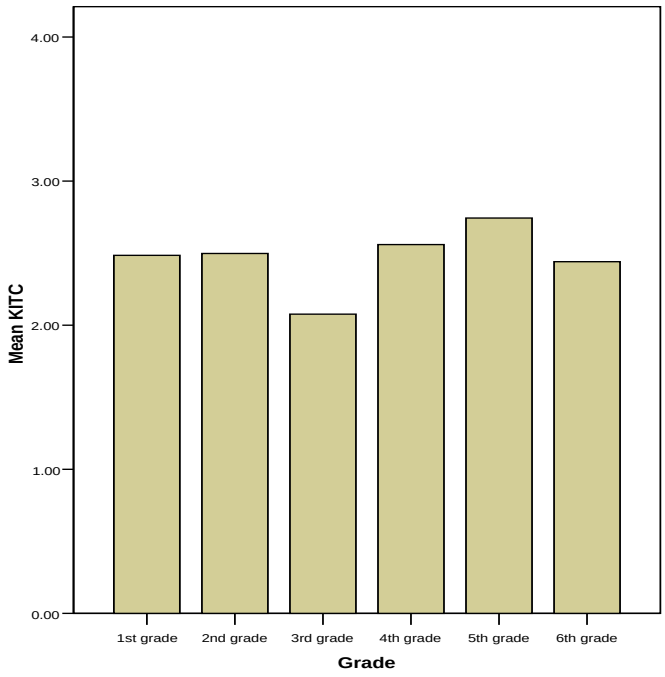

Figure 14. KITC mean differences by grade

TWP: Talking With My Parents

A 2 x 6 ANOVA was utilized to evaluate the effects of gender and grades (1 through 6) on *Talking With My Parents* (TWP), one of eight resiliency factors. The means and standard deviations for TWP as a function of the two factors are presented in Table 16. The ANOVA indicated significant main effect for gender, $F(1, 546) = 12.323$, $p = .000$, partial η^2 (effect size) = .022; no significant main effects for Grade, $F(5, 546) = .982$, $p = .428$, partial $\eta 2 = .009$ and a significant interaction between gender and Grade, $F(5, 546) = 2.532$, $p = .028$, partial η^2 (effect size) = .023.

Table 16

Dependent Variable: TWP—Means and Standard Deviations

Gender	Grade	*M*	*SD*	*N*
Boy/male	1st grade	3.0357	.73193	36
	2nd grade	2.7840	.71509	41
	3rd grade	2.8197	.69776	42
	4th grade	3.0672	.69538	51
	5th grade	2.6006	.73787	44
	6th grade	2.7726	.75813	49
	Total	2.8463	.73421	263
Girl/female	1st grade	2.9846	.73446	37
	2nd grade	3.1889	.52935	62
	3rd grade	3.1175	.66887	45
	4th grade	2.9970	.78881	48
	5th grade	3.1159	.76729	53
	6th grade	2.9686	.78527	50
	Total	3.0707	.71047	295
Total	1st grade	3.0098	.72856	73
	2nd grade	3.0277	.63858	103
	3rd grade	2.9737	.69527	87
	4th grade	3.0332	.73917	99
	5th grade	2.8822	.79326	97
	6th grade	2.8716	.77430	99
	Total	2.9649	.72977	558

Due to findings which indicated significant interaction between gender and grade, the researcher chose to ignore the gender and grade main effect and instead examined the gender simple main effects and grade simple main effects.

Gender simple main effects. To control for Type I error across the two simple main effects, alpha for each was set at .025. The results showed that the

mean of second grade girls (M = 319.) was greater than second grade boys (M = 2.78) by .41 and the mean difference was statistically significant, $F(1, 101) = 10.888$, $p = .001$. The mean of third grade girls (M = 3.12) was greater than third grade boys (M = 2.82) by .30 and the mean difference was statistically significant, $F(1, 85) = 4.129$, $p = .045$; and the mean of fifth grade girls (M = 3.12) was greater than fifth grade boys (M = 2.60) by .52 and the mean difference was statistically significant, $F(1, 95) = 11.223$, $p = .001$. In other words, second, third, and fifth grade girls had more communication with their parents than boys (Figure 15).

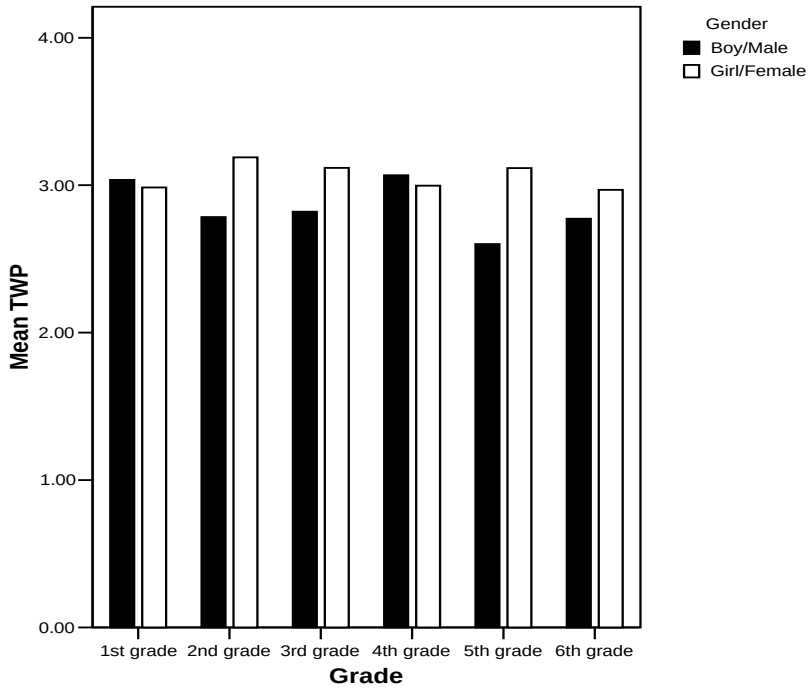

Figure 15. TWP mean differences by gender in each grade

Grade simple main effect. To control for Type I error across the two simple main effects, alpha for each was set at .025. There were no significant

differences between grade levels for boys, $F(2, 546) = 1.359$, $p = .258$, and no significant mean differences for girls, $F(2, 546) = .942$, $p = .390$ (Figure 16).

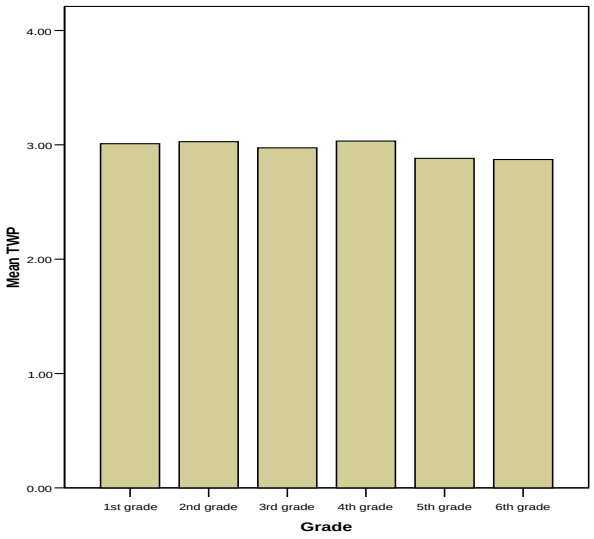

Figure 16. TWP mean differences by grade

Summary of Results

The research examined students' perception of their classroom environments regarding autonomy and relationships in a predominantly Navajo public school on the Navajo Nation. An overall research question with three subquestions were generated and answered based on preexisting data (ClassMaps survey) that were collected during 2009. The participants of this study were predominantly students of Navajo ethnicity (91%) and 9% identified as other ethnicities. The sample population included 273 male and 302 female students in grades 1 through 6. The raw data were analyzed by use of the Pearson (r) correlation coefficient measure to determine the means and standard deviations for male and female populations. Also, the two-way ANOVA was used to

correlate the means of the eight ClassMaps resiliency factors (BIM, MT, TC, MC, FCR, TWP, IWT, KITC).

The overall research question and subquestions were answered through analysis of gender differences, grade level differences, and comparisons of gender and grade level. Female students in grades 2, 4, 5 and 6 reported greater higher level of confidence on the BIM subscale compared to the male students. Female students in grades 1, 2, 5 and 6 perceived a closer relationship (MT) with their teachers than the males. Females in second and fifth grades believed they had the ability to be academically successful (TC) more so than their male counterparts. Female students in grades 2, 3, 5, and 6 perceived greater positive peer relationships than the male students. Female students in the second, third, and fifth grades reported talking to their parents more about school compared to the male students. These findings were measured at the statistical significant ranges of correlation coefficient 3.04 to 3.31. In regards to perceptions about *Following Class Rules* and *Kids In This Class*, no significant differences were measured between the genders.

Specific findings on each of the eight ClassMaps were as follows:

1. The analysis on academic efficacy showed no significant interaction between gender and grade; however, a significant main effect indicated girls (M = 3.10) endorsed greater levels of confidence to be successful in the classroom that the boys (M = 2.81).

2. The analysis on behavioral self-control indicated no interaction between gender and grade but significant main effects for gender. The girls ($M = 3.11$) tended to have more willingness to try hard and take responsibility for their learning than boys ($M = 2.93$).

3. The analysis on *Following Class Rules* revealed no significant main effect, which means nonexistence of significant differences between boys and girls for the FCR subscale; however, there were significant mean effects on grades at the .074 level. First grade students ($M = 2.83$) indicated more willingness to follow classroom rules than fourth (2.49), fifth (2.28), and sixth (2.30) grade students. Further, third grade students (2.65) indicated more willingness to follow classroom rules than fifth (2.28) and sixth (2.30) grade students.

4. The analysis on relationship with teachers indicated no significant interaction between gender and grade (effect size = .005) but significant main effects for gender (.042). The gender main effect indicated girls ($M = 3.23$) tended to perceive a closer relationship with their teachers than the boys ($M = 2.98$). In summary, first, second, fifth, and sixth grade girls perceived closer relationships with their teachers than the boys (Figure 7).

5. When compared, the effects of gender and grades on peer relationships (MC, IWT and KITC) indicated a significant gender main effect at .034 level and a significant interaction between gender and grade with effect size at the .038 level. Due to findings that indicated significant interaction between gender and

grade, the gender and main effect was ignored; instead, the gender simple main effects and grade simple main effects were examined. To control Type 1 error across two simple main effects, alpha was set at .025. The results indicated that second, third, fifth, and sixth grade girls perceived rewarding friendships with their classmates than same grade boys (Figure 12). Also, there were significant mean differences between boys in the first (3.17) and second grade. The analysis on the *I Worry That* subscale showed significant main effects for gender at the .019 level. The IWT subscale indicated that girls in third and fifth grades tended to worry more about peer aggression (bulling between non-friends) than the boys (Figure 11). The analysis on the *Kids In This Class* subscale (Figure 13) revealed that there were no significant main effects for gender; however, there were significant main effects for grade. The results indicated that first, second, fourth, fifth, and sixth grade students have more worries about being teased and arguments within their classrooms (conflicts within the classroom) than third grade students.

6. The analysis on talking with parents indicated significant main effect for gender, no significant main effect for grade, and a significant interaction between gender and grade. Due to finding that the interaction between gender and grade was insignificant, the gender and grade main effect was ignored; instead, the gender simple main effects and grade simple main effects were examined. Results indicated that second, third, and fifth grade girls perceived a greater level of communication with their parents than the boys regarding school.

CHAPTER 5

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

School-based resiliency studies generally focus on risk and protective factors affecting students. The data is commonly collected by asking students to self-report their behaviors through anonymous surveys. Results from these surveys are useful in identifying youth-risk factors and informing prevention and intervention practices at the national, state, tribal, community, school and classroom levels.

Results from the national, state, and tribal surveys indicate that AI/NA students are at higher risk with less protective factors than any other ethnic group. The high-risk factors and low-protective factors for AI/NA in health, poverty, education, victimization, mental health, gangs, and juvenile delinquency are of great concern to the AN/NA communities. Generational or historical trauma, lack of understanding of cultural differences, and inadequate mental health and social services are often cited as the root cause for the lack of social and economic progress of AI/NA rural populations. Despite the multitude of risk factors, AI/AN continuance as a distinct and identifiable cultural minority is a fact which seems to attest to their resilience and which expands our understanding of protective factors within cultures.

Education is seen as a major protective factor within the AI/NA communities. School-based resiliency research focuses on risk surveillance,

teaching methodologies, models to promote protective factors, the relationship between resiliency and academic achievement, gender, and assessment instruments.

Current developmental research defines resiliency as a systemic phenomenon within the context of families, schools, and community systems. These systems act upon each other and upon the individuals within the system. Likewise, individuals act upon the system in a continuous reciprocal interaction. Within a school, these dynamic relationships are most critical especially within the classroom environment where teachers, students, peers, and parents interact with each other within the culture of the school, family, and community.

This research study focused on the dynamic relationships within the classroom environment among teachers, students, peers, and parents in a public elementary school located within the boundaries of the Navajo Nation. This study was based on the assumption that elementary students would be able to self-report their perceptions of six researched-based resiliency factors. The resiliency factors of student autonomy (academic efficacy, self-determination, behavioral self-control) and relationships (teacher, peer, and home) were measured by a reliable and valid student survey, ClassMaps, developed by Dr. Beth Doll (2007).

Problem Statement

This study was to determine how Navajo children perceived their classroom learning environments as it relates to two components of the classroom

environment: student autonomy and relationships. The specific questions to be answered were as follows:

1. What are the resiliency characteristics of children in an elementary school on the Navajo reservation as measured by ClassMaps resilience inventory?
2. Do resiliency characteristics differ between boys and girls? If so, in what areas?
3. Do the resiliency characteristics differ with respect to grade level?
4. Is there a relationship between students' gender and grade level and their resiliency characteristics?

Review of Methodology

To answer these questions, the ClassMaps survey (Appendix A) was analyzed using Pearson correlation coefficient method to determine means and standard deviations for each of the research variables with the Tukey procedure as a follow-up test. The two-factor ANOVA was used to measure gender and grade levels.

Summary of Results

This study found significant differences in how male and female students perceived their autonomy and relationships within the classroom and found significant differences between the grade levels. Compared to the boys, the girls perceived themselves having greater autonomy and more supportive relationships from their teacher, peers, and parents.

Discussion

Most social/emotional and self-esteem research indicate that girls perceive themselves to be less competent than boys. This study found that within the context of their individual classrooms, girls perceived themselves to be more competent than boys. This difference from other studies may be due to several factors.

This difference may be due to the nature of the assessments. Most social competence and self-esteem assessments are global in nature. Students are asked to report on their general feelings without regard to specific environments or/and in relationship to many different environments. This study asked students questions that related to a specific environment and in relationship to specific factors within that environment. Students, for example, were not asked about how they felt about themselves in any general way but how they felt about specific aspects regarding their teachers, peers, or parents within the context of their regular classrooms.

The difference in the gender results from other studies may be due to the population. This population of mainly Navajo students within a public school located on Navajo Nation is a homogenous population of children within a high-risk community. Risk and/or cultural factors within this population may account for the gender differences. The Navajo society, for example, is traditionally a matrilineal society. Within a matrilineal society girls may be treated differently by their teachers, peers, and parents than are boys than in a paternal society.

The nature of gender research might also cause the differences. Most resiliency research is conducted within populations in which there is a high degree of pathology such as students in adolescent treatment centers or intervention programs for social/emotional and/or academic problems. While the population of this study was a homogenous population within a high risk environment, the students were in a typical public school in regular education classrooms and represented the full range of students found in regular education. The study also focused on the classroom environment rather than the students themselves. Students were asked to evaluate their classroom environment and not themselves.

The results that boys perceived themselves less competent than girls in their academic efficacy, self-determination, and behavioral self-control with less teacher and parental support for their learning is a major concern for this Native American population. Risk-factor research has clearly established that males within the AI/NA populations are at much greater risk than females for poor educational outcomes. This study suggests that at a very young age protective factors within the classroom are not as evident for boys as they are for girls.

One of the major protective factors in the elementary classroom is the support the students receive from their classroom teacher. All students need to feel that their teacher listens carefully to them when they talk, helps them when they need help, respects them, likes having them in class, makes it fun to be in class, thinks they do a good job, and is fair to them.

As the manager of the classroom, the teacher is responsible for all the areas assessed in this study for both boys and girls. The research is clear on the teacher's role within the classroom and what the teacher needs to understand and provide for all students according to their needs.

Conclusion

This research study was based upon the large body of resiliency research that supports the development of protective factors for all children and especially for high-risk children within specific environments. The early years of development are accepted as a critical time for acquiring many of the basic skills, attitudes, and values that tend to remain over the life span.

One of the most significant environments for children is school and the most significant place in school for elementary students is their classroom. The most significant person within the classroom is the teacher. A classroom that supports the student's "I can do it" attitude toward academic efficacy, self-determination, and behavioral self-control supports resiliency. In order to have autonomy, students need the support of their teacher, peers, and parents.

This study demonstrated that high-risk elementary children are capable of telling us how they perceive their own autonomy and relationships within the classroom. In this study, they reported that the girls feel significantly more competent in their ability to learn and that the girls felt more supported by their teacher, peers, and parents than the boys. If this sample at one public school on the Navajo Nation is representative of most classrooms, these findings indicate

the need for a major intervention on how teachers and parents support all students in their learning without regard to gender. This study has demonstrated that collecting reliable and valid data on classroom environment is efficient and cost effective.

Recommendations for Practice

While this study was only a small sampling of elementary students on the Navajo Nation and the focus was limited to gender comparison, the research clearly demonstrates that any classroom teacher can easily collect and analyze the data from students in their own classroom. Once the data is collected and analyzed, the teacher will see the strengths and weaknesses of their own classroom and will be able to implement strategies to address areas of need using a Response to Intervention protocol. If the data is clearly supporting the results of this study that boys feel themselves less capable of learning and less supported by their teacher, peers, and parents, each classroom can address this issue and develop interventions.

Beth Doll's guidelines for using ClassMaps as an intervention tool to improve student autonomy and relationships within the classroom are highly recommended. This model can be used by the classroom teacher preferably in collaboration within the Response to Intervention process. Mentoring teachers, academic coaches, intervention specialists, school counselors, and school psychologists should understand the intervention protocols and be available to assist the classroom teachers.

In order to improve the entire school environment, all classrooms should be encouraged to participate in a Response to Intervention process for the development of supportive environments to the same degree and with the same rigor that they are asked to improve the academic areas of reading, writing, and math. Participation should be in the spirit of cooperation in a non-threatening manner. Individual classroom results should remain confidential with the teacher and students who may or may not share the results with others outside the classroom.

The consultant would meet with the teacher to plan for the administration of the survey. The survey would be administered to the students according to an established protocol. Students take the survey anonymously either on paper or a computer survey such as Survey Monkey. The teacher should not administer the survey or be in the room where the survey is administered as this may intimidate the students taking the survey. The survey should be read to students who read below third grade reading level.

The results would then be collated and graphed. The teacher and consultant would discuss the results and plan a class meeting. During the class meeting, the teacher and students would discuss the results of the survey and set a goal for improvement. The teacher would present the results in an understandable manner for the students. The goal might be to improve one of the areas represented either by one of the ClassMaps such as Behavioral Self-Control or My Classmates, or the class could choose to improve or one or two specific areas

within a ClassMap such as “I learn because I want to and not just because the teacher tells me to” and/or “I worry that other kids will do mean things to me.” The teacher and students then develop an intervention plan for the desired change and then implement the plan. The plan is then monitored and revised as needed.

ClassMaps could be administered to the entire school population to measure how well the entire school community is doing each quarter. This would institutionalize the importance of the classroom environment and place it on par with academics. Schools can use the ClassMaps data as part of their school improvement plan and to report their school climate to parents and the community. ClassMaps could also be used as part of data collection and intervention plan for positive behavioral support programs. If individual classroom teachers started collecting, analyzing, and implementing interventions to support classroom resiliency, a balance between academic concerns and social/emotional concerns would eventually occur, allowing every child to succeed not only academically but also socially and emotionally. Once a school or several schools implemented a Response to Intervention program for building resiliency within the classroom, school wide data could be collected for classroom environmental research.

Besides using this study for the bases of classroom interventions, this study could be duplicated on a much larger scale including more grades and schools. If the results of this study were verified on a larger scale, research to

determine the cause(s) of the discrepancy of the genders within the classroom could be undertaken.

Recommendations for further Research

This study should be duplicated on a much larger population on the Navajo Nation, including more grade levels and schools located in different geographic regions of large Navajo student populations. As more data from larger and more diverse samples population are collected, comparisons between populations can be made.

This study suggests future research within the general area of classroom environment. This could include comparing different AI/NA populations to each other and to other ethnic groups. Future research could help determine the relationship between academic achievement and classroom resiliency. For example, it would be useful to determine if there is a correlation between various resiliency characteristics and academics as measured by standardized test scores, attendance and dropout rates, or other measures of academic success. Future research could be undertaken to determine the efficacy of various interventions on improving classroom resiliency and classroom practices.

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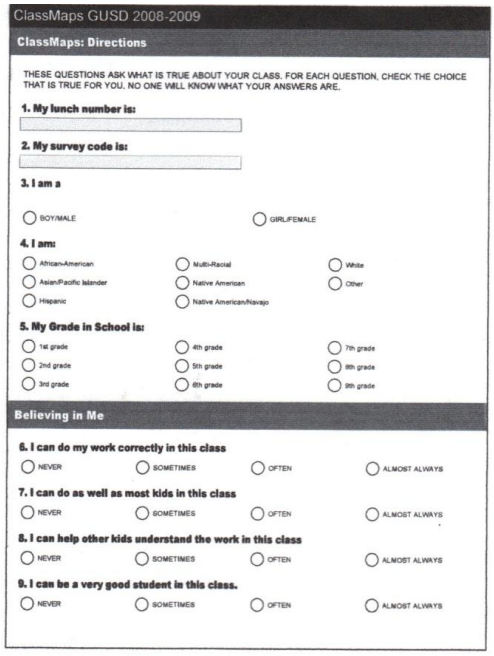
APPENDIX A

CLASSMAPS SURVEY



ClassMaps GUSD 2008-2009

ClassMaps: Directions

THESE QUESTIONS ASK WHAT IS TRUE ABOUT YOUR CLASS. FOR EACH QUESTION, CHECK THE CHOICE THAT IS TRUE FOR YOU. NO ONE WILL KNOW WHAT YOUR ANSWERS ARE.

1. My lunch number is:

2. My survey code is:

3. I am a

○ BOY/MALE ○ GIRL/FEMALE

4. I am:

○ African-American ○ Multi-Racial ○ White
○ Asian/Pacific Islander ○ Native American ○ Other
○ Hispanic ○ Native American/Navajo

5. My Grade in School is:

○ 1st grade ○ 4th grade ○ 7th grade
○ 2nd grade ○ 5th grade ○ 8th grade
○ 3rd grade ○ 6th grade ○ 9th grade

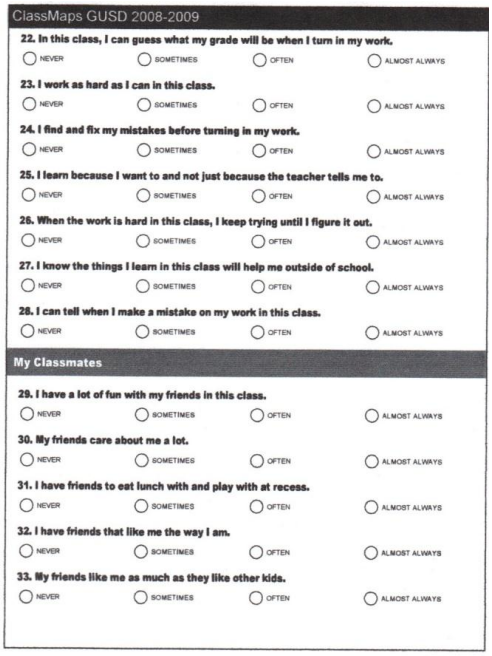
Believing in Me

6. I can do my work correctly in this class
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

7. I can do as well as most kids in this class
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

8. I can help other kids understand the work in this class
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

9. I can be a very good student in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS



ClassMaps GUSD 2008-2009

22. In this class, I can guess what my grade will be when I turn in my work.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

23. I work as hard as I can in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

24. I find and fix my mistakes before turning in my work.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

25. I learn because I want to and not just because the teacher tells me to.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

26. When the work is hard in this class, I keep trying until I figure it out.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

27. I know the things I learn in this class will help me outside of school.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

28. I can tell when I make a mistake on my work in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

My Classmates

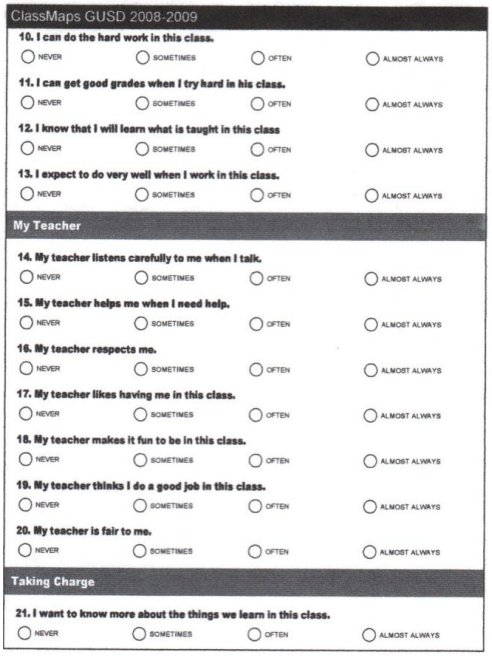
29. I have a lot of fun with my friends in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

30. My friends care about me a lot.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

31. I have friends to eat lunch with and play with at recess.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

32. I have friends that like me the way I am.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

33. My friends like me as much as they like other kids.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS



ClassMaps GUSD 2008-2009

10. I can do the hard work in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

11. I can get good grades when I try hard in his class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

12. I know that I will learn what is taught in this class
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

13. I expect to do very well when I work in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

My Teacher

14. My teacher listens carefully to me when I talk.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

15. My teacher helps me when I need help.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

16. My teacher respects me.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

17. My teacher likes having me in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

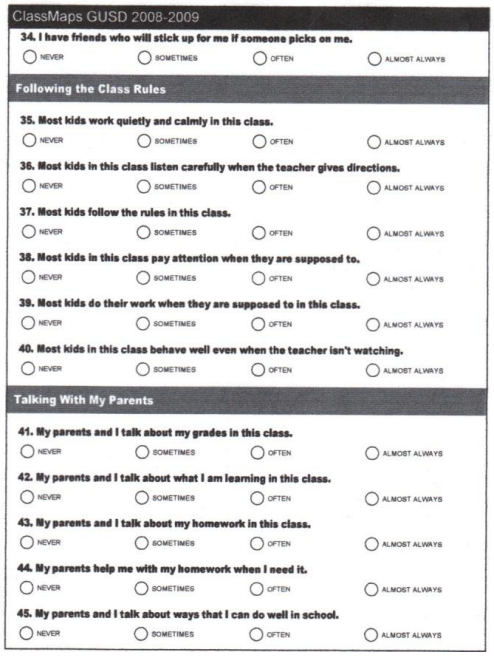
18. My teacher makes it fun to be in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

19. My teacher thinks I do a good job in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

20. My teacher is fair to me.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

Taking Charge

21. I want to know more about the things we learn in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS



ClassMaps GUSD 2008-2009

34. I have friends who will stick up for me if someone picks on me.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

Following the Class Rules

35. Most kids work quietly and calmly in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

36. Most kids in this class listen carefully when the teacher gives directions.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

37. Most kids follow the rules in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

38. Most kids in this class pay attention when they are supposed to.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

39. Most kids do their work when they are supposed to in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

40. Most kids in this class behave well even when the teacher isn't watching.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

Talking With My Parents

41. My parents and I talk about my grades in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

42. My parents and I talk about what I am learning in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

43. My parents and I talk about my homework in this class.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

44. My parents help me with my homework when I need it.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

45. My parents and I talk about ways that I can do well in school.
○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

ClassMaps GUSD 2008-2009

46. My parents and I talk about good things I have done in this class.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

47. My parents and I talk about problems I have in this class.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

I worry that....

48. I worry that other kids will do mean things to me.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

49. I worry that other kids will tell lies about me.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

50. I worry that other kids will hurt me on purpose.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

51. I worry that other kids will say mean things about me.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

52. I worry that other kids will leave me out on purpose.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

53. I worry that other kids will try to make my friends stop liking me.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

54. I worry that other kids will make me do things I don't want to do.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

55. I worry that other kids will take things away from me.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

Kids In This Class

56. Kids in this class argue a lot with each other.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

57. Kids in this class pick on or make fun of each other.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

ClassMaps GUSD 2008-2009

58. Kids in this class tease each other or call each other names.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

59. Kids in this class hit or push each other.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

60. Kids in this class say bad things about each other.

○ NEVER ○ SOMETIMES ○ OFTEN ○ ALMOST ALWAYS

APPENDIX B

ASU IRB LETTER

ASU Knowledge Enterprise Development

Office of Research Integrity and Assurance

To:	Nicholas Appleton Alta B. Piechowski
From:	Mark Roosa, Chair Soc Beh IRB
Date:	01/19/2011
Committee Action:	**Exemption Granted**
IRB Action Date:	01/19/2011
IRB Protocol #:	1012005856
Study Title:	Classroom Resiliency- A comparison of Navajo elementary students' perception of their classroom environment to their academic achievement in reading and math

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(4) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

APPENDIX C

NAVAJO NATION IRB LETTER

THE NAVAJO NATION

BEN SHELLY PRESIDENT
REX LEE JIM VICE PRESIDENT

March 31, 2011

Mrs. Alta Begay Piechowski
PO Box 672
Sanders, AZ 86512

Dear Mrs. Piechowski:

This is to advise you that **Study #NNR-11.100 "Classroom Resiliency - A comparison of Navajo elementary students' perception of their classroom environment to their academic achievement in reading and math"** was presented to Navajo Nation Human Research Review Board on March 15, 2011 and considered initial submission and your research protocol. The Board initiated the following actions:

- The Board approved the research protocol effective from March 15, 2011 to March 15, 2012 with al standard conditions. We have assigned a permanent ID# NNR-11.305 to reference all documents pertinent to research study;
- You are to develop a consent form listing the NNHRRB as the first contact for concerns and issues and submit to NNHRRB to be stamped and signed before beginning research; and
- Obtain Historic Preservation Permit

Additional contingencies are listed here:

The Navajo Nation Human Research Review Board has added a very important additional contingency regarding failure to comply with NNHRRB rules, regulations, and submittal of reports which could result in sanctions being placed against your project. This could also affect your funding source and the principal investigator. **Under Part Five: Certification**, please note paragraph five wherein it states: *"I agree not to proceed in the research until the problems have been resolved or the Navajo Nation Human Research Review Board has reviewed and approved the changes."* Therefore, it is very important to submit quarterly and annual reports on time and if continuation is warranted submit a letter of request sixty (60) days prior to the expiration date.

The following are requirements that apply to all research studies:

1. The Navajo Nation retains ownership of all data obtained within its territorial boundaries. The Principal Investigator shall submit to the NNHRRB a plan and timeline on how and when the data/statistics will be turned over to the Navajo Nation;
2. Only the approved informed consent document(s) will be used in the study;
3. Any proposed future changes to the protocol or the consent form(s) must again be submitted to the Board for review and approval prior to implementation of the proposed change;
4. If the results of the study will be published or used for oral presentations at professional conferences, the proposed publication, abstract and/or presentation materials must be submitted to the Navajo Research Program for Board review and prior approval;
5. Upon Board approval, three (3) copies of the final publication must be submitted to the Navajo Research Program;
6. All manuscripts must be submitted to the Navajo Research Program for Board Review and prior approval;

• Navajo Division of Health – Research Program • Post Office Box 1390 • Window Rock, Arizona 86515 • 928/ 871 – 6650 •

7. The Principal Investigator must submit a dissemination plan on how the results of the study and how these results will be reported back to the Navajo Nation. The Principal Investigator must share specifically how these results will generally benefit or improve the health of the Navajo people. This can be completed by:
    a. Conducting an educational in-service for the community people and health care providers on the Navajo Nation and present the findings. Provide documentation of these in-services presented.
    b. Developing educational materials for use by the health care providers and the community people and providing the training on how to use the materials; and
    c. Presenting and sharing the results of the study at a research conference sponsored by the Navajo Nation for its health care providers and the Navajo people.
8. The Principal Investigator is expected to submit documentation on 7a, b, & c.
9. The Principal Investigator must submit quarterly and annual reports as scheduled.

This approval will automatically expire on **March 15, 2012** unless sooner suspended, revoked or terminated by action of the Board. A continuation of the research project may be requested by submitting a written request at least sixty (60) days prior to the expiration date to the:

Navajo Division of Health – Research Program
Post Office Box 1390
Window Rock, Arizona 86515

If you have any questions, please call the Navajo Research Program at (928) 871– 6650.

Sincerely yours,

Beverly Becenti-Pigman, Chairperson
Navajo Nation Human Research Review Board

Cc: Beverly Becenti-Pigman
NNR-11.305
Chrono

APPENDIX D

ASU CITI REPORT

CITI Collaborative Institutional Training Initiative (CITI)

Responsible Conduct of Research Curriculum Completion Report
Printed on 12/14/2010

Learner: Alta Begay Piechowski (username: a322n8_4taek)
Institution: Arizona State University
Contact Information Nicholas Appleton
Department: Social Behavioral
Phone: (928) 797-0840
Email: altapb@gmail.com

Social and Behavioral Responsible Conduct of Research:

Stage 1. Basic Course Passed on 11/23/10 (Ref # 5218261)

Required Modules	Date Completed	Score
Introduction to the Responsible Conduct of Research	11/08/10	no quiz
Introduction to Research Misconduct	11/10/10	no quiz
Research Misconduct 2-1495	11/17/10	5/5 (100%)
Data Acquisition, Management, Sharing and Ownership 2-1523	11/17/10	5/5 (100%)
Publication Practices and Responsible Authorship 2-1518	11/18/10	5/5 (100%)
Peer Review 2-1521	11/22/10	5/5 (100%)
Responsible Mentoring 01-1625	11/23/10	6/6 (100%)
Conflicts of Interest and Commitment 2-1462	11/23/10	6/6 (100%)
Collaborative Research 2-1484	11/23/10	6/6 (100%)
The CITI RCR Course Completion Page.	11/23/10	no quiz
Arizona State University	11/17/10	no quiz

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

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Director Office of Research Education
CITI Course Coordinator

Group 2 Social & Behavioral Research Investigators and key personnel:

Stage 1. Basic Course Passed on 11/17/10 (Ref # 5218260)

Required Modules	Date Completed	Score
Introduction	11/10/10	no quiz
History and Ethical Principles - SBR	11/15/10	4/4 (100%)
Defining Research with Human Subjects - SBR	11/15/10	5/5 (100%)
The Regulations and The Social and Behavioral Sciences - SBR	11/15/10	5/5 (100%)
Assessing Risk in Social and Behavioral Sciences - SBR	11/15/10	5/5 (100%)
Informed Consent - SBR	11/16/10	5/5 (100%)
Privacy and Confidentiality - SBR	11/16/10	5/5 (100%)
Research with Prisoners - SBR	11/16/10	4/4 (100%)
Research with Children - SBR	11/16/10	4/4 (100%)
Research in Public Elementary and Secondary Schools - SBR	11/16/10	4/4 (100%)
International Research - SBR	11/16/10	3/3 (100%)
Internet Research - SBR	11/17/10	4/4 (100%)
Research and HIPAA Privacy Protections	11/17/10	6/6 (100%)
Workers as Research Subjects-A Vulnerable Population	11/17/10	4/4 (100%)
Conflicts of Interest in Research Involving Human Subjects	11/17/10	2/2 (100%)
Arizona State University	11/17/10	no quiz

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