

PRACTICE IMPLICATIONS FOR ADDRESSING
NATIVE AMERICAN YOUTH SUICIDE:
AN INTEGRATIVE REVIEW

by

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A professional paper submitted in partial fulfillment
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March 2013

DEDICATION

To the Native American youth across Indian Country: You are beautiful. You are talented. You are intelligent. You are unique. You are valued. You are the future of your family. You are the future of your people. I hope this research will increase awareness of the unique context in which Native youth suicide is occurring and better prepare the communities in which you live and the health professionals that serve you to address the youth suicide epidemic that is taking your precious lives too soon.

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GLOSSARY

The following terms, primarily used in Chapter 4, are defined to explain how they are used within this integrative literature review. Definitions extracted from the chosen research articles were used when provided; if not available, definitions that most closely aligned with how the term was used in the literature are provided.

Childhood abuse: includes exposure to violence and all forms of abuse—physical, sexual, emotional, verbal, witnessing abuse and neglect (Bohn, 2003; Gone & Trimble, 2011).

Conduct disorder: repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated. This behavior pattern is usually present in a variety of settings and may range in severity from lying and truancy to stealing and vandalism to physical cruelty (APA, 2000 DSM-IV-TR).

Cognitive deficits: used as an inclusive term to describe any characteristic that acts as a barrier to cognitive performance (wikipedia.org. 2012).

Depression: includes meeting DSM-IV-R criteria for depression, or experiencing any symptoms of depression, either by self-report or in retrospect. These symptoms may include, but are not limited to, feelings of hopelessness, worthlessness, or guilt; decreased mood (sadness); difficulty with sleep; appetite changes; low energy; low self-esteem; and poor concentration (APA, 2000, DSM-IV-TR), as depression may present in a variety of ways, and was not specifically defined in the reviewed articles.

Fetal alcohol syndrome spectrum disorder: this is not a clinical term, but is used as an umbrella term to describe the altered brain development in an individual whose mother drank alcohol during pregnancy resulting in irreversible cognitive/developmental impairment and lifelong disability (Baldwin, 2007).

Post-traumatic stress disorder: the development of symptoms following exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experience by a family member or other close associate (APA, 2000 DSM-IV-TR).

Suicidal attempt: life-threatening, self-inflicted injuries that in the absence of medical intervention would result in death (May, Serna, Hurt, Lemyra & DeBruyn, 2005).

GLOSSARY-CONTINUED

Suicidal gestures (behaviors): behaviors that are not in themselves physically life-threatening but require intervention because of their self-destructive intent (May, Serna, Hurt, Lemyra & DeBruyn, 2005).

Suicidal ideation: thoughts about suicide, either passive thoughts of death or actually making a plan to complete suicide (Gliatto & Rai, 1999).

ABSTRACT

American Indian/Alaska Natives experience the highest rate of suicide compared to all ethnic groups in the United States, and the youth of this minority population account for 40 percent these suicides. The aim of this integrative literature review was to provide information and direction to health care professionals, including nurses, who deliver care to the AI/AN youth across Indian Country. An integrative review, including a comprehensive computer-assisted search of three separate databases, and a subsequent review of the reference lists of selected articles was completed. Forty-one articles met the inclusion/ exclusion criteria. The findings, recommendations and practice implications were documented in a chart (Appendix C) and then organized according to the biological systems theory model (Appendix D), which allowed for illustration of the multi-layered risk unique to Native youth, the importance of considering the social context in which Native youth suicide occurs, and assisted in identifying practice implications specific to Native American youth. The risk factors ranged from individual and family “day-to-day realities,” to factors that were a part of the adolescent’s environment but not necessarily a direct influence, to cultural, economic and political issues, and historical events that remain active as factors affecting the lives of Native youth. The results of this integrative literature review provided the evidence for the need to develop a collaborative approach that is culturally anchored in the world of the Native youth. The need for increased research related to addressing the Native American youth suicide crisis is described as imperative with suggestions to focus on studying current culturally appropriate, holistic care in attempts to determine its effectiveness.

CHAPTER 1

INTRODUCTION

A Native American Reservation in a rural Western state has experienced a large number of youth suicides over the past two years. In the year 2011 alone, this reservation experienced 5 completed youth suicides, 21 separate reports of youth with suicidal ideations, and 31 separate suicide attempts among their youth (anonymous, personal communication). This tragedy proved to be insurmountable with the resources available in the community, thus, a state of crisis was declared. U.S. Public Health Service Commissioned Corps Officers were deployed to the community, in two-week rotations for a total of 16 weeks, to assist in stabilization of this community (anonymous, personal communication). The Commissioned Corps Officers completed an evaluation of the community to identify areas of need, evaluated the services available to address the suicide cluster, and developed a plan to assist in stabilization of the community. This plan centered around the importance of communication between the various community services and was intended to assist the community in healing.

Unfortunately, the crisis of American Indian/Alaska Native (AI/AN) youth suicides is not limited to one community or reservation: “it is a nationwide epidemic” (Dorgan, 2010, as cited in Hummingbird, 2011, p. 111). American Indian/Alaska Natives experience the highest rate of suicide compared to all ethnic groups in the United States, and the youth of this minority population account for 40 percent these suicides (Olson & Wahab, 2006; Hummingbird, 2011, Indian Health Service, 2011; Carmona, 2005).

Purpose

The purpose of this project is to synthesize the current research as it relates to suicide and American Indian/Alaska Native (AI/AN) adolescents. The goal of this integrated literature review is to provide information, and direction, to nurses who deliver care to the AI/AN youth across Indian Country. Nursing implications for the care of these youth will be presented.

Background and Significance

American Indian/Alaskan Native youth have been described as the “living spirit of their people, their culture, and our Nation’s history” (U.S. Department of Health & Human Services, 2010). Unfortunately, suicidal behavior in this population has unquestionably developed into a major public health crisis (Freedenthal & Stiffman, 2004; Olson & Wahab, 2006). It is well documented in the literature that American Indians, especially youth, exhibit suicide-related behaviors at much higher rates than the general U.S. population (Garrouette et al, 2003; U.S. Department of Health and Human Services, 2011). In the period from 2002–2004, the suicide rate for Native American youth residing in Indian Health Service areas was 3.5 times higher than the national average (Indian Health Service, 2011). In the period from 2000–2009, suicide was the second leading cause of death for AI/AN youth and young adults ages 10–34, second only to unintentional injuries. More specifically, nationwide, 99 AI/AN children ages 10–14 years, and 1,178 AI/AN youth/young adults ages 15–25, committed suicide in this ten-year period (National Center for Injury Prevention and Control, n.d).

As stated above, AI/AN youth and young adults have the highest suicide rate of any cultural or ethnic group in the United States, with 17.4 suicides per 100,000. This rate is over double, and nearly triple, that of the next highest rate, which is White American youth with 7.5 deaths per 100,000 (U.S. Dept. of HHS, 2010; American Assoc. of Suicidology, 2012). The 2009 online high school Youth Risk Behavior Surveillance System Survey reports 19 percent of AI/AN students reported seriously considering suicide, compared to 13.1% of White American students and 12.2% of Hispanic students. Seventeen percent of AI/AN students surveyed reported they made a plan about how they would attempt suicide compared to 10.3% of White American students and 12.2% of Hispanic students, and 10% of AI/AN students reported they attempted suicide one or more times compared to 5% of White American Students and 8.1% of Hispanic students (Center for Disease Control & Prevention, 2009).

In support of the magnitude of this phenomenon, multiple government agencies, including the U.S. Department of Health and Human Services, Indian Health Services, and Office of Clinical Preventative Services, agree suicide across Indian Country is a significant behavioral health issue, and special attention to the AI/AN youth is necessary (U.S. Dept. of HHS, 2011). Health care professionals are charged with protecting the future of our Nation's First People, by addressing the glaring and immediate problems that put this minority population at higher risk for suicide.

Examples of Stories Behind the AI/AN Youth Suicide Statistics

As suggested in the Hummingbird (2010) article and the Government publication, *To Live To See the Great Day That Dawns: Preventing Suicide by American Indian and Alaska Native Youth and Young Adults* (2010), it is important to pair national statistics with real-life stories to illustrate the impact of the AI/AN youth suicide crisis more thoroughly. More importantly, sharing the details of the AI/AN youth suicide epidemic in this manner “ensures the faces behind the numbers are always remembered” (U.S. Dept. of HHS, 2010, Apd C.).

In July 2010, *The Farmington Daily Times* reported five teenagers in the town of Thoreau, New Mexico, on the Navajo Nation, had committed suicide over a two-month period. The staff writer described this loss as “a ripple effect of sorrow to the community” (Suicides put spotlight on small Thoreau, 2010).

In March 2010, a 15 year-old member of the Chiricahua Apache tribe reflected on the death of five of his friends whose lives were lost to suicide. This young man, who was named after an Apache chief, testified before the Senate Indian Affairs Committee:

Things go wrong that they can’t change. They don’t get shown the love they need... ...I am from a new generation of young men and women who believe in breaking the silence and seeking help. I come from a people whose pride runs deep, but I also understand that sometimes pride can keep us from asking for help (Daly, 2010).

During a hearing in Bismarck, ND in May 2005, U.S. Senator Byron Dorgan, D-ND reported on the suicide statistics of the Standing Rock Lakota Reservation: “...in the last year, 288 teenagers attempted suicide and 10 were successful...It’s a tragedy of enormous proportions, and we must address it honestly” (Gunderson, 2005).

As vividly illustrated above, suicide—especially in Native American youth—is a major public health issue present on various reservations across the nation. The illustration of the impact on patients does not end there. It is estimated there are 13 suicide attempts for every completed suicide (Hummingbird, 2011). In addition, health care professionals involved in the care of Native American youth suggest suicide rates may be much higher than statistics report. This under-reporting is thought to be due to mislabeling deaths such as overdoses, motor vehicle crashes, and shootings as accidental (Hummingbird, 2011; U.S. Dept. of HHS, 2010). Hummingbird (2011) summarized the seriousness of the patient impact of suicide as follows: “today’s Native youth are faced with the basic human need for safety” (p. 113).

Suicide Contagion

Suicide contagion is defined as a development where exposure to a suicide, or suicidal behavior, influences others to commit or attempt suicide (Centers for Disease Control and Prevention, 1994). Adolescents across the nation are especially vulnerable to suicide contagion. Some studies have estimated that clusters may account for 1% to 5% of adolescent suicides (Hacker et al, 2008).

American Indian/Alaska Native teens and young adults are at the highest risk for suicide contagion. This phenomenon has been compared to the spread of a deadly virus, and tends to be the trend across Indian Country, as illustrated in the examples above (U.S. Dept. of HHS, 2010). The affected communities will experience multiple deaths by suicide in a small amount of time, often a single season, or a single school year. The crisis does not end there, as it is often followed by extreme numbers of suicide attempts,

and local communities are left scrambling to achieve stability and safety for their youth (U.S. Dept. of HHS, 2011).

Effects of Suicide on AI/AN Communities

The overall vigor and wellbeing of AI/AN communities is unquestionably affected by AI/AN youth suicide (Carmona, 2005). The resultant outcome leaves surviving community members, family, and tribal leaders with deep grief and a sense of hopelessness. This hopelessness can spiral into feelings of shock, anger, guilt and depression, leading to decreased productivity, low self-esteem and fragile physical and mental health in the survivors (U.S. Dept. of HHS, 2011)(IHS, 2011). To endure a single suicide would be a difficult experience for any community. To endure an episode of suicide contagion—in not just one community, but numerous communities throughout Indian country—has proven, in some instances, to be overwhelming. In his testimony to the Indian Affairs Committee in 2005, Surgeon General Richard Carmona explained, “In many of our tribal communities, suicide is not just an individual clinical condition, but also a community condition.”

To describe the impact of suicide contagion in the Native American communities further, more detail will be provided. A conservative estimate suggests that for every suicide in America there are at least six survivors affected (American Association of Suicidology, February 28 2012). The number of survivors for an AI/AN youth who commits suicide would be more accurately described in the range of 25 individuals to an entire community, when the tight knit interconnectedness of relationships within the Native culture is considered (U.S. Dept. of HHS, 2010).

In addition, the impact on the AI/AN community grows even larger when the loved ones of the multiple suicide attempters are factored in. Loved ones of those who have attempted suicide demonstrate emotions that resemble emotions resulting from a completed suicide (American Association of Suicidology, n.d; U.S. Dept. of HHS, 2010). These include, pain, guilt, shame and fear (U.S. Dept. of HHS, 2010). When the impact of suicide attempts on loved ones are combined with the impact on the loved ones of those who have completed suicide, it has been suggested many AI/AN communities are left with the majority of their people personally affected by the suicide (American Association of Suicidology, n.d; U.S. Dept. of HHS, 2010). The power of suicide to lead to destruction in communities across Indian Country is evident.

Addressing the Suicide Crisis

Despite a recommendation from the Institute of Medicine (2002) encouraging public health professionals to increase awareness and to educate others regarding American Indian health issues, the programs that offer mental health treatment and suicide prevention to AI/AN youth are still considered inadequate (Olson & Wahab, 2006; U.S. Dept. of HHS, 2011). Although the urgency and seriousness surrounding the current situation of Native American youth suicide is apparent, there is still work to be completed in the area of supporting the health care professionals providing care to this population. IHS Director Dr. Yvette Roubideaux has acknowledged the severe mental health provider shortages—and inadequacy of resources available—to address suicide behavior in AI/AN communities (U.S. Dept. of Health and Human Services, 2011).

Olson and Wahab (2006) stated, “In Native American communities that experience high levels of suicide, the effects may be as devastating as the effects of war or acts of terrorism,” (p. 31). These devastating effects are not limited to the Native American community, but may extend to the health care professionals providing care to this vulnerable population. The high demand, increased complexity, and seriousness of the mental health crisis often results in burnout, leading to turnover, in the health care professionals involved (p. 25).

As a result of high turnover, staffing of mental health professionals in IHS and Tribal facilities is less than 50% (Olson & Wahab, 2006). This lack of health care professionals, listed as a barrier to care, supports further exploration of the youth suicide crisis. If the knowledge obtained can be applied to other health care positions, such as nursing, it will increase the number of health care professionals available to help Native American youth through the suicide epidemic.

Finally, only 4% of the IHS or Tribal facilities have a psychiatric nurse practitioner on staff to assist in the care and healing of Native American youth. The majority of the facilities (69%) are staffed with counselors and therapists, neither of which can prescribe medications (US Dept. of HHS, 2011). Currently, facilities across Indian Country minimally utilize advanced practice psychiatric nurses. The researcher sees this as an opportunity for nursing to assist in the staffing issues present in this suicide epidemic.

The knowledge gained by compiling the current literature may provide a road map for health care workers across Indian Country in addressing the youth suicide

epidemic. Specifically, by combining the knowledge gained from this literature review to existing nursing knowledge and practice, the advanced practice psychiatric nurse may serve as an additional resource in the efforts to address the American Indian/Alaska Native youth suicide crisis. A 2006 study of the role of the nurse practitioner in psychiatric/mental health nursing found increased patient appreciation for the nursing attributes the psychiatric nurse practitioner brought to the patient-provider relationship—specifically, open and non-threatening communication (Wortans, Happell & Johnstone, 2006). The combination of current nursing skills, and increased knowledge and understanding specific to the AI/AN suicide epidemic, will prepare advanced practice psychiatric nurses to assist on the front-lines of this tragic epidemic.

CHAPTER 2

SEARCH METHODS

An integrative literature review is a unique form of research that is utilized for the purpose of advancing knowledge, or understanding, about the topic of interest through methodically reviewing the relevant material and then critiquing and synthesizing this material in a cohesive manner that allows for new perspectives, or contributions, to the area of interest (Torraco, 2005). Integrative literature reviews can also serve to facilitate theory development, close an area where an overabundance of research exists, and determine areas where additional research is needed (Webster & Watson, 2002).

As the broadest type of research review method, the integrative literature review is considered important to nursing science and practice because it includes both experimental and non-experimental research to establish a greater understanding of the identified problem, allows for the discovery of multiple perspectives, and tends to include the extensiveness of nursing research (Whitmore & Knafl, 2005). A complex integrative literature review, spanning the interdisciplinary literature from nursing, psychology, social work and medicine, was completed to ensure a comprehensive search for material, addressing American Indian Alaska Native (AI/AN) youth suicide (Norwood, 2010). Efforts to make sense of the existing material in such a way that beneficial implications for nursing practice could be outlined on the topic of interest were completed (Webster & Watson, 2002). Integrative reviews are considered a credible method to foster the

development of evidence-based practice in various fields, including nursing (Norwood, 2010).

The intent of this literature review is to: a) identify what is known and not known about the AI/AN youth suicide phenomenon; b) illustrate how the literature review will contribute to the body of existing knowledge about the tragic situation of Native youth in our country; c) provide a deeper understanding of the topic, and an appreciation of the current research surrounding this topic, including the strengths, limitations, and applications; d) identify the existing gaps within the literature; and e) propose topics for further research in this area (Norwood, 2010, p. 154). The ultimate goal of this integrative literature review is to apply the knowledge gained to the nursing profession. The current literature on this topic spans multiple disciplines, and is not specific to the nursing profession. As Goodkind (2011) suggested, a collective community approach is the only way to address the epidemic of AI/AN youth suicide. The profession of nursing can provide an integral component of this approach.

Literature Search

The literature search included two main strategies to ensure the maximum number of sources was identified: 1) a comprehensive computer-assisted search of three separate databases, and 2) a subsequent review of the reference lists of selected articles (Whittemore & Knafl, 2005). The databases were selected to ensure exposure to the identified topic of interest, American Indian/Alaska Native youth suicide, which bridges fields of medicine, nursing, social services and psychology. The Cumulative Index of

Nursing and Allied Health Literature (CINAHL), PsychInfo, and PubMed/MEDLINE were determined to provide a breadth of exposure to articles in the identified professional fields. The review of the reference lists provided access to additional literature that was not identified through the utilization of the selected search databases.

Inclusion/Exclusion Criteria

Inclusion criteria were selected to ensure current data, to allow for generalization to the target population, to meet time constraints, and to satisfy the reason for review, which was to synthesize the current research in a way that would provide information and direction to nurses working in this area. The inclusion criteria included theoretical and empirical literature published from 2002 to 2012, literature written in the English language, and literature addressing the topic of AI/AN youth suicide, including risk factors, prevention, intervention and nursing implications. In addition, articles that addressed a broad range of self-directed suicidal ideation or thoughts were also included.

Masters theses or doctoral dissertations were excluded due to the lack of accessibility, and the time limitations of this project. Also, articles that did not specifically include Native American/Alaska Native suicide or suicide ideation, such as those related to general issues of mental health or substance abuse in the AI/AN population, were excluded to meet the time constraint placed on the researcher by the Graduate Nursing Program. It should be noted, these articles were reviewed by the researcher only to contribute to the researcher's knowledge base related to the target population.

Search Methods

Databases. CINAHL is a multidisciplinary database spanning nursing, allied health, biomedicine, and consumer health literature (Notess, 2011). PubMed/MEDLINE is considered the most inclusive medical database as it covers the fields of medicine, nursing, dentistry, veterinary medicine, the health care system, and the preclinical sciences (Notess, 2011). PsychInfo provides access to the most recent literature in psychology and the related behavioral and social sciences, including psychiatry, sociology, anthropology, education, pharmacology, and linguistics (Hansen, 2010).

Search Terms. Search terms were developed from the research question, and were used individually and in various combinations to ensure pertinent material was obtained. Initial search terms included, *American Indian/Alaska Native, youth, suicide, risk factors, prevention, and prevalence*. Databases were then further searched using the terms *Native American* and *adolescent* in combination with *suicide, risk factors, and prevention*. Finally, the databases were searched with the terms, *epidemiology, warning signs, assessment, and community*, in combination with *American Indian/Alaska Native or Native American* and *youth* or *adolescent*.

Findings

PubMed/MEDLINE. The search terms *youth/adolescent, suicide* and *American Indian* yielded 63 results, 26 were considered applicable, excluded articles were not specific to youth or suicide or were too general. The addition of the term *risk factors* to

the above search resulted in 49 articles, 17 were duplicates, so were thrown out, and 3 meet the inclusion criteria, so were included. The addition of the term *prevalence* to the initial terms yielded 27 duplicate articles, 10 articles were used to support the significance of the topic of interest, and the remainder did not meet the inclusion criteria. Because the PubMed/ MEDLINE database produced the majority of the applicable results, I completed my search of all three databases with a repeat broad search in this database with the terms *suicide* and *American Indian*. All applicable results were duplicates.

CINAHL. The search terms *American Indian, suicide & prevalence* produced 7 results, the majority were repeats, 2 were not relevant to the topic of interest, and 1 article was selected only for the prevalence information in the content. The addition of the term *epidemiology* produced 10 results, 2 of which were repeats and 1 was considered applicable. The remainder of the search terms, and combinations of search terms, produced duplicate articles from those produced in the PubMed/MEDLINE search.

Psych Info. The search terms *American Indian or Alaska Native or Native American and youth or adolescence and suicide* produced 26 results, 13 of which were considered to meet inclusion criteria, 4 were duplicates, and 10 did not meet inclusion criteria because they were not specific to suicide or youth. The addition of the term *intervention* to the above search terms yielded all duplicate results, the use of the term *risk factors* with the terms above produced one applicable article, and 14 duplicates, the use the term *assessment* in combination with the terms above produced 10 duplicate

articles, the use of the term *community* with the initial terms produced 18 duplicate results, and one article that met inclusion criteria.

Supplemental Search Findings. To supplement the database search and ensure all applicable material was collected, a thorough review of the reference lists of all selected articles was completed. A total of 26 articles were determined to be of interest to the researcher, but only five met the inclusion criteria. The remaining 21 articles were considered too broad, as they were not specific to suicide, but did provide substantial background knowledge to the researcher on related topics which include mental health, substance use, poverty, and trauma of American Indian/Alaska Native youth. Of the five determined to meet the criteria, three of the articles were published in the Journal of Suicide and Life-threatening Behavior, and one article was published in the Journal of School Health.

A total of 45 articles were determined to meet the inclusion criteria, after review of the titles, the abstract, skimming of content, and eliminating duplicates. An additional five articles were included after reviewing the reference lists of selected articles, and four articles were discovered by suggestions of faculty or by related citations in the PubMed/Medline database for a total of 54 articles to be included in the integrated literature review.

CHAPTER 3

DATA EVALUATION

The final literature sample to be included in this integrative review consists of a diverse range of material including both empirical and theoretical studies. This combination of sources is consistent with the nursing profession, which is naturally concerned with the human experience and calls for understanding the issue at hand in a holistic manner, including the context in which it is occurring. By including theoretical sources, in addition to empirical sources, it is hoped a focus on social understanding and utilization of current frameworks will allow the development of a model to assist in the healing of the complex issue that is AI/AN youth suicide (Norwood, 133). In fact, integrative reviews, spanning multiple disciplines and including both qualitative and quantitative literature, are more frequently utilized in the nursing profession to improve nursing practice and patient care (Norwood, 2010).

The evaluation of literature was completed in three stages. In the first stage, each article was scanned quickly to get a general feel of the range and composition of literature available on AI/AN youth suicide. The result of this initial scan of the material is outlined in Table 1. During the second evaluation of the literature, individual studies were further separated into more specific levels of evidence to assist in determining the usefulness of the literature to, and the direction of, the professional project. The findings of this evaluation are outlined in the evidence hierarchy table provided in Appendix A.

Lastly, during the third evaluation of the material, a critique was completed to ensure all included literature met identified criteria for rigor.

The evaluation of literature described began in a linear manner, but became quite circular, as articles were shuffled with each stage of the evaluation, and viewed from a different lens. This re-visiting of categorization and evaluation of each piece contributed to the efficacy of the final data set, as pieces that initially seemed relevant in one evaluation stage may have been eliminated during re-examination. This is evident by the decrease in included articles (from 54 to 41) between the initial evaluation stage and the final data set included in the review. Five articles were eliminated in the second evaluation stage, as they were not primary sources, and seven articles were eliminated during the final critique stage, as they no longer were considered relevant to the project, or were deemed too broad in focus.

Initial Evaluation of Literature

The first review of literature resulted in 54 articles considered to contribute the understanding of AI/AN youth suicide. During this initial review, the literature was separated into general categories to provide an illustration of the range and type of research available addressing AI/AN youth suicide. The results of the initial review are outlined in Table 1.

Table 1
Initial Evaluation of Literature

Database	Evidence Based Guidelines	Research Reports	Non-research related Literature-article	Literature reviews
PubMed (29)	0	15	9	5
CINAHL (1)	0	0	1	0
PsychInfo (15)	0	1	3	11
Other (related citations, reference review, other) (9)	0	4	3	2
TOTAL (54)	0	20	16	18

Hierarchy of Evidence

To assist in the evaluation and organization of the diverse collection of literature, the Hierarchy of Evidence for Evidence-Based Practice was utilized (Polit & Beck, 2008). The levels of evidence range from Level I through Level VII. Levels I and II include systematic reviews, meta-analysis or evidenced based practice guidelines developed from all applicable randomized controlled trials, and single randomized control trials, respectively. Level III consists of systematic reviews of correlational and/or observational studies and Level IV is evidence from the single correlation or observational studies. Level V is the systematic review of descriptive or qualitative studies, and Level VI includes single descriptive or qualitative studies. Lastly, Level VII consists of evidence from the opinion of authorities or expert committees (Norwood, 2010; Polit & Beck, 2008). The snapshot provided by Appendix A illustrates the variety of the literature for this project, by separating it into groups based on study type and design.

The organization of the literature into levels of evidence also provides an idea of the current understanding of AI/AN youth suicide. The bulk of evidence included in this integrative review extends through Level IV, which includes correlational studies. Only two studies reach Level II, as randomized control trials. This decreased amount of quantitative, experimental designs suggests the need for further research. However, it does not suggest the research that has been completed is not of value, it simply outlines the current status, or progression, of the research related to AI/AN youth suicide (Norwood, 2010).

Evidence Levels II-VI

Although randomized controlled trials, or experimental (quantitative) research designs, are considered the shining stars of research, there is much to be said about the utility of a range of research designs in gaining a better understanding of the phenomenon of interest (Norwood, 2010). This is especially true of situations as multifaceted as suicide in minority youth, in which the descriptive studies create a knowledge base that will then allow for safely developing higher levels of research to further the understanding, and develop practice implications, related to this complex social phenomenon (Norwood, 2010).

Level VII Evidence

The literature considered Level VII are not research studies, but are considered to contribute valuable information in understanding the context in which youth suicide occurs. This level consists of relevant reports from government agencies or expert

committees who work closely with the AI/AN population and prevention of suicide in youth, including the Substance Abuse and Mental Health Services Administration. In addition there are several articles, written by researchers who have spent years working with the AI/AN population, that describe the world views of this minority population and how these views relate to suicide. Finally, articles were included that identified practice-based descriptions of culturally relevant or traditional interventions that have been tried, or are currently taking place, to address suicide in AI/AN youth, but are not considered evidence-based. This collection of literature has been included in an effort to understand the context in which this social phenomenon is taking place, and to highlight the possibility of learning from, or turning our focus to, practice-based interventions as an option to addressing the AI/AN youth suicide crisis.

During analysis of the literature the material considered Level VII, or opinion of authorities or expert committees, will be used more for understanding the context surrounding AI/AN youth suicides including the worldviews and cultural aspects of the AI/AN people. The importance of considering the context in which AI/AN youth suicides occur was suggested in the majority of the relevant literature (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Garroutee, Goldberg, Beals, et al, 2008; Gary, Baker & Grandbois, 2005; Goodkind et al, 2011; Hamilton & Rolf, 2010; Hodge & Nandy, 2011; Strickland, Walsh & Cooper, 2006; Yoder, Whittebeck, Hoyt & LaFromboise, 2006).

Literature Critique to Identify Literature Meeting Criteria for Rigor

In addition to the evidence hierarchy, each piece of literature was further evaluated in an effort to discover the strengths and weaknesses, uncover deficits, imprecisions, inconsistencies and to determine if it was current, relevant, and appropriately representative of the issue of AI/AN youth suicide (Torraco, 2005). A literature critique is essential to complete, to ensure the study's findings are of sufficient quality to effectively inform practice (Norwood, 2010).

Critique of Qualitative and Quantitative Studies (Levels II, IV, VII)

The literature critique was completed during the third evaluation, and was documented in the margins of each individual document. The purpose of the critique was to ensure the identified collection of material was credible and relevant to the complex phenomenon of AI/AN youth suicide, and could be used to inform nursing practice (Norwood, 2010). The specific criteria utilized in the critique were applied to both qualitative and quantitative research, and are outlined in Table 2. The critique criteria Methods, Data Analysis, Ethical Considerations, Results and Quality Control represent the focus areas of the critique, as these areas were thought to be the essential criteria that must be met in order to ensure quality and safety of the results.

Table 2
Review of Integrity and Rigor of Qualitative & Quantitative Research Articles

CRITERION	DESCRIPTION
Title	Is it relevant and can the reader tell what the article is about at first glance? Does it convey the problem and population of interest?
Abstract	Does it present an accurate overview of the study and its findings: objective, design, participants, results, conclusions?
Introduction	Is the problem significant and summarized effectively? Is the rationale for the study provided and is the purpose clearly stated?
Review of the literature	Is it relevant, thorough, current, concise, and authoritative? Does it provide context for the study and justify the research problem and purpose?
Conceptual Framework	Is it clearly identified and explained? Does it enhance study?
Methods	Are the study approach and design consistent with purpose and framework? Is the study sample representative of target population and of sufficient size? Were strategies to recruitment participants and/or collect information ethical?
Data analysis	Appropriate for data and research questions
Ethical Considerations	Was sufficient effort to protect human rights and provide respect for human dignity made? Was study approved by IRB?
Results	Is the test value and level of significance reported? For qualitative designs, are themes supported with excerpts?
Quality Control	Were power analysis and post-hoc analyses conducted when appropriate? Were reliability and validity of quantitative measures and instruments established? In qualitative designs were member checks, inter-rater reliability, or peer debriefing used?
Discussion	Are findings are consistent with results, linked to conceptual framework and interpreted with caution? Does tentative language use illustrate this? Are limitations acknowledged? Are implications for practice and further research logical and supported by the data?
Presentation	Is article clear, organized and readable? Are subheading used and terms are defined appropriately? Are tables clear and consistent with narrative? Is language is tentative and without bias? Are references are provided?

Source: Norwood, S. (2010) *Research essentials. Foundations for evidence-based practice*. Upper Saddle River: Pearson Education, Inc.

Critique of Literature Reviews (Levels III, V)

Out of the 41 articles selected for this project, there were eight literature reviews. These were evaluated with alternate critique criteria, to ensure the material adequately represented the current state of research on AI/AN youth suicide. The critique criteria utilized to assess for integrity and rigor of the literature reviews includes general guidelines which are outlined in Table 3 (Polit & Beck 2008).

Table 3

Literature Review Critique Guidelines

Is the review thorough, include major studies, recent research and studies from other disciplines?
Does the review rely on appropriate materials including research reports, primary sources?
Does the review critically appraise, compare, and identify gaps?
Is the review organized, ideas clear?
Is appropriate language used, suggesting tentativeness of prior findings, objective? Paraphrase or quotes?
Is review part of research report for a new study or support need for the study?
If review designed to summarize evidence from clinical practice, does it draw appropriate conclusions about practice implications?

Source: Polit, D. & Beck, C. (2008). *Nursing research: generating and assessing evidence for nursing practice*. Philadelphia: Lippincott Williams & Wilkins.

Final Data Set

Of the 41 articles included in the data evaluation, nine are from a nursing focus or perspective. The remaining articles span the disciplines including social work, psychology, suicidology, public health, medicine, and sociology. This range of sources will allow for a true integrative review, and a thorough understanding of the nursing specific and non-nursing research that has been completed.

No material was excluded from the review as a result of the critique process, as it was determined all research reports satisfied the research criteria the majority of the time. Specifically, no research articles were thought to be deficient in the critical areas of the critique, which included methods, data analysis, ethical considerations, results and quality control.

The studies meeting the inclusion criteria are listed in alphabetical order by their author and year in Appendix B. The study design and purpose, methods and samples, and general findings are also included to provide a brief description of the recent literature related to AI/AN youth suicide that will be referenced in this project.

CHAPTER 4

DATA ANALYSIS

The data extracted from the literature identified as factors in Native American youth suicide will be presented through the framework provided by the bioecological systems theory model of development (Bronfenbrenner & Morris, 2006). This framework underscores the significance of understanding bidirectional influences between an individuals' development and their contiguous environmental contexts. It suggests the environment in which a child is raised directly affects the developmental outcomes of this child. It allows for a holistic, multifaceted approach to assessing the context in which Native American youth suicide occurs, promoting an integrated approach to assessment and intervention when working with Native American youth.

Bioecological Systems Theory Model for
Addressing Native American Youth Suicide

In the bioecological systems theory model, development is defined as “the phenomenon of continuity and change in the biopsychological characteristics of human beings, both as individuals and groups. This phenomenon is thought to extend over life courses, across successive generations and through historical time” (Bronfenbrenner & Morris, 2006, p.796).

The bioecological systems theory uses a spherical model with five interactive layers to represent the multiple influences of society on a child's development (see Appendix D). The five layers include microsystem, mesosystem, exosystem,

macrosystem and chronosystem. Each layer, and its role in the development of the individual, specifically themes and subthemes thought to influence the likelihood of suicidal behavior in AI/AN youth, will be described throughout the chapter. The themes pulled from the literature will be organized and discussed in relationship to the model.

The bioecological systems theory model recognizes that the interaction between the individual child, family, community and society—including multi-generational time frames— directs a child’s development. This recognition contributes to this model’s applicability for exploring Native American youth suicide, as it allows for consideration of the context in which suicide is occurring. For example, the impacts of historical trauma and the continuing effects of colonization—risk factors specific to the history of Native Americans—can be recognized in this model under sociohistorical conditions in the chronosystem (See Appendix D).

Although applicable, the bioecological systems theory model may not be considered completely culturally congruent as a framework for exploring the context of Native American youth suicide. For instance, “family,” for a Native American child, may look very different than “family” for a non-Native child. For the Native youth, family may include multiple generations living in the same home, distant cousins and friends, or children being raised by grandmothers or aunties. Family may even extend throughout the small tight-knit reservation communities. As with every culture, it is important to consider cultural heterogeneity, as family also may look very different between each AI/AN child, community or tribe (Alcantara & Gone, 2006).

In an attempt to account for cultural differences specific to Native Americans, as well as consider the cultural heterogeneity among various Native American tribes, themes collected from the literature were organized according to their relationship to Native American youth. For example, although family was included in the initial microsystem level, it also is thought to extend through all the levels of the model. This differs from the original model, in that family is only considered part of the next layer, or, mesosystem. Community was recognized as part of the exosystem, as in the original model, but is thought to have a direct influence on the Native American child, rather than an indirect influence as suggested in the original model. Arrows extending to the center layer, or Native child, are used to note this modification to the model. (See Appendix D).

For the purposes of this chapter, and to assist with organization, the themes and subthemes were prearranged into the layer, or system, for which they were most appropriate. They will be discussed in the corresponding sections in this chapter. It is hoped this discussion will provide further insight into the cultural heterogeneity of Native American culture, and the importance of considering the context in which increased Native American youth suicide is occurring.

Every theme and subtheme included was pulled from the peer-reviewed articles selected for this integrated review. Throughout the review, the opposite, or counterpart, of a subtheme was also searched for in the literature in an attempt to ensure thoroughness including both protective and risk factors affecting the AI/AN youth suicide epidemic.

For example, depression/hopelessness was a subtheme that is considered a risk for suicidal behavior, while the opposite theme, positive mood, was considered protective

against suicide in Native youth in the literature. Opposite themes are only included in the discussion if they were supported in the literature as contributing factors in Native American youth suicide. In many cases, the opposite theme was not found in the literature, so is listed in parentheses at the beginning of the section, but not discussed. A summary of the themes, subthemes and determined counterparts, as well as their support in the literature, is displayed in the chart in Appendix C.

The effects of the various themes and subthemes may be considered either protective factors or factors contributing to the risk of Native American youth suicide. Suggested interventions, aimed at enhancing protective factors, or reducing risk factors specific to each subtheme, will be discussed in a separately titled section directly following the subtheme segment. These interventions have also been added to the model (See Appendix D).

Microsystem

The center of the sphere is labeled the microsystem and includes the individuals and structures interacting with the child regularly and frequently, over an extended period of time. The microsystem is described as:

A pattern of activities, social roles, and interpersonal relationships experienced by the developing person in a given face-to-face setting with particular physical, social and symbolic features that invite, permit or inhibit engagement in sustained progressively more complex interactions with, and activity in, the immediate environment (Bronfenbrenner, 1994, p.1645).

Four themes identified from the literature relating to the microsystem include: clinical disorders, coping skills of the youth, youth's family context, and youth's context outside

of the family [See Appendix C]. Each theme is further divided into subthemes, as outlined in Appendix C, and will be discussed separately below.

Microsystem Theme #1: Clinical Disorders

Specific subthemes included under clinical disorders include: 1) risky behaviors (no risky behaviors), 2) childhood abuse (no abuse), 3) depression and hopelessness (positive mood), 4) fetal alcohol syndrome (no cognitive impairment), 5) substance abuse (no substance abuse), 6) other mental illness (no mental illness), and 7) violent ideation/aggression (no violent behavior).

Risky Behavior and/or Conduct Disorder. Eleven of 41 studies suggested engagement in risky behaviors, including a diagnosis of conduct disorder, elevates the likelihood of suicidal behaviors in Native American adolescents (Echohawk, 2006; Freedenthal & Stiffman, 2004; Gary, Baker & Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Hill, 2006; Pettingell, Bearinger, Skay, et al, 2008; SAMSHA, 2011; Shaughnessy, Doshi & Jones, 2004; Strickland, Walsh, Cooper, 2006; Walls, Chapple & Johnson, 2007; Wexler, 2006). Risky behaviors may include cigarette smoking, gang activity, involvement in the legal or court system, substance abuse, driving recklessly, and meeting the diagnosis of conduct disorder. It is notable that suicidal behavior in AI youths tends to occur in the context of other high risk or life threatening behavior (Goldston, Molock, Whitbeck, 2008; Shaughnessy, Doshi & Jones, 2004). In fact, the death rates for all unintentional injuries combined among 10- to 19-year-old American Indians/Alaska Natives (AI/AN) are 50% higher than the overall rates

in the United States (CDC, 2006). It is important to point out that these risky behaviors may be masking serious psychological dysfunction, elevating the risk for suicide (Gary, Baker & Grandbois, 2005).

Freedenthal & Stiffman (2004) recognized a significant relationship between conduct disorder and a suicide attempt history among reservation youth. In fact, the presence of conduct disorder increased the odds of suicide attempt history by approximately 3 to 10 times (p. 167). Gone & Trimble (2011) suggested a connection between conduct disorder and post-traumatic stress disorder, where the development of conduct disorder in this setting may indicate a compromised ability to cope with traumatic stress as a result of cognitive deficits and limited emotional regulation.

As described above, there seems to be a pattern of inter-relatedness between and among themes and subthemes, as evidenced by the discussion of conduct disorder, PTSD, and coping skills. These themes and subthemes appear to interact and contribute to the effects of the others. This interrelatedness can result either in a potentiated risk or serve as a buffer to a potential risk. For example, positive family relations may be protective against feelings of alienation, thus decreasing the risk of suicide in Native youth, while conduct disorder may be the result of the inability to cope with PTSD symptoms and therefore contribute to the risk for suicide. This interaction can extend through all the systems, or layers, of the bioecological systems model, and illustrates the multi-faceted context in which Native American youth suicide occurs.

Childhood Abuse/PTSD. Over half, or 24 of the articles, included in the review supported the relationship between experiencing childhood abuse and suicidal behavior in

AI/AN adolescents (Alacantara & Gone, 2006; Baldwin, 2007; Bohn, 2003; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; EchoHawk, 2006; Freedenthal, Stiffman, 2004;. Gone & Trimble, 2011; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Goodkind et al, 2011; Hamilton & Rolf, 2010; Hill, 2006; Hill, 2009; Hodge & Nandy, 2011; LaFromboise, Lewis, 2008; LeMaster, Beals, Novins, 2004; May, Serna, Hurt, Lemyra, 2005; Olson & Wahab, 2006; SAMSHA, 2011; Smokowski, David-Ferdon & Stroupe, 2009; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Wexler, 2006). Clear disparities related to trauma and violence exposure for Native American youth are outlined in the literature (Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2011; Gone & Trimble, 2011) One particular study of Native American youth suicide on a reservation in the southwestern United States discovered over 95% of completed suicides were the result of significant family trauma, and 86.3% of completed suicides had experienced significant individual trauma in their lives (May, et al, 2005).

In a study of adult Native American women, over half reported being victims of physical and/or sexual abuse as a child. A significant relationship was found between having experienced abuse as a child and the later development of substance abuse and depression in adulthood. This study not only illustrated the prevalence of violence experienced by Native Americans, it also found a significant relationship among childhood abuse, substance abuse and depression, all of which are considered risk factors for suicidal ideation (Bohn, 2003).

Practice Implications. These striking statistics identify the importance of early screening and intervention related to childhood abuse, as they link childhood abuse to

depression, PTSD, substance abuse and completed suicides (Alacantara & Gone, 2006; Bohn, 2003; Goodkind, et al, 2010; Hamilton & Rolf, 2010; May et al, 2005).

Depression, Hopelessness. The literature identified symptoms of depression as a significant health disparity among AI/AN youth. The majority of the studies, or 32 articles, also recognized depression as a significant risk factor contributing to suicidal behavior in AI/AN youth (Alacantara & Gone, 2006; Baldwin, 2007; Bohn, 2003; Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; EchoHawk, 2006; Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Goodkind et al, 2011; Grandbois, 2005; Hamilton & Rolf, 2010; Hill, 2006; Hill, 2009; LaFromboise, Lewis, 2008; LaFromboise, Medoff, Lee & Harris, 2007; LeMaster, Beals, Novins, 2004; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; Pettingell, Bearinger, Skay, et al, 2008; SAMSHA, 2011; Shaughnessy, Doshi & Jones, 2004; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2006; Wexler, 2009). One study of 721 American Indian youth found depressive symptoms were strongly related to the effects of several main predictors of suicide, including individual, family and structural stressors. The negative emotions resulting from experiencing these stressors contributes directly to suicidal behavior (Walls, Chapple & Johnson, 2007).

Practice Implications. The importance of recognition, intervention and treatment of depression is considered essential for the prevention of suicide (Chino, Fullerton-

Gleason, 2006; LeMaster, Beals, Novins, 2004; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Walls, Chapple & Johnson, 2007). In addition, the community is thought to have a critical role in identifying children with depressive symptoms that may increase likelihood of suicidal behaviors (Chino, Fullerton-Gleason, 2006).

Five studies suggested positive mood as a protective factor for suicide (Chino, Fullerton-Gleason, 2006; Hodge & Nandy, 2011; Olson, Wahab, Thompson, 2011; Pettingell, Bearinger, Skay, et al, 2008; SAMSHA, 2011). In the presence of multiple risk factors, positive mood is associated with a substantial decrease in the probability of a past suicide attempt. It is suggested that mood is responsive to appropriate therapeutic intervention. Thus achieving a sense of emotional health may serve as a protective factor against suicide (Pettingell, Bearinger, Skay, et al, 2008).

Practice Implications. Experiencing a stable environment is thought to contribute to good mental health or positive mood, and talking circles are suggested as a culturally-appropriate method to promote positive mood through education and discussion (Hodge & Nandy, 2011).

Intoxication and Substance Abuse. Nearly every article, 36 total, included in the review, identified substance abuse as a major contributing factor in AI/AN youth suicide (Alacantara & Gone, 2006; Baldwin, 2007; Bohn, 2003; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; EchoHawk, 2006; Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Goodkind et al, 2011; Grandbois, 2005;

Gray & Muehlenkamp, 2010; Hamilton & Rolf, 2010; Hill, 2006; Hill, 2009; Hodge & Nandy, 2011; LaFromboise, Lewis, 2008; Lafromboise, Medoff, Lee & Harris, 2007; LeMaster, Beals, Novins, 2004; May, Serna, Hurt, Lemyra, 2005; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Pettingell, Bearinger, Skay, et al, 2008; SAMSHA, 2011; Shaughnessy, Doshi & Jones, 2004; Smokowski, David-Ferdon & Stroupe, 2009; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2006; Wexler, 2009; Wexler, Hill, et al, 2008; Yoder, Whitbeck, Hoyt, et al, 2006). In fact, when compared to any other population, American Indian suicide disproportionately involves alcohol (Chino & Fullerton-Gleason, 2006).

Alcohol misuse was considered the leading cause of suicide, as it has been identified as a precipitating factor in 66% of all American Indian adolescent suicides (Olson & Wahab, 2006). In the Apache Tribe, approximately 45% of youth who attempted suicide were using substances at the time the attempt was made (Mullany, Barlow, Goklish, et al, 2009). A multi-disciplinary completion of psychological autopsies following a rash of suicide completions in the Aberdeen Area found the presence of substance abuse in 90% of the cases (Echohawk, 2006). Chino & Fullerton-Gleason (2006) found self-reported substance abuse as the most powerful predictor of suicidal behavior in AI/AN adolescents. Adolescents' values and behaviors related to drinking, association with friends who drink alcohol, frequency of attending parties or driving under the influence were each associated with suicide attempts (p. 439).

In addition to alcohol, all substances seemed to have strong correlation to suicidal behavior in Native American youth. In one study, it was found that any marijuana use in

the preceding year increased the likelihood of suicidal behavior by 100%, inhalant use showed a dose-response effect where increased use was associated with increased suicidal behavior, and smoking at least three cigarettes (nicotine) in the past year contributed to a three time more likelihood of suicidal behavior as cigarettes are considered a gateway to the abuse of other substances, thus increasing the risk for suicide as outlined above (Chino & Fullerton-Gleason, 2006).

It has also been reported that American Indian youth are more likely than non-Indian youth to abuse substances. Substance abuse in Native American youth tends to start at a younger age, involve heavier use and the use of more than one substance at a time. Substance abuse in AI/AN youth also tends to result in negative consequences of substance abuse more often, when compared to their non-native white counterparts, and AI/AN are more likely to meet the criteria of substance abuse and/or dependence and to have comorbid psychiatric disorders along with substance abuse disorders (Goodkind et al, 2010; Olson & Wahab, 2006).

Practice Implications. In addition to individual substance use, the use of drugs and alcohol by peers was also considered a predictor of suicidal behavior, suggesting parents, families and community members should be concerned with who and how AI/AN youth spend their time. This includes targeting the youth's environment and community as areas for intervention to reduce substance abuse (Chino, Fullerton-Gleason, 2006; Goodkind et al, 2010). This also suggests the importance of health care providers who work with youth to obtain an accurate social history, including substance abuse, friends, and social activities (Hamilton & Rolf, 2010).

Finally, the prevention of substance use, including cigarettes, has been suggested as an important focus of suicide prevention in Native American youth. This includes early identification, appropriate referrals, increase in number of Native American mental health and substance abuse professionals, combining substance abuse prevention and suicide prevention efforts, and the possibility of home-based outreach interventions (Chino, Fullerton-Gleason, 2006; Hamilton & Rolf, 2010; LaFromboise, Lewis, 2008; LaFromboise, Medoff, Lee & Harris, 2007; LeMaster, Beals, Novins, 2004; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Pettingell, Bearinger, Skay, et al, 2008; SAMSHA, 2011; Shaughnessy, Doshi & Jones, 2004; Wexler, et al, 2008; Yoder, Whitbeck, Hoyt, et al, 2006).

Fetal Alcohol Syndrome: One article outlined the multitude of suicide risk factors demonstrated in Native American youth who have a fetal alcohol spectrum disorder. These included substance abuse, comorbid mental illness, impulsivity, history of abuse, employment issues, and interpersonal difficulties. A longitudinal study of a cohort of 473 Native Americans with fetal alcohol syndrome or fetal alcohol effects determined 43% had suicide threats and 23% had a history of suicide attempts in their life (Baldwin, 2007).

Practice Implications. Mental health providers are encouraged to ensure cautiousness and completeness when assessing for suicidal behavior in the context of fetal alcohol syndrome disorders because of the elevated risk (Baldwin, 2007).

Other Mental Illness: Nearly half of the articles included other mental illness or emotional states, as contributing to the likelihood of suicidal behavior in Native American youth (Alacantara & Gone, 2006; Baldwin, 2007; Bohn, 2003; Crofoot Grahm, 2002; EchoHawk, 2006; Freedenthal, Stiffman, 2004; Gone & Trimble, 2011; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Grandbois, 2005; Hill, 2009; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; Pettingell, Bearinger, Skay, et al, 2008; SAMSHA, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2006). These include general anxiety states, panic attacks, somatic symptoms, adjustment disorders, feelings of apathy and generalized emotional distress or psychological pain (Alacantara & Gone, 2006; Crofoot Grahm, 2002; EchoHawk, 2006; Goodkind, LaNoue & Milford, 2010; Hill, 2009; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; Pettingell, Bearinger, Skay, et al, 2008; Wexler, 2006).

As with depression, it is suggested there is more mental illness in Native American youth when compared to other populations. It is thought these health disparities experienced by AI/AN youth are related to inequalities in violence and trauma exposure, substance abuse and a sense of external locus of control (Alacantara & Gone, 2006; Olson & Wahab, 2006; Goodkind, LaNoue & Milford, 2010).

Practice Implications. Addressing violence in childhood and adolescence is suggested as a potential potent tertiary prevention strategy in the fight against Native American youth suicide (Goodkind, LaNoue & Milford, 2010).

Violence Ideation and Aggression. Violence perpetration and aggression was mentioned in seven articles as risk factors for suicide in the AI/AN people (Alacantara & Gone, 2006; Bohn, 2003; Gone & Trimble, 2011; LeMaster, Beals, Novins, 2004; Pettingell, Bearinger, Skay, et al, 2008; Strickland, Walsh, Cooper, 2006; Wexler, 2006). AI/AN youth have higher rates of violence perpetration when compared to their peers from other racial groups. In a 2001 study, 44% of AI/AN students reported being in a physical altercation (Smokowski, David-Ferdon & Stroupe, 2009). Further, there is thought to be a relationship between quietly disturbed behavior, or suicidal involvement, and acting out behavior, or violence perpetration, where one potentiates the likelihood of the other (Pettingell, Bearinger, Skay, et al, 2008). An example is the 16-year-old who shot his grandfather and his grandfather's significant other, drove to his school and shot sixteen people, killing nine, and then took his own life (LaFromboise, 2006). This was a quiet disturbed individual who became violent toward others. This violence ended in death of his family members, peers, community members and himself.

Practice Implications. Aggression may be a result of the inability to cope, masking severe psychological distress, and should be considered a red flag when assessing for suicidal risk (Alacantara & Gone, 2006; Hill, 2009; Olson, Wahab, Thompson, 2011; Pettingell, Bearinger, Skay, et al, 2008).

Microsystem Theme #2: Coping Skills

Specific subthemes included under coping skills include: 1) decreased interpersonal skills (perceived interpersonal skills); 2) impulsiveness (ability to regulate

actions); 3) lack of coping skills (appropriate coping skills); and 4) previous suicide attempts (no previous attempts). Each subtheme, and its identified counterpart, when applicable, will be discussed in separate sections below.

Interpersonal skills: There were no articles that identified lack of interpersonal skills specifically as a risk contributing to Native youth suicide. However, possession of interpersonal skills was identified as protective against suicide in two studies (Alacantara & Gone, 2006; Wexler, Hill, et al, 2008).

Practice Implications. Teaching interpersonal skills is suggested as a potential prevention effort, as increasing the number of protective factors proved to be more effective in decreasing the likelihood of suicide attempts than reducing the number of risk factors (Alacantara & Gone, 2006). Opportunities to increase interpersonal skills in Native American youth may be accomplished in many settings—such as school, extra-curricular activities, community or cultural events—in which positive interactions are encouraged.

Impulsiveness: Ten articles identified impulsiveness as a significant contributing factor increasing the risk of suicidal behavior in AI/AN youth. Three articles found the ability to regulate actions, despite emotions, as protective against Native youth suicide (Hodge & Nandy, 2011; SAMSHA, 2011; Shaughnessy, Doshi & Jones, 2004).

AI/AN tend to be more impulsive when it comes to suicidal behavior, as more Native youth have actually attempted suicide than had thought about it or planned it (Alacantara & Gone, 2006; LeMaster, Beals, Novins, 2004). Acute ideation is thought to

take place when no obvious progression leads the impulsive act, and was the characteristic type of suicidal behavior found among most suicide completions in the New Mexico American Indians (May, Serna, Hurt, Lemyra, 2005). Wexler (2006) also identified impulsiveness in the suicidal behavior of the Inupiat people, but describes more of a chronic pattern initially, with feelings of no purpose, aggression and boredom due to the lack of opportunity and disruption in gender roles. Substance abuse is then used as an attempt to cope, which increases the impulsiveness, leading to suicide.

Practice Implications. Efforts to decrease impulsiveness, and cope with negative moods, including increased control over actions or behaviors, may be beneficial for NA youth because it would allow for decreased risk for suicide, as it considers the context in which this behavior takes place.

Lack of Coping Skills: Nine articles suggested lack of coping skills contributes to suicidal risk in AI/AN youth (Gone & Trimble, 2011; Goodkind, LaNoue & Milford, 2010; Hill, 2006; Mullany, Barlow, Goklish, et al, 2009; Olson, Wahab, Thompson, 2011; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Yoder, Whitbeck, Hoyt, et al, 2006). Nine articles listed appropriate coping skills as a protective factor against suicide risk (Goodkind, LaNoue & Milford, 2010; May, Serna, Hurt, Lemyra, 2005; Mullany, Barlow, Goklish, et al, 2009; Olson, Wahab, Thompson, 2011; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2006; Yoder, Whitbeck, Hoyt, et al, 2006). As discussed under impulsiveness, the ability to cope with the multiple stressors, which is the context in which many Native

American children are raised, is often limited due to various factors, and should be an area of focus in the efforts to prevent suicidal behavior in these youth.

Being psychologically overwhelmed by stress and mental pain, resulting in an inability to cope, is a similarity across multiple populations, and is present in nearly all suicides (Olson, Wahab, Thompson & Durrant, 2011). Gone and Trimble (2011) correlated poor coping skills with emotional irregularity and limited cognitive ability in Native American youth, all of which are considered major risks for suicidal behavior.

Practice Implications. Expressions of growing despair, or difficulty in coping with current life stressors, should trigger providers to assess further for possible suicidal ideation (Olson, Wahab, Thompson, Durrant, 2011). Teaching appropriate coping skills is a suggested intervention for prevention of suicidal behavior in AI/AN youth (Olson, Wahab, Thompson, Durrant, 2011; SAMSHA, 2011; Wexler, Hill, et al, 2008).

Previous Attempts: Twelve articles listed previous attempts as a key risk factor for suicide in AI/AN youth (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Freedenthal, Stiffman, 2004; Goldston, Molock, Whitbeck, 2008; Hamilton & Rolf, 2010; Hill, 2009; LeMaster, Beals, Novins, 2004; May, Serna, Hurt, Lemyra, 2005; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; Shaughnessy, Doshi & Jones, 2004). Conversely, one article suggested lack of previous suicidal behavior may indicate the individual actually has a stake in the future well-being of the person they are becoming and thus is protective against suicide (Chandler & Proulx, 2006).

Hill (2009) suggested previous suicide attempts or ideation in Native youth indicates severe psychological pain. Alacantara & Gone (2006) stated previous suicide attempts suggest the Native youth is off their “normal trajectory, or is in an elevated suicide risk zone” (p. 465). In other words, suicidal attempts suggest the Native youth is no longer on a path of wellness, but is going down a path of self-destruction.

AI/AN suicidal youth also participate in more risk-taking and life endangering behaviors when compared to non-suicidal youth. Death rates from unintentional injuries in AI/AN youth between the ages of 10-19 years are 50% higher than any other group. It is unknown if this discrepancy is related to a lack of regard for the lethal consequences of their behavior or unrecognized suicidal behavior (Goldston, Molock, Whitbeck, 2008).

Practice Implications. Both suppositions seem to support consideration of previous suicidal behavior and ideation as a key warning sign that should be urgently addressed as a part of suicide prevention efforts. Efforts should also be made to restore the “normal trajectory” of the suicidal Native youth, returning them to a path of wellness and removing them from an elevated risk zone, by addressing the negative interactions between them and the context in which they live (Alacantara & Gone, 2006, p. 465).

Microsystem Theme #3: Sense of Self or Self-Identity

Sense of self was separated into two subthemes in the chart (Appendix C) including a loss of self or no self-esteem (personal persistence or positive sense of self) and no feelings of purpose (optimism about future and feelings of purpose). Both subthemes have substantial support in the literature as playing a major role in AI/AN

youth suicide. Nineteen articles identified loss of sense of self as a risk factor (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Hamilton & Rolf, 2010; Hill, 2006; Hodge & Nandy, 2011; Jacono & Jacono, 2008; LaFromboise, Lewis, 2008; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; Pettingell, Bearinger, Skay, et al, 2008; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Walls, Chapple & Johnson, 2007; Wexler, 2006; Wexler, 2009; Yoder, Whitbeck, Hoyt, et al, 2006) and sixteen articles identified personal persistence as protective (Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Gone & Trimble, 2011; Hill, 2006; Hill, 2009; Hodge & Nandy, 2011; Jacono & Jacono, 2008; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; Pettingell, Bearinger, Skay, et al, 2008; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Wexler, 2009; Yoder, Whitbeck, Hoyt, et al, 2006). Twelve articles identified no feelings of purpose as a risk factor to suicide (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Strickland & Cooper, 2011; Wexler, 2009; Yoder, Whitbeck, Hoyt, et al, 2006), and nine articles determined optimism about the future as protective against Native youth suicide (Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Hodge & Nandy, 2011; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Wexler, 2009; Wexler, Hill, et al, 2008). Because both categories are interrelated, as one

contributes to or takes from the other, they will be discussed together in the following section.

Personal Persistence: Personal persistence, self-identity, self-continuity and reasons for living were all recognized as protective against suicidal behavior in AI/AN youth. When possessing purpose and hope, Native American youth are better able to engage, and are more likely to care how and where their life goes. With links to the past and an association to the future, the present makes sense and feels worth living. These youth have buy-in to the prosperity of the individual they are becoming. In this situation, suicide is not an option (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Chino & Fullerton-Gleason, 2006).

If a sense of self or connectedness to the future is lost, the reasons for living no longer seem sustainable. To Native American youth, life no longer seems worth the trouble, and they lose understanding of their own personal persistence or self-continuity in time. Suddenly feeling no purpose, they don't own their past, and do not feel connected to their future. This is when suicide becomes a real option (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Chino & Fullerton-Gleason, 2006).

Practice Implications. Fostering self-esteem and the development of feelings of optimism are considered important preventative interventions against Native youth suicide. Approaches that promote resilience, wellbeing, and a personal drive to exist regardless of circumstance are thought to be protective against suicide (Chandler & Proulx, 2006; Freedenthal, Stiffman, 2004; Pettingell, Bearinger, Skay, et al, 2008).

Reasons for living, promoted through the use of a questionnaire, is a specific assessment and intervention tool that can promote an important cognitive switch from thinking about reasons for living rather than reasons for dying (Chandler & Proulx, 2006).

Microsystem Theme #4: Relationship to Family

The relational worldview that is shared by most Native American people holds family as central to their context. Family is considered to extend across culture and community, and interacts with the spirit, mind and body as part of the context contributing to overall health. It is thought for Native Americans, spirit, mind, body, and family must be in balance for a sense of wellbeing to be achieved (Crofoot Graham, 2002).

Relationship to family is separated into two subthemes: alienation from family (connectedness to family), and a gap between generations (connected extended family). Both of these subthemes are significant in determining suicidal tendencies in AI/AN youth. Each of the subthemes will be discussed separately below.

Alienation vs. Family Connectedness: Fourteen articles targeted alienation from family as a significant risk factor (Chandler & Proulx, 2006; Crofoot Grahm, 2002; Gary, Baker, Grandbois, 2005; Hamilton & Rolf, 2010; Hill, 2006; Hill, 2009; Hodge & Nandy, 2011; LaFromboise & Lewis, 2008; Olson, Wahab, Thompson, 2011; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2006; Wexler, 2009 Wexler, Hill, et al, 2008), while 22 articles found connectedness to family as protective against suicidal behavior in AI/AN youth (Alacantara & Gone, 2006;

Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Goodkind et al, 2011; Hamilton & Rolf, 2010; Hill, 2006; Hill, 2009; Hodge & Nandy, 2011; LaFromboise, Lewis, 2008; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; Pettingell, Bearinger, Skay, et al, 2008; SAMSHA, 2011; Smokowski, David-Ferdon & Stroupe, 2009; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Wexler, 2011; Wexler, Hill, et al, 2008). Native American youth tend to talk to family, consider family a source of support, and rely on family for sense of social connectedness (Alacantara & Gone, 2006; Chino & Fullerton-Gleason, 2006; Crofoot Grahm, 2002; Gary, Baker, Grandbois, 2005). Alienation from family removes an integral protective factor and contributes to the risk of suicide in AI/AN youth.

Practice Implications. Because family is considered central to a Native's youth worldview, interventions aimed at fostering family relationships are thought to be protective. This includes increasing family engagement, communication, and attachment to achieve overall family strengthening (Alacantara & Gone, 2006; Crofoot Grahm, 2002; Gary, Baker, Grandbois, 2005; Hamilton & Rolf, 2010; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Smokowski, David-Ferdon & Stroupe, 2009; Strickland, Walsh, Cooper, 2006).

Gap Between Generations: Five articles identified gaps between generations in families as a risk factor in Native youth suicide (Hill, 2006; LaFromboise, Lewis, 2008; Strickland, Walsh, Cooper, 2006; Wexler, 2006; Wexler, 2009), while 11 articles found

connectedness between generations in families as protective against youth suicide (Alacantara & Gone, 2006; Chino, Fullerton-Gleason, 2006; Goldston, Molock, Whitbeck, 2008; Goodkind et al, 2011; Hill, 2006; Hill, 2009; LaFromboise & Lewis, 2008; Mullany, Barlow, Goklish, et al, 2009; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Wexler, Hill, et al, 2008).

Practice Implications. Resulting recommendations suggested the importance of engaging families across the generations, including promotion of traditional family parenting values, and grandparents or elders serving as mentors for youth in an effort to promote strength (Goldston, Molock, Whitbeck, 2008; Goodkind et al, 2011; Hill, 2009; Mullany, Barlow, Goklish, et al, 2009; Smokowski, David-Ferdon & Stroupe, 2009; Wexler, 2006).

Microsystem Theme #5: Youths' Family Context

Specific subthemes under this category include: 1) antisocial parenting norms (prosocial parenting norms); 2) single parent families (intact families); 3) stressed family relationships (positive family relationships); 4) substance abuse in families (no substance abuse in family); 5) family violence or abuse (no violence in family). These subthemes will be discussed together to illustrate the overlapping effects of family on suicidal behavior in Native American youth.

Family Context Subthemes: Family can be a source of strength or stress for AI/AN youth (Strickland & Cooper, 2011). Family conflict has been considered one of the most common precipitants for suicidal behavior. Adverse family circumstances

included antisocial parenting norms (promotion of violence, missing school and substance abuse), family history of suicide, single parent homes, mood disorders and substance abuse in families, child abuse and neglect, and domestic violence (Chino & Fullerton-Gleason, 2006; Gone & Trimble, 2011; May, Serna, Hurt, Lemyra, 2005; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Pettingell, Bearinger, Skay, et al, 2008; Strickland & Cooper, 2011). These circumstances add a source of strain to our youth contributing to reactions of anger and negative mood (Walls, Chapple & Johnson, 2007).

Positive family relationships, free from the above adversity, consist of traditional parenting roles and role modeling by parents, intact and stable families, open communication and caring between family members, promotion of pro-social behaviors, and a safe environment free from violence and substance abuse (Chino & Fullerton-Gleason, 2006; Gary, Baker, Grandbois, 2005; Goodkind et al, 2011; Hamilton & Rolf, 2010; Olson & Wahab, 2006).

Practice Implications. Efforts to promote positive family relationships should be included in the multi-faceted approach to suicide prevention in Native Youth, as it is identified both as a major risk and important protective factor in suicidal behavior.

Microsystem Theme # 6: Youths' Context Outside of Family

Specific subthemes include: 1) alienation (feelings of connectedness); 2) adolescent development stage (older or younger development stages); 3) increased general stress (decreased amount of stress); 4) interpersonal conflict (limited

interpersonal conflict); 5) low level of education (educational attainment); and 6) being a victim of bullying (not a victim of bullying). Because of the significant attention in the literature, each subtheme will be discussed separately.

Alienation: As with alienation from family, alienation in general is a significant risk contributing to suicidal behavior in Native youth. Nine articles supported the magnitude of this risk (Chandler & Proulx, 2006; Hill, 2006; Hill, 2009; Jacono & Jacono, 2008; LaFromboise, Lewis, 2008; Olson, Wahab, Thompson, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2006; Wexler, 2009), while 14 supported the importance of feelings of connectedness as a protective factor (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Crofoot Grahm, 2002; Gary, Baker, Grandbois, 2005; Goodkind et al, 2011; Hill, 2006; Hill, 2009; Jacono & Jacono, 2008; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Strickland & Cooper, 2011; Wexler, 2009; Wexler, 2011; Wexler, Hill, et al, 2008).

All individuals strive for a sense of belonging, or connectedness with others. Also, not being connected can result in negative intellectual, emotional and behavioral consequences. Simply put, a low sense of belonging equals an increase in feelings of depression (Hill, 2006). As a protective factor, a sense of belonging is most valuable when it occurs across multiple spheres of a youth's life, as outlined in the bioecological systems model, and may include friends, community and nature (Crofoot Grahm, 2002).

Practice Implications. Promoting a sense of belonging, by being there for each other in ways that promotes a special connection, should be encouraged for Native American youth. This connection reminds them that they do belong (Wexler, 2006).

Increased General Stress: Ten articles suggest increased amounts of general stress can play a role in suicidal behavior in AI/AN youth (Alacantara & Gone, 2006; Crofoot Grahm, 2002; Hill, 2009; Olson, Wahab, Thompson, 2011; Pettingell, Bearinger, Skay, et al, 2008; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2009; Yoder, Whitbeck, Hoyt, et al, 2006). With continued feelings of stress, suicide becomes an emotion-driven reaction as an attempt to escape (Walls, Chapple & Johnson, 2007). It is thought stress is a result of multiple factors, all of which are separately considered as contributing to suicidal behavior in Native American youth and may include: interpersonal conflict or strained relationships, rapid social transitions, family disruptions, multiple life frustrations, and violence (Alacantara & Gone, 2006; Crofoot Grahm, 2002; Gary, Baker, Grandbois, 2005; Hamilton & Rolf, 2010; Olson & Wahab, 2006; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011).

Interpersonal Conflict: As mentioned in the preceding paragraph, interpersonal conflict or strained personal relationships contribute directly to generalized stress, and are considered a major risk factor in Native American youth suicide. Eleven articles supported this finding (Alacantara & Gone, 2006; Baldwin, 2007; Crofoot Grahm, 2002; Gary, Baker, Grandbois, 2005; LeMaster, Beals, Novins, 2004; Mullany, Barlow,

Goklish, et al, 2009; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, Hill, et al, 2008), while two articles suggested freedom from conflict is protective against Native American youth suicide (Mullany, Barlow, Goklish, et al, 2009; Wexler, Hill, et al, 2008). Altering strained relationships with family members, friends and significant others, is sometimes the goal of suicidal behavior, rather than death (LeMaster, Beals, Novins, 2004; Mullany, Barlow, Goklish, et al, 2009).

Practice Implications. Efforts to improve interpersonal skills and conflict resolution may provide an alternate to address interpersonal conflict and prove to be protective against suicidal behavior in youth (Alacantara & Gone, 2006).

Adolescent Development: Eight articles identified the adolescent development stage as a risk factor in AI/NA youth suicides (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Goodkind et al, 2011; Gray & Muehlenkamp, 2010; LeMaster, Beals, Novins, 2004; Mullany, Barlow, Goklish, et al, 2009; Wexler, 2011; Wexler, Hill, et al, 2008). One article suggested being in a younger or older developmental stage than the adolescent period (prior to becoming an adolescent and after leaving the adolescent age), decreased the likelihood of suicidal behavior in Native youth (LeMaster, Beals, Novins, 2004).

Chandler and Proulx (2006) tied the adolescent years and sense of self or personal persistence together. They described adolescence as an unstable time marked by frequent changes in thinking and feelings related to sense of self (p. 133). It is during this

vulnerable stage that AI/AN youth may find themselves not tied to the past or connected to their future, which is considered a normal part of identity development. However, this time of transition—in the context in which Native youth are living—leaves them especially at risk in ways that other age groups are not (p. 135). This theory of development is further supported by highlighting the fact that, although previous suicide attempts are considered a risk factor, most young persons who have a failed suicide attempt do not continue with suicidal behavior into adulthood (p. 135). In fact, remarkably few Native elders ever commit suicide (Wexler, Hill, et al, 2008).

Goodkind et al (2011) suggested difficulty with trust as contributing to the risk for suicide during the adolescent developmental stage. This trust applies to multiple areas in the context of their environment including institutions, European-American health care providers, educators, and adults or authority figures. This distrust is thought to be attributable to both the developmental stage of adolescence, and as a result of the history of oppression and broken promises our First Americans have endured (p. 453). Lack of trust in Native American youth was described by an American Indian member of a community collaboration developed to address the fact that Native youth have the highest rate of suicide in the United States as follows:

...they're saying there is a lot of trust issues and they don't want to go in for treatment...the kids don't trust, I think, and this is my thought, they don't trust because they can't tell you the whole story. They're not quite sure how to start the whole story, the history of what happened to them and their families, and their relatives from generations back-grandmas and grandpas (Goodkind et al, 2011, p. 455).

In their literature review, LeMaster, Beals & Novins (2004) reported suicidal ideation is actually more common than suicidal attempts in Native American adolescents,

as a 1993 study completed in Alberta Canada found 39% of Native adolescents had earnestly deliberated about suicide (p. 244). However, data from their population-based survey discovered that more AI/AN youth actually attempted suicide than had ever thought about it without attempting it, suggesting more impulsivity in Native youth (p. 250).

Practice Implications. It is suggested prevention efforts should be focused on specific age groups, particularly adolescents, to improve effectiveness (p. 251).

Educational Attainment: Six articles mention low educational attainment as contributing to the risk of suicide in AI/AN youth (Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Grandbois, 2005; Olson & Wahab, 2006; Strickland, Walsh, Cooper, 2006; Wexler, Hill, et al, 2008). Two articles list education attainment as protective (Olson, Wahab, Thompson, 2011; Wexler, Hill, et al, 2008).

A study of factors correlated with suicidal behavior in the indigenous population in Alaska found very few individuals with suicidal behavior had obtained a high school diploma. It is thought educational attainment is protective by contributing to a sense of purpose or accomplishment in Native American youth (Wexler, Hill, et al, 2008; Olson, Wahab, Thompson, 2011).

Practice Implications. Efforts to provide educational opportunities and improve school retention should be considered as part of the suicide prevention effort for Native American youth (Wexler, Hill, et al, 2008).

Victim of Bullying: Two articles suggest victims of bullying are subject to a risk factor for Native American youth suicide (Shaughnessy, Doshi & Jones, 2004; Strickland, Walsh, Cooper, 2006). Shaughnessy, Doshi & Jones (2004) also list freedom from bullying as protective against suicidal behavior in Native American youth.

According to the Youth Risk Behavior Surveillance System of students attending BIA (Bureau of Indian Affairs) funded high schools in 2001, of the youth who had attempted suicide, 64.7% had been in a physical fight one or more times in the year preceding the survey, 34.3% carried a weapon to protect themselves one or more times during the month preceding the survey, and 22% had been physically hurt by a boyfriend or girlfriend during the year prior to the survey (Shaughnessy, Doshi & Jones, 2004). Having negative experiences in school, whether this be teasing, gossip or fighting, has been recognized as being related to increased suicide risk (Strickland, Walsh, Cooper, 2006).

Parents and elders in a Pacific Northwest Tribe described school should be a place for promotion and discovery of talents and self-esteem, where their youth's self-worth should be reinforced (Strickland, Walsh, Cooper, 2006).

Practice Implications. It is suggested providing a safe environment for learning and prevention of violence in the community and school, as well as teaching AI/AN youth the skills they need to remain safe, would prove protective against suicidal behavior in Native youth (Shaughnessy, Doshi & Jones, 2004).

Mesosystem

Surrounding the microsystem, as the second layer of the sphere in the bioecological systems model, the mesosystem consists of the interactions between the various microsystems (roles and relations) in which the AI/AN child is surrounded and is an active participant. It can be described as the relationships between two or more microsystems (Schiamberg & Gans, 2005). The mesosystem is thought to provide connections between the structures of the microsystem (Bronfenbrenner, 2005). For example, the Native child and his family are considered the center of the model, and the mesosystem may include the connections between the child's family (home) and the school system or health care providers. Themes emerging from the literature, and included as part of the mesosystem, are access to care and contagion.

Mesosystem Theme #1: Access to Care

Separate subthemes listed under access to care include: 1) underfunded systems (adequate funding); 2) stigma related to mental health care (no stigma); 3) geographic isolation (physical access to service); 4) mental health provider shortage (adequate providers); 5) underutilization of services (appropriate use of existing services); and 6) low continuity/coordination of care with no inclusion of traditional approaches (continuity/coordination of care, combined with traditional approaches).

Underfunded Systems: Eleven articles suggested underfunded systems of care as a factor in Native American youth suicide (Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Goodkind,

LaNoue & Milford, 2010; Goodkind et al, 2010; Goodkind et al, 2011; Grandbois, 2005; Gray & Muehlenkamp, 2010; Hamilton & Rolf, 2010; Olson & Wahab, 2006). Despite nearly one-third of all demands on health services in AI/AN communities requiring mental health or social services, the Indian Health Service line item budget has seen little increase in a twenty-year period (Grandbois, 2005). Goodkind et al (2011) believe underfunded systems actually contribute to behavioral health disparities. Finally, of the funding available for mental health care, 70% is currently used for treatment of mental illness, leaving very little for prevention efforts (Olson & Wahab, 2006).

Stigma Related to Mental Health: Twelve articles related stigma to mental health care and elevated suicide risk in Native American youth (Alacantara & Gone, 2006; Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2011; Grandbois, 2005; Gray & Muehlenkamp, 2010; Hamilton & Rolf, 2010; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; SAMSHA, 2011). Two articles found decreased or no stigma to receiving mental health care as protective (Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008).

Stigma related to mental illness serves as barrier that can prevent AI/AN youth from seeking help when they are suicidal or experiencing severe psychological pain. Reducing this stigma is essential to protecting Native youth from taking their own lives (Gray & Muehlenkamp, 2010).

Practice Implications. Suggestions to address stigma as a barrier to care include completing routine assessments for suicidal ideation and depression in non-mental healthcare settings or complete behavioral health integration into the medical clinics (Goldston, Molock, Whitbeck, 2008; Gray & Muehlenkamp, 2010). Additional suggestions include school-based health centers, combining prevention and treatment approaches that do not involve screening, and extending prevention efforts to areas where youth have the opportunity to interact positively with adults, which may include clinics, teen centers and community centers (Goodkind, LaNoue & Milford, 2010).

Geographic Isolation: Six articles identified the remoteness of reservation living as negatively affecting access to care and various other identified risk factors of suicide, thus having a role in suicidal behavior in Native youth (Freedenthal, Stiffman, 2004; Goldston, Molock, Whitbeck, 2008; Goodkind et al, 2010; Goodkind et al, 2011; Olson & Wahab, 2006; SAMSHA, 2011).

Remote areas have limited availability of mental health resources. This factor may contribute to the stigma placed on seeking care. Native youth may also be concerned about confidentiality in these small, remote communities, with limited options from which to choose (Goldston, Molock, Whitbeck, 2008).

Freedenthal and Stiffman (2004) reported living on rural or isolated reservations appears to magnify risks for suicide by increasing the likelihood of other risk factors. These risk factors are poverty, decreased educational resources, and limited employment opportunities, all of which are known to contribute to feelings of hopelessness in Native youth.

Goodkind et al (2010) suggest geographical remoteness limiting access to care is a risk factor in itself, and suggests developing programs that include transportation for youth. Olson and Wahab (2006) suggest the isolation from the rest of society that results from living and working on the reservation contributes to poor mental health status (depression and poor mood) and the possibility of suicidal ideation. This is likely a direct result of the difficult life circumstances experienced on the reservation, including poverty, inadequate employment and minimal educational opportunities.

Mental Health Provider Shortage: Nine articles identified a shortage of mental health providers in Indian Country as a barrier to the prevention of Native youth suicide (Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Gone & Trimble, 2011; Goodkind et al, 2010; Goodkind et al, 2011; Grandbois, 2005; Gray & Muehlenkamp, 2010; Hamilton & Rolf, 2010; Olson & Wahab, 2006). Grandbois (2005) reported staffing for mental health providers is less than 50% of what is needed throughout Indian Country. Indian Health Services (IHS), the Federal Agency responsible for providing healthcare to First Americans, currently has less than one mental health professional for every 3,000 patients. This is especially troubling because 55% of Native Americans, especially those living on reservations, rely solely on IHS for their health care (Gone & Trimble, 2011; Gray & Muehlenkamp, 2010).

Provider burn-out and staff turnover, due to the complexity and high demands of the profession, is thought to be a contributing factor to the lack of providers and lack of trust in available mental healthcare providers, as Native youth expect them to leave (Gone & Trimble, 2011; Goodkind et al, 2010; Goodkind et al, 2011; Olson & Wahab,

2006). In addition, mental health providers tend to be Non-American Indian, which is thought to contribute to underutilization of services by Native youth, increased likelihood of burnout of providers, and culturally inappropriate care (Gone & Trimble, 2011; Goodkind et al, 2011).

Further, it is suggested there is a lack of specialized, or qualified, providers in Indian country to address specific populations or conditions. There are also limited services, related to lack of providers thus local mental health may be limited only to outpatient services, and not providing inpatient hospitalization when needed (Goodkind et al, 2010; Olson & Wahab, 2006). This may mean a suicidal Native youth may be transferred to a distant community or off the reservation for care.

Practice Implications. Gary, Baker & Grandbois (2005) suggested nursing could play an integral role in providing mental health care to Native youth, whether this is direct care in the medical clinic setting, serving as an advocate for culturally appropriate care, or ensuring adequate referrals to available mental health services. Goodkind et al, (2010) suggest recognizing and reimbursing non-licensed traditional providers, and the utilization of mid-level providers as possible solutions to the provider shortage in Indian Country (Goodkind et al, 2011). There is also a call for an increase in the number of appropriately prepared Native American nurses, mental health providers and substance abuse counselors to assist in efforts to prevent Native youth suicide (Grandbois, 2005).

Underutilization of Services: Five articles mentioned the underutilization of available mental health services by Native American youth as a contributing factor in

youth suicide (Freedenthal, Stiffman, 2004; Goldston, Molock, Whitbeck, 2008; Hamilton & Rolf, 2010; Olson & Wahab, 2006; Wexler, Hill, et al, 2008), while Goldston, Molock & Whitbeck (2008) found appropriate utilization of services available as protective against suicidal behavior in Native youth. Possible reasons for underutilization of available mental health care include: decreased cultural sensitivity, fragmentation of services, perceived poor quality of care, multiple health disparities, stigma, lack of resources, transportation difficulties, concerns about trust and privacy, and self-reliance (Goodkind et al, 2010; Goodkind, LaNoue & Milford, 2010; Goldston, Molock, Whitbeck, 2008; Hamilton & Rolf, 2010).

Low Continuity/Coordination of Care,
No Traditional Approaches to Care: Twelve articles suggested decreased

continuity and coordination of mental healthcare, and lack of traditional approaches to mental healthcare, were barriers to prevention of suicide in AI/AN youth (Crofoot Grahm, 2002; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Goodkind et al, 2011; Grandbois, 2005; Gray & Muehlenkamp, 2010; Hamilton & Rolf, 2010; Olson & Wahab, 2006; Wexler, 2011).

Practice Implications. Twenty-nine articles support the importance of holistic care that includes the coordination of mental healthcare to include both Western and traditional approaches, the combination of mental health and substance abuse programs, and collaboration between multiple agencies in what may be called an integrated or holistic approach (Alacantara & Gone, 2006; Crofoot Grahm, 2002; EchoHawk, 2006;

Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Goodkind et al, 2011; Grandbois, 2005; Gray & Muehlenkamp, 2010; Hamilton & Rolf, 2010; Hill, 2006; Hill, 2009; Hodge & Nandy, 2011; Jacono & Jacono, 2008; LaFromboise, Lewis, 2008; May, Serna, Hurt, Lemyra, 2005; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Wexler, 2006; Wexler, 2009; Wexler, 2011; Wexler, Hill, et al, 2008; Yoder, Whitbeck, Hoyt, et al, 2006).

Mesosystem Theme #2: Contagion

Contagion as a risk factor is separated into two subthemes. These subthemes include, exposure to friend or family member with suicidal behavior, which is the definition contagion, and negative (positive) school experiences, which is closely related, as often there will be multiple suicides from the same school (Echohawk, 2006, Freedenthal & Stiffman, 2004). The school experiences referred to may include the time frame prior to a suicide, or following a suicide.

Friend or Family Member with Suicidal Behavior: Thirteen articles identified exposure to suicidal behavior in a friend or family member as a significant risk (Alacantara & Gone, 2006; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; EchoHawk, 2006; Freedenthal, Stiffman, 2004; Goldston, Molock, Whitbeck, 2008; May, Serna, Hurt, Lemyra, 2005; Mullany, Barlow, Goklish, et al, 2009; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson,

2007; Wexler, Hill, et al, 2008), while one article (Alacantara & Gone, 2006), suggested freedom from this exposure as protective. Suicide or loss of a loved one is considered one of the most commonly reported reasons for suicide in Native youth (Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Wexler, Hill, et al, 2008). Alacantara & Gone (2006) reported having a friend or peer attempt or commit suicide as the strongest risk factor for suicidal behavior in AI/AN youth, while no exposure to suicidal behavior is considered protective against taking ones' own life.

In contrast to the general population, clustering and upsurges of suicidal behavior is not uncommon in Native American communities with small intense networks among adolescents on rural reservations (Goldston, Molock, Whitbeck, 2008; May, Serna, Hurt, Lemyra, 2005). Often multiple suicides will occur in one community or school (Echohawk, 2006). Suicide pacts, where friends make promises to attempt suicide, can also be a pattern among AI/AN youth (Alacantara & Gone, 2006).

School Experience: Six articles listed negative school experiences as a risk factor in Native American youth suicide (Gary, Baker, Grandbois, 2005; Olson & Wahab, 2006; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007), while 11 articles consider positive school experiences as protective against Native youth suicide (Alacantara & Gone, 2006; Chino, Fullerton-Gleason, 2006; Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Hamilton & Rolf, 2010; Olson & Wahab, 2006; Pettingell, Bearinger, Skay, et al, 2008; Shaughnessy, Doshi & Jones, 2004; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Wexler, Hill, et al, 2008).

Practice Implications. Staying in school and conditions that promote Native American youths' continued attendance in school, having a positive school experience, having a friend who does well in school, and the presence of a nurse or clinician in school are considered protective against suicidal behavior in AI/AN youth (Alacantara & Gone, 2006; Chino, Fullerton-Gleason, 2006; Gary, Baker, Grandbois, 2005; Strickland, Walsh, Cooper, 2006; Wexler, Hill, et al, 2008). Shaughnessy, Doshi & Jones (2004), suggested educators and school health personnel play a primary role in providing a safe environment that allows for teaching Native American youth the skills they need to remain safe.

Exosystem

The third layer of the sphere, surrounding both the microsystem and mesosystem, is identified as the exosystem. The exosystem is defined as external settings that do not include the individual or Native American youth. The exosystem can also be described as environments that are influential on the Native American youth, through participation of other family members but are an indirect influence to the individual (Bengtson, Acock, Allen, Dilworth-Anderson & Klein, 2005). Although the effects of the exosystem are thought to be indirect, the themes included are still considered as significant environmental factors able to influence the adolescent. For instance, factors in the exosystem may involve significant people in the developing child's life, or social institutions making decisions that will ultimately affect conditions in the child's family or environment (Bronfenbrenner, 2005). It is thought the exosystem affects both the

mesosystem and microsystem (roles & relations) levels (Bronfenbrenner, 2005; White & Klein, 2008). One theme, with several subthemes, was identified for the exosystem. It will be discussed below.

Exosystem Theme #1:
Tribe/Community/Reservation

One theme identified in the literature was included in the Exosystem: Tribe/Community/Reservation. This theme was broken down into several subthemes to include: 1) decreased cultural continuity (cultural continuity), 2) tribes placing stigma on mental illness (tribes who don't stigmatize mental illness), 3) nonlocal control of communities and culture (local control of community and culture), 4) lack of community involvement (community involvement), 5) ineffectual tribal leadership (strong tribal leadership), 6) racial discrimination (no discrimination).

Decreased Cultural Continuity: The level of cultural continuity of a tribe or community is determined by the attempts of this tribe/community to preserve and support their native culture (Alcantara & Gone, 2007). Fifteen articles identified lack of cultural continuity as a risk factor contributing to AI/AN youth suicide (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Hill, 2006; Jacono & Jacono, 2008; LaFromboise, Lewis, 2008; SAMSHA, 2011; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2006; Wexler, 2009; Wexler, 2011; Yoder, Whitbeck, Hoyt, et al, 2006). The majority of articles (30) identified communities and tribes with cultural continuity as protective against suicidal behavior in Native youth (Alacantara & Gone, 2006; Bohn,

2003; Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; EchoHawk, 2006; Freedenthal, Stiffman, 2004; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Goodkind et al, 2011; Grandbois, 2005; Gray & Muehlenkamp, 2010; Hamilton & Rolf, 2010; Hill, 2006; Hill, 2009; Hodge & Nandy, 2011; Jacono & Jacono, 2008; LaFromboise, Lewis, 2008; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Wexler, 2006; Wexler, 2009; Wexler, 2011; Yoder, Whitbeck, Hoyt, et al, 2006).

Alacantara & Gone (2006) reported cultural continuity was associated with reduced and in some cases “nonexistent” rates of suicide in some American Indian communities. Chandler and Proulx (2006) described cultural continuity as a “shield” to suicide at the community level that provides a protective sense of connection with a united past and acceptable future.

Other communities, or tribes, seemed to lose track of themselves in time, feeling disconnected from both their past and future. This loss of cultural continuity, often across entire reservations, can affect the self-esteem of its individual youth, thus elevating the risk for suicide (Jacono & Jacono, 2008). It is suggested youth suicide is not an American Indian issue, but a dramatic issue in some tribes, or Native American communities, and not an issue at all in others, with cultural continuity being the major factor separating these two extremes (Chandler & Proulx, 2006).

To obtain a sense of cultural continuity, youth are asking for hope for the future (Strickland, Walsh, Cooper, 2006). Without cultural continuity, youth get caught between the innocence of childhood and the difficulties of adulthood. They look toward the future with dread, as they feel they have no purpose. They are afraid their future will mimic that of the adults before them—stricken by alcohol abuse, lacking connection with culture, and drowning in hopelessness (Wexler, 2009).

Practice Implications. Community interventions are thought to be effective in promoting cultural continuity by facilitating a collective, promising community purpose (Wexler, 2006; Wexler, 2011). These may include youth mentoring, increased cultural activities, support for employment and economic development, youth recognition, strengthening collaborations between tribes, schools, police departments and other community agencies, and family-based interventions involving youth, parents, extended family and community. These interventions should be delivered in a cultural manner that may include use of story and demonstration or role modeling (Goodkind et al, 2011; Strickland, Walsh, Cooper, 2006).

Tribal Stigmatization of Mental Health: Two articles identified tribal stigmatization of mental illness as a contributing factor in Native American youth suicide (Grandbois, 2005; LaFromboise, Lewis, 2008). Three articles mentioned a protective effect against suicide when tribes do not stigmatize mental illness (Grandbois, 2005; Mullany, Barlow, Goklish, et al, 2009; SAMSHA, 2011).

Stigma related to mental illness was identified as a reason why AI/AN adolescents with suicidal ideation and behavior did not seek help (Freedenthal & Stiffman, 2007). Stigma is also thought to be a barrier for families who are attempting to heal from the loss of a loved one, contributing to feelings they must suffer in silence. This isolation, and inability to mourn, can lead to terrible consequences including responding to this unresolved grief with another suicide (SAMSHA, 2011). In both cases, stigma related to suicide or mental illness serves as a barrier between the Native American youth and support care they need.

Practice Implications. The Apache Tribe's response to suicide illustrated that if suicide is approached head-on—rather than avoided due to the stigma surrounding it—positive results may be achieved. The Apache Tribal Council passed a resolution mandating all suicidal behavior must be reported. This was the first system in place that gathered data related to suicidal behavior both from the clinical settings and the community. Further, they developed a program in which Apache people served as outreach workers in the ER when suicidal behavior was identified. This work included increasing the awareness of the seriousness of suicidal behavior, and the importance of following the culturally appropriate treatment plan that was developed as a result of the suicidal action (Mullany, Barlow, Goklish, et al, 2009).

Nonlocal Control of Communities and Culture: Six articles suggested nonlocal control of community and culture as a risk factor for suicide in Native American youth (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Freedenthal, Stiffman, 2004; Hill,

2009; Walls, Chapple & Johnson, 2007; Wexler, 2011). Local control of community and culture was identified as protective against suicidal behavior in Native youth in 11 articles (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Gone & Trimble, 2011; Goodkind, LaNoue & Milford, 2010; Grandbois, 2005; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Strickland, Walsh, Cooper, 2006; Wexler, 2011).

Nonlocal control of the community and culture is thought to be one of the reasons for the extensive variation in suicidal behavior—sometimes described as a saw-tooth pattern—between communities, reservations or tribes. Communities or tribes with local control over the management of their social and cultural affairs, or having a supportive community structure, are thought to be protective against suicidal ideation (Chandler & Proulx, 2006; Jacono & Jacono, 2008). In contrast, communities with low social integration, or those undergoing rapid changes resulting from outside influences, are considered at risk for suicidal behavior in their Native American youth (Walls, Chapple & Johnson, 2007).

Each tribe has different social and cultural characteristics. American Indian youth living amongst their own people tend to benefit from strong cultural identity, community, and traditions of tribal life (Freedenthal, Stiffman, 2004). These societies tend to allow for more opportunities for education, employment and culturally supportive activities promoting a sense of belonging and self. Tribes with loose connections to culture and social activity, which may mimic the loss of culture, rapid social change and isolation felt

by urban Indians, tend to experience more suicidal behavior, as fear of social disapproval was not protective (Crowfoot Graham, 2002; Freedenthal, Stiffman, 2004).

Lack of Community Involvement: Thirteen articles mentioned lack of community involvement as a contributing risk factor in Native American youth suicide (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Freedenthal, Stiffman, 2004; Grandbois, 2005; LaFromboise, Lewis, 2008; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2006; Wexler, 2009; Wexler, 2011;

Wexler, Hill, et al, 2008; Yoder, Whitbeck, Hoyt, et al, 2006). Twenty-four articles identified community involvement as a major protective factor against AI/AN youth suicide (Alacantara & Gone, 2006; Bohn, 2003; Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Freedenthal, Stiffman, 2004; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Goodkind et al, 2011; Hamilton & Rolf, 2010; Hill, 2009; Hodge & Nandy, 2011; Jacono & Jacono, 2008; May, Serna, Hurt, Lemyra, 2005; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2009; Wexler, 2011; Wexler, Hill, et al, 2008; Yoder, Whitbeck, Hoyt, et al, 2006).

Any person, especially Native American youth, should be understood as inseparable from their environment or community. Hill (2006) describes the Native youth as an extension to and integrated within a family, community, tribe and universe. Hodge & Nandy (2011) suggest a stable and balanced environment results in good mental and physical health.

Practice Implications. Suicidal ideation has been found to be higher on reservations in which a person-centered approach, rather than a community-centered approach to prevention of suicide has been attempted (Alacantara & Gone, 2006). This information calls for drawing on the strengths of entire communities, with responses or prevention efforts being generated within the community (Bohn, 2003; Goldston, Molock, Whitbeck, 2008).

With each community, this involvement may look very different. There is great diversity as it relates to social, cultural and spiritual beliefs, both within and across regions, reservations and communities (Bohn, 2003; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Grandbois, 2005; Jacono & Jacono, 2008). Depending on individual community approaches, community involvement may include the following: 1) development of youth recreation centers; 2) efforts to rebuild reservation life including improved education and employment opportunities; 3) providing for better living conditions, including improvement of roads, and opportunities for clean and sober recreation; 4) promoting cultural traditions and maintaining cultural identity; 5) teaching coping and life skills; 6) smoking prevention; 7) efforts to increase communication, and positive interaction between adults and kids; 8) strengthening or promotion of family involvement in youths' lives; 9) community wide education efforts; 10) healing rituals for entire communities that include sharing stories and remembering collectively; and 11) community suicide centers or prevention networks (Bohn, 2003; Chino, Fullerton-Gleason, 2006; Freedenthal, Stiffman, 2004;

Goldston, Molock, Whitbeck, 2008; Goodkind et al, 2011; Strickland, Walsh, Cooper, 2006).

The current trends of suicidal behavior in Native youth should elicit a conviction that something must be done, a community response to collectively develop a promising future for its youth. Currently it is suggested the spirit of some Native American communities is broken, preventing communities from getting involved, despite the urgent call for community action (Wexler, 2006).

A quote from an Inupiaq women calling for a response to youth suicide in their community as a moral and cultural duty, states she considers the death of their young by suicide a signal of the destruction of the Inupiat people:

...we need to discipline ourselves to be healthy and take part to start a new legacy of a healthy Inupiaq generation. We need to stop taking chances with our race and take charge for our children and their children's sake. The way we are going and neglecting and abusing ourselves, how can we act like nothing is wrong? (Wexler, 2006).

Wexler (2006) explained the question "how can we act like nothing is wrong" is asked in various ways, over and over, as youth suicides continue, and communities continue to fail to take effective action. In fact, many Inupiat people consider this lack of concern as laziness on their communities' part. Inupiat youth further support this opinion by reporting, "everybody is making the wrong choice and you feel like a lot of adults just kind of give up on themselves" (Wexler, 2009). These Alaskan Native youth describe looking toward their future with trepidation, if it is going to be similar to the adults, with no sense of purpose and drowning in substance abuse.

Practice Implications. It is suggested community prevention efforts that take a relational approach targeting alcohol abuse, grief, relational difficulties and family history of suicides is needed. This approach may be may be a culturally relevant prevention effort that could be generalized across diverse indigenous populations to prevent youth suicide, by using interpersonal, community based interventions that improve everyday relationships and communication patterns. (LaFromboise, Lewis, 2008; Wexler, Hill, et al, 2008).

Ineffectual Tribal Leadership: Lack of effective tribal leadership was considered a factor contributing to Native youth suicide in eight articles (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Freedenthal, Stiffman, 2004; Hamilton & Rolf, 2010; Hill, 2006; Walls, Chapple & Johnson, 2007; Wexler, 2011; Yoder, Whitbeck, Hoyt, et al, 2006), while 18 articles identified strong tribal leadership as protective against Native youth suicide (Alacantara & Gone, 2006; Bohn, 2003; Chandler & Proulx, 2006; Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Goodkind et al, 2011; Hill, 2006; Hill, 2009; Mullany, Barlow, Goklish, et al, 2009; Olson & Wahab, 2006; SAMSHA, 2011; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2011; Yoder, Whitbeck, Hoyt, et al, 2006). Wexler (2006) suggested continued youth suicide reflects current failure of tribal leadership, while Gary, Baker & Grandbois (2005) considered supportive tribal leaders as protective.

Practice Implications. Tribal leaders play a vital role in instilling a sense of belonging and self to their Native youth, which has proven preventative against youth suicide. This is thought to be accomplished through eliminating stigma related to mental health and suicide, working to promote healthy living that includes decreasing substance abuse and the promotion of education, employment and positive family interactions, and encouraging collaboration among both traditional and Western community resources (Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Goodkind et al, 2011; Olson & Wahab, 2006; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011).

Racial Discrimination/Prejudice: Eighteen articles identified exposure to racial discrimination as a contributing factor in the risk of suicide, adding to the multifaceted risk experienced by our Native Youth (Alacantara & Gone, 2006; Baldwin, 2007; Crofoot Grahm, 2002; EchoHawk, 2006; Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Goodkind et al, 2011; LaFromboise, Lewis, 2008; Olson & Wahab, 2006; SAMSHA, 2011; Smokowski, David-Ferdon & Stroupe, 2009; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Yoder, Whitbeck, Hoyt, et al, 2006). Two articles discussed not being exposed to prejudice as protective (Freedenthal, Stiffman, 2004; Goodkind et al, 2011).

Prejudice and racism contribute to suicide risk in Native youth in multiple ways. Racism can function as a roadblock to accessing effective mental health treatment and contribute to feelings of low self-esteem or self-worth when AI/AN youth accept negative

stereotypes of themselves. Self-blaming by Native youth—related to associated racism and oppression—and past and current discrimination due to Native status, is thought to contribute to alcohol abuse and psychological distress, including anger and aggressive behavior (Crofoot Grahm, 2002; Gary, Baker, Grandbois, 2005; Goodkind et al, 2010; Strickland, Walsh, Cooper, 2006). Smokowski, David-Ferdon & Stroupe, (2009) identified perceived discrimination as a predictor of suicidal ideation in Native youth.

Practice Implications. Mental health providers are thought to have a special responsibility to combat racism and promote social equity, especially in the context of Native American youth suicide (Goldston, Molock, Whitbeck, 2008). It is also suggested mental health providers set aside any preconceived assumptions about the mental health status of the Native American youth, because of the diversity among and within each tribal nation, community, and family (Gone & Trimble, 2011).

Macrosystem

The macrosystem is the fourth layer of the sphere, and encompasses the exosystem, mesosystem and microsystem. Macrosystem is defined as the broad cultural attitudes, values, ideologies, belief systems, and patterns that influence institutional environments within a particular culture, or subculture, in which individuals and families live (Kaakinen, Gedaly-Duff, Coehlo & Hanson, 2010). Other sources simply equate the macrosystem to culture (White & Klein, 2008). Bronfenbrenner defined the macrosystem in the following manner:

The macrosystem consists of the overarching pattern of micro-, meso-, and exosystems characteristic of a given culture, subculture, or other broader social context, with particular reference to the developmentally instigative belief systems, resources, hazards, lifestyles, opportunity structures, life course options, and patterns of social interchange that are embedded in each of these systems. The macrosystem may be thought of as a societal blueprint for a particular culture, subculture, or other broader social context (Bronfenbrenner, 2005, p. 149).

Themes identified from the literature that fit into the macrosystem included culture/spirituality, socioeconomic status, and policies or treaties.

Macrosystem Theme #1: Culture, Spirituality

Separate subthemes included under cultural and spirituality include: 1) no spirituality (spirituality as protective); 2) loss of culture-no traditional practices (cultural support-traditional practices); 3) enculturation as a stressor (enculturation as protective); 4) decreased resilience (enhanced resilience); 5) acculturation stress (no acculturation stress), 6) present oriented (future oriented); and 7) social acceptance of suicide (no social acceptance of suicide). Each will be discussed separately.

No Spirituality: Eight articles suggested lack of spirituality elevates the risk for suicidal behavior in Native American youth (Alacantara & Gone, 2006; Crofoot Grahm, 2002; Garroutee, Goldberg, Beals, 2003; Goodkind et al, 2011; Grandbois, 2005; Hamilton & Rolf, 2010; Hill, 2006; Olson, Wahab, Thompson, 2011). Fourteen articles found spirituality as a protective factor against Native Youth suicide (Alacantara & Gone, 2006; Crofoot Grahm, 2002; Garroutee, Goldberg, Beals, 2003; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Goodkind et al, 2011; Grandbois, 2005; Gray & Muehlenkamp,

2010; Hill, 2009; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006).

It is thought Native Americans perceive mental illness, physical illness, and spiritual illness as one in the same. Prior to colonization, the concept most closely related to mental illness, including loss of spirituality, was “soul loss” (Grandbois, 2005). Spiritual beliefs may also contribute to suicide. As Garroutee, Goldberg & Beals (2003) mentioned, there are several tribes who share a view of spirituality and death as a very natural part of life. Death is not feared or avoided in these groups of people, and these spiritual beliefs could actually contribute to suicidal behavior.

Practice Implications. An assessment that considers the balance between the spirit, context, mind and body may be appropriate when serving Native American youth. Thus incorporating questions about beliefs or participation in prayer, sweat lodges or ceremonies, as is done in the Reasons for Living Questionnaire, is considered culturally appropriate for Native youth (Garroutee, Goldberg, Beals, 2003; Graham, 2002). Reasons for Living assessments are considered effective strength based tools for assessing suicide risk that considers the balance between spirit, mind, context and body, and may assist in developing a culturally relevant plan of care for AI/AN youth (Graham, 2002).

Loss of Culture–No Traditional Practices. Seventeen articles identified loss of culture and not participating in traditional practices as potential risk factors in Native American youth suicide (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Garroutee,

Goldberg, Beals, 2003; Gary, Baker, Grandbois, 2005; Goodkind et al, 2011; Hamilton & Rolf, 2010; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Walls, Chapple & Johnson, 2007; Wexler, 2006; Wexler, 2009; Wexler, 2011. Twenty-four articles considered cultural support and traditional practices as protective against Native American youth suicide (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Garroutee, Goldberg, Beals, 2003; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Goodkind et al, 2011; Grandbois, 2005; Gray & Muehlenkamp, 2010; Hamilton & Rolf, 2010; Hill, 2006; Hill, 2009; Jacono & Jacono, 2008; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2011).

It is suggested people who have access to shared procedures and practices—or cultural tools—are more persistent. They are able to imagine and sustain a shared history and common future. In fact, entire communities who preserve ties to culture are more protective against Native American youth suicide (Alacantara & Gone, 2006; Chandler & Proulx, 2006).

Practice Implications. There is a need for a culturally sensitive approach to providing mental health care that considers cultural heterogeneity among tribes (Alacantara & Gone, 2006; Echohawk, 2006). This approach should be based on traditional healing practices that may already be successful, and promote an indigenous

identity (Alacantara & Gone, 2006; Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2011). These approaches may look very different, depending on the youth's cultural alignment, and may range from storytelling, participation in ceremonial or sacred events to elicit healing, or even puppet play (Hill, 2006, Jacono & Jacono, 2008).

A holistic approach that combines traditional knowledge and Western science is supported in the literature. This universal approach was called “two-eyed seeing” and was described as examining or approaching the world we live in from different but equal perspectives to come up with solutions rather than imposing the Western view onto Native youth (Jacono & Jacono, 2008).

It is suggested that approaching Native American youth and mental health solely from a Western approach may actually cause increased feelings of guilt and victimization (Gary, Baker, Grandbois, 2005). Nursing is thought to play a role in protecting minority youth from further victimization through promoting culturally competent care that restores a sense of balance, harmony, and unity within the youth (Hill 2006; Grandbois, 2005).

A greater understanding of the cultural context in which Native American suicide is taking place, through consultation with traditional practitioners, and increased cultural awareness through education may be beneficial in improving the efficacy of the care provided to Native youth (Grandbois, 2005; Jacono & Jacono, 2008).

Enculturation: Six articles mentioned the impact of enculturation on Native American youth suicide as a protective factor (Freedenthal, Stiffman, 2004; Goldston, Molock, Whitbeck, 2008; Smokowski, David-Ferdon & Stroupe, 2009; Yoder, Whitbeck,

Hoyt, et al, 2006). Four articles suggested enculturation as possibly contributing to cumulative stress related to living in two cultures with competing demands (Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Freedenthal, Stiffman, 2004; Walls, Chapple & Johnson, 2007).

Enculturation was defined as “the process by which individuals learn about and identify with their traditional ethnic culture” (Yoder, Whitbeck, Hoyt, et al, 2006). It is also thought to represent the amount to which a person is rooted in his or her cultural traditions. Markers of enculturation may include traditional practices, language, spirituality and cultural identity (Goldston, Molock, Whitbeck, 2008). Enculturation has been seen as protective against Native American youth suicide by increasing self-esteem and promoting mental health.

Practice Implications. Enculturation is thought to be accomplished by connecting Native youth with others who value their ethnicity, and exposing them to traditional beliefs and practices that promote healthy behaviors and discourage deviant ones (Yoder, Whitbeck, Hoyt, et al, 2006).

Decreased Resilience: Goodkind et al (2010) identified decreased resilience as risk factor in Native youth suicide. Five articles identified enhanced resilience as protective against the suicidal behavior in Native youth (Chandler & Proulx, 2006; Crofoot Grahm, 2002; Goodkind et al, 2010; Gray & Muehlenkamp, 2010; Olson, Wahab, Thompson, 2011).

Practice Implications. Goodkind et al (2010) found the most resilient AI/AN youth were culturally and spiritually grounded. Gray & Muehlenkamp (2010) support this concept by suggesting the importance of enhancing resilience in Native youth through cultural support, developing a sense of cultural and spiritual connection. It is also suggested that cultural support through exposure to positive images of American Indians would contribute to enhanced resilience, and thus prove protective (Crofoot Graham, 2002).

Acculturation: Acculturation was identified as a common stressor contributing to the vulnerability of Native youth to suicide in fourteen articles (Alacantara & Gone, 2006; Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Freedenthal, Stiffman, 2004; Goodkind et al, 2011; Hill, 2009; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Smokowski, David-Ferdon & Stroupe, 2009; Walls, Chapple & Johnson, 2007; Wexler, 2009; Wexler, 2011; Wexler, Hill, et al, 2008), while one article mentions no stress related to acculturation as protective against suicidal behavior in Native youth (Smokowski, David-Ferdon & Stroupe, 2009). Acculturation is defined as the modification of the culture of a group or individual as a result of contact with a different culture (Olson & Wahab, 2006).

Acculturation resulting from exposure to rapid social and economic changes within their cultural group can cause increased stress leading to higher rates of suicide. Acculturation stress also contributes to chaotic families, child neglect, divorce and substance abuse, all of which are considered risk factors for suicidal behavior in Native youth (Olson & Wahab, 2006). Acculturation is also thought to contribute to feelings of

alienation, when a youth is caught in a changing society and attempts to integrate personal and societal ways of being is unsuccessful. The youth is essentially being caught between two worlds, experiences feelings of alienation, which is considered a risk factor for suicidal behavior (Olson, Wahab, Thompson, 2011).

Present-Oriented: Five articles considered being present-oriented as a risk contributing to suicidal behavior in Native youth (Chino, Fullerton-Gleason, 2006; Goldston, Molock, Whitbeck, 2008; Strickland, Walsh, Cooper, 2006; Wexler, 2009; Wexler, 2011). Three articles identified looking toward the future as protective against AI/AN youth suicide (Chandler & Proulx, 2006; Chino, Fullerton-Gleason, 2006; Strickland, Walsh, Cooper, 2006).

Entire cultures can be stuck in the present, unable to envision a future. For instance, Inupiat men tend to feel their lives are meaningless; they feel bored and without purpose, as they no longer provide the subsistence work they once did for their families and communities. They feel as if they have no future, thus turning to destructive behaviors, including suicidal behaviors. All the while, Inupiat youth are observing, fearing this is their common future (Wexler, 2006).

This picture of self-destruction can cause tension between what these youth hope for and what they now believe is probable for their future. They begin to experience “living with discontinuities and start to harshly judge their world” (Wexler, 2009). Not being able to picture a hopeful future is identified as contributing to the risk for suicidal behavior in Native youth.

Macrosystem Theme #2: Socioeconomic Status

The subthemes of low socioeconomic status (high socioeconomic status) and unemployment (employment) will be discussed together to best reflect the content of the literature. Nineteen articles included low socioeconomic status as a risk factor contributing to Native American youth suicide (Alacantara & Gone, 2006; Crofoot Grahm, 2002; Freedenthal, Stiffman, 2004; Gary, Baker, Grandbois, 2005; Goldston, Molock, Whitbeck, 2008; Gone & Trimble, 2011; Grandbois, 2005; Hamilton & Rolf, 2010; LaFromboise, Lewis, 2008; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; SAMSHA, 2011; Smokowski, David-Ferdon & Stroupe, 2009; Strickland, Walsh, Cooper, 2006; Strickland & Cooper, 2011; Walls, Chapple & Johnson, 2007; Wexler, 2009; Wexler, 2011; Wexler, Hill, et al, 2008), and two articles suggested a stable socioeconomic status is protective against suicide in Native American youth (Freedenthal, Stiffman, 2004; Strickland, Walsh, Cooper, 2006).

Grandbois (2005) reports Native Americans have been classified as the “poorest of the poor” in the United States according to federally outlined economic indicators of poverty. Natives Americans are generally considered poorer, less educated, less employed, and less healthy than all other demographic groups in the Nation (Gone & Trimble, 2011). This economic deprivation, perpetuated by the geographic isolation of reservations, is thought to contribute to a sense of hopelessness, or negative mental health outcomes, in Native American people, both of which are risk factors for suicidal behavior (Goldston, Molock, Whitbeck, 2008). Gary, Baker, Grandbois (2005) report children in poverty are at greater risk for anxiety, depression and antisocial behavior.

Strickland, Walsh & Cooper (2006) reported a feeling of self-worth related to employment is considered protective. Freedenthal and Stiffman (2004) suggest Native adolescents who have more opportunities for education and employment—which is sometimes the case for those living in urban areas—tend to be more mentally and emotionally well, and less likely to suffer from psychological illness.

Macrosystem Theme #3: Policies/Treaties

The single subtheme included under policies and treaties includes decreased funding or recognition by the U. S. Federal Government (increased funding recognition). Seven articles identified decreased funding as a factor increasing the risk of suicidal behavior in Native American youth (Gone & Trimble, 2011; Goodkind et al, 2010; Goodkind et al, 2011; Grandbois, 2005; Hamilton & Rolf, 2010; Hill, 2006; Olson & Wahab, 2006). Eight articles identified increased funding as a factor that would contribute to preventing Native American youth suicide (Goodkind, LaNoue & Milford, 2010; Goodkind et al, 2010; Grandbois, 2005; Hamilton & Rolf, 2010; Hill, 2006; Olson & Wahab, 2006; Olson, Wahab, Thompson, 2011; Wexler, 2006).

It is suggested the youth suicide crisis in multiple Native American communities across the nation is currently dependent on public agencies and funding for a remedy (Gone & Trimble, 2011). To complicate this dependency, the current available funding and policies related to prevention of suicide in Native American people are thought to be insufficient, and overlook the seriousness of this mental health epidemic (Olson & Wahab, 2006).

Practice Implications. Suggested actions to address the suicide epidemic on a macro, or policy, level include: 1) increased funding for prevention; 2) apology from the U.S. Government related to past oppression to address issues of trust and power between the Native American people and the Government; 3) increased funding and recognition of programs that are already in place in many Native American communities; and 4) policies initiatives to work toward reducing on-going oppression that facilitates alienation, hopelessness, and pressure to acculturate through current agency-based programs (Olson, Wahab, Thompson, 2011).

Chronosystem

As the outermost layer, the chronosystem encompasses the entire inner sphere in the bioecological systems theory model. It is described as the changes in persons or environment over time, and includes critical events and socio-historical conditions. The events may be from the external environment, such as a war, or within the individual, such as going through puberty. They may also be “normative” events, such as starting school, or “non-normative” events such as historical trauma (Bronfenbrenner, 2005, p. 83). The events included in the chronosystem occur throughout an individual’s life span, permeate all four of the inner systems of development, and may often serve as the stimulus for developmental change in which the individuals and families have no control (Bronfenbrenner, 2005; Kaakinen, Gedaly-Duff, Coehlo, Hanson, 2010).

Bronfenbrenner (2005) describes the chronosystem as a method to “order events in their historical sequence and context” (p. 83). The inclusion of the chronosystem in the

bioecological system theory model allows the identification of the “impact of prior life events and experiences, singly or sequentially, on subsequent development” (p. 83). For the purposes of this paper, the effects of colonization were the sole theme placed into the chronosystem because of life- changing developmental paths that are thought to be a result of multi-generational effects of this concept in the lives of Native Americans. Other events that may be considered under the chronosystem (developmental stage of adolescence) also fit in the inner systems, so were addressed there.

Chronosystem Theme #1: Effects of Colonization

Three subthemes included under the chronosystem are all inter-related and can be encompassed under the heading, “effects of colonization.” These subthemes include historical trauma (acknowledgement of historical trauma), on-going oppression (freedom from oppression) and unresolved grief (resolved grief), and will be discussed together due to the inter-woven effects of each.

Effects of Colonization: Bohn (2003) described four hundred years of oppression and prejudice endured by the Native American people. This historical trauma is thought to add an additional layer of risk for AI/AN youth as it relates to suicide (Crofoot Grahm, 2002). Historical trauma brought on by colonization is thought to be one of the few commonalities among the diverse AI/AN tribes, nations and communities across the nation.

These commonalities include experiences, expectations and outlook, and are thought to be a significant link to increased suicidal behaviors in Native youth (Chino,

Fullerton-Gleason, 2006; Gone & Trimble, 2011). Historical trauma, unresolved psychological grief across generations, and current oppression are thought to be at the center of many of the social pathologies described in the AI/AN population. These pathologies include homicide, domestic violence, child abuse, alcoholism, spiritual injury, learned helplessness, decreased self-esteem, passive-aggressiveness, manipulation and gambling—and are also thought to be linked directly to increased suicidal behavior in AI/AN youth (Chino, Fullerton-Gleason, 2006; Gary, Baker, Grandbois, 2005; Goodkind et al, 2010; Goodkind et al, 2011; Wexler, 2006; Wexler, 2009). The social pathologies often seen in our Native communities have been described as coping skills developed in attempt to survive in the face of “mass destruction” (Walls, Chapple & Johnson, 2007).

Practice Implications. The importance of recognizing the effects of past and current oppressive policies, intergenerational trauma and grief more explicitly is suggested (Goodkind, LaNoue & Milford, 2010; Strickland, Walsh, Cooper, 2006). These approaches should include “decolonizing interventions” that ensure the Native youth are not “blamed for issues that are much bigger than they are” (Wexler, 2009). In addition, interventions should be aimed at building trust and avoid imposition of Western values or beliefs, as this is considered modern institutional racism (Goodkind et al, 2011). These interventions should aid Native youth in understanding how colonization affects them, help them define success and failure based on their own belief system, and promote a healthy future based on their terms (Wexler, 2009).

CHAPTER FIVE

CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

Introduction

The findings from 41 articles analyzed in this integrative literature review delineated a host of factors contributing to the elevated risk of Native American youth suicide. These factors were organized into themes and subthemes and then categorized according to the five system levels on the bioecological systems theory model. This allowed for visualization of the bidirectional influence of each factor across the levels, emphasized the importance of considering the social context of AI/AN youth suicide, and assisted in identifying practice implications specific to Native American youth. The factors ranged from individual and family “day-to-day realities,” to circumstances of the adolescent’s environment that were necessarily a direct influence, to cultural, economic and political issues, and to historical events that remain as elements affecting the lives of Native youth (Bronfenbrenner & Morris, 2006).

Organizing the factors into themes and subthemes that related to each layer of the bioecological systems theory model (Bronfenbrenner, 2005), displayed the relevant issues and the frequency with which they were addressed in this literature review. Those themes and subthemes that were addressed more frequently could be considered to play a larger role in the Native American Youth suicide epidemic. This process also allowed for visualizing the interwoven relationships among all the risk factors, and highlighted the fact that the Native American youth suicide epidemic occurs in a complex, multifaceted

context (see Appendix C). Based on the complexity of this context, a collaborative approach is needed: one that readily considers and understands this environment when working with Native American youth. The key factors, their relationship to the bioecological systems theory model, and related practice implications will be summarized below.

Microsystem

Included in the microsystem layer, under the theme labeled clinical disorders, were the significant sub-themes of childhood abuse, feelings of depression and hopelessness and substance abuse—each being mentioned in well over half the articles as contributing to the risk of AI/AN youth suicide. The importance of early screening and intervention of childhood abuse, depression, and substance abuse were listed as an essential practice implication when working with Native youth.

Impulsiveness, including previous attempts, was identified as a major subtheme under the theme of coping skills in the microsystem layer. The finding that Native youth appear to attempt suicide much more often than simply thinking about it highlights the importance of teaching coping skills, addressing impulsiveness, and recognizing and addressing feelings of growing despair. Practice implications include thorough assessment of previous suicidal behavior when working with Native youth.

Also included in the microsystem layer, under the subtheme sense of self, loss of sense of self and no feeling of purpose were identified as major risks for Native youth suicide. The importance of fostering self-esteem and promoting feelings of resilience,

optimism about the future, and the development of a personal drive to exist were all suggested as areas of focus when working with Native American youth.

Family was identified as central to Native American culture. The importance of connectedness to family, including positive interactions free from violence and abuse, was also discussed in the majority of literature. Practice implications included fostering family relationships across generations, promoting traditional family parenting, and encouraging grandparents and elders to serve as role models and mentors. These interventions were all thought to support the increase of positive family relationships that are considered to be protective against Native youth suicide.

Significant subthemes identified under the theme of youth's context outside of family included the protective effects of feeling connected, and the contribution of interpersonal conflict as a risk factor in AI/AN youth suicide. Promotion of a sense of belonging among peers, as well as teaching of conflict resolution to all Native youth, were considered preventative against suicide.

Mesosystem

Significant factors contributing to Native American youth suicide included in the mesosystem were: underfunded systems of care to treat the Native American population; the stigma related to mental health care; and the increased risk resulting from exposure to suicidal behavior. An important protective factor involved the provision of coordinated mental health care that incorporated a holistic approach using both Traditional and Western values.

Practice implications included various recommendations to improve the current system of care including the integration of behavioral health into medical clinics.

Improvements would involve providing both mental health care and medical care in the same location, combining treatment and prevention approaches, recognizing and reimbursing traditional providers, and utilizing mid-level providers. To address the risk of contagion, the importance of supporting educational attainment, facilitating positive school experiences, encouraging friendships with peers who do well in school, and ensuring school interventions following a suicide were suggested.

Exosystem

The importance of cultural continuity, involvement of tribal communities, strong tribal leadership as protective factors, and the increased risk that results from racial discrimination and prejudice were included as significant subthemes found within the exosystem, or external environment of Native Youth. Practice implications to strengthen and increase community and tribal involvement were suggested, as well as interventions to promote social equity and to address stereotypes.

Macrosystem

Spirituality, and cultural or traditional, practices were considered important protective factors against Native American youth suicide. These subthemes were thought to be embedded within the macrosystem level of the bioecological systems model. Interventions to promote an indigenous identity and enhance resilience through spiritual and cultural connections were considered imperative practice implications.

Chronosystem

The effects of historical trauma, including unresolved grief and on-going oppression, received significant attention in the literature, and were described as adding an additional layer of risk for Native American youth suicide. Practice implications include the importance of recognition of past and current oppressive policies which have led to intergenerational trauma and unresolved grief. In addition, promoting understanding of the effects of colonization, and the importance of building trust and avoiding the imposition of Western values in the care of Native youth, were highlighted.

Limitations

An initial limitation of this integrative literature review is the inclusion of only studies specific to Native American suicide. Studies exploring specific risk factors including depression, exposures to violence, etc. in Native youth, but not looking at their relationship to suicide, were excluded due to the time constraints of the Montana State University Graduate program, and to allow for a thorough review of the studies that were included in the review.

Because of the interwoven connection between the multiple risk factors thought to contribute to Native youth suicide, inclusion of studies exploring these risk factors specifically may have provided additional information related to effective practice implications to address these risks in Native youth. Additionally, more information about the manner in which these risk factors potentiate each other would have provided greater understanding (Goldston, Molock, Whitbeck, 2008; Hodge & Nandy, 2011). For

example, a study that explored the effectiveness of cognitive behavioral therapy with Native American children suffering from PTSD, could have potentially contributed to evidenced-based practice implications specific to Native American youth to address an identified risk factor contributing to suicide in this population.

An additional limitation includes the uncertainty of generalizability of current research, thus the lack of generalizability of the findings of this integrative literature review. There are few studies that account for the heterogeneity of American Indian/Alaska Native tribes (Alacantara & Gone, 2006). Highlighted in the literature was the importance of remaining cognizant of the variation among tribes, including various tribal communities and geographical locations across the nation. Thus the results for this study cannot be considered inclusive or representative of the distinct and varying cultural beliefs of Native American people.

Recommendations

Research Implications for Nursing

From within the literature itself and to address the limitations outlined above, suggestions were made for further research. These included the importance of evaluating the interactions between specific risk and protective factors of Native American youth suicide. For example, the need to examine exposure to abuse and violence and its relationship to poor health perceptions and resultant suicidal behavior was identified (Bohn, 2003; Hodge & Nandy, 2011). The relationship between school experience, sense of self and sense of purpose in Native youth—including the determination of causal

effects—was also suggested as an area requiring further research (Walls, Chapple & Johnson, 2007). The evaluation of interventions developed specifically for the AI/AN population, such as treatment of AI/AN suffering from symptoms of PTSD is an example of a specific factor requiring analysis of its relationship to other risk factors and resultant effects on overall Native American well-being. Goodkind, LaNoue & Milford (2010) reported that limited research exists related to evaluating effective trauma-focused interventions for AI/AN youth. They also pointed out the importance of empirically validating existing traditional healing practices with the intention of developing a more holistic approach that would include evidence based interventions.

Other research suggestions included the completion of research with a larger number of AI/AN people from various tribal affiliations and geographic locations (Alacantara & Gone, 2006; Strickland, Smokowski, David-Ferdon & Stroupe, 2009; Walsh & Cooper, 2006). This research should include AI/AN people residing both on reservations and in urban areas. It is also important to compare reservation-specific suicide outcomes in an attempt to discern the unique risk factors related to the large differences in suicide rates (Freedenthal, Stiffman, 2004; Mullany, Barlow, Goklish, et al, 2009). Exploring if prevention efforts are effective across Tribal cultures is another area for further research (Yoder, Whitbeck, Hoyt, et al, 2006).

Although this integrative review stimulated multiple practice implications, it also emphasized the paucity of research related to Native American youth suicide and identified the lack of evidenced-based interventions (Goodkind, LaNoue & Milford, 2010). In fact, the findings from this review indicated a need to use current practice-based

approaches while testing these approaches to determine if they are effective, in an effort to produce more evidence-based care (Echohawk, 2006; Garroutee, Goldberg, Beals, 2003; Olson & Wahab, 2006).

Specific suggestions related to evaluation of existing practices included statistically and empirically studying current programs that encourage the integration of cultural and spiritual practices or interventions (Garroutee, Goldberg, Beals, 2003). Research is needed to evaluate the potential buffering effects of traditional practices such as healing ceremonies, connectedness within tribal communities and families, social support or sense-of-belonging, and strong tribal leadership by further evaluation of programs promoting these approaches (Chino, Fullerton-Gleason, 2006; Hill, 2009; LaFromboise, Lewis, 2008; Shaughnessy, Doshi & Jones, 2004). Another suggested area of research includes determining culturally-appropriate methods to develop interpersonal, community-based interventions that encourage positive relationships and communication (Wexler, Hill, et al, 2008), as well as culturally-appropriate methods to instill a personal drive to exist and a sense of well-being (Olson, Wahab, Thompson, 2011), all of which have been shown to be protective against suicide, but have not been specifically studied in the Native American population.

Gone and Trimble (2011) reported that the current evidence-based knowledge for treating the distress experienced by AI/AN youth—especially related to historical trauma and the effects of colonization—is extremely small. More research is needed to explore the relationships between the mental health of Native youth, historical trauma, and the

possible intergenerational transmission of the effects of historical trauma (Grandbois, 2005).

To date, there is a dearth of empirical investigations of mental health treatment specific to the Native American population. The majority of material consists of literature reviews, reflections, and advocacy reports (Gone & Trimble, 2011). This supports the need for additional nursing research to improve current care of this vulnerable population, and to provide culturally competent interventions that address the culminating interactions between individual Native youth and the context in which they are surviving (Alacantara & Gone 2006)—all in an effort to prevent further loss on life in AI/AN youth.

Nursing Implications for Policy Development

Distinctive from other topics of research, this integrative literature review emphasized that the epidemic of Native American youth suicide has an entire level of risk resulting from current policies and treaties. The need for changes in current policies of our U.S. Government was identified as imperative to positively affect the wellbeing of AI/AN youth and thus decrease the likelihood of suicide.

Specific suggestions to address the Native youth suicide epidemic on a policy level were outlined under the Macrosystem theme in Chapter 4 and included: 1) increased funding for prevention, 2) apology from the U.S. Government related to past oppression to address issues of trust and power between the Native American people and the Government; 3) increased funding for, and recognition of, programs that are already in place in many Native American communities; and 4) policy initiatives to work toward

reducing on-going oppression that facilitates alienation, hopelessness, and pressure to acculturate through current agency based programs (Olson, Wahab, Thompson, 2011).

Nursing Education Implications

The call for an increase in adequately prepared Native American providers, including registered nurses and advance practice nurses, was identified as a specific area of intervention to address the Native American youth suicide epidemic. The importance of current providers becoming culturally competent was also stressed. In fact, it was suggested the profession of nursing as a whole has a mandate to improve the health of the ethnic minority (Hill, 2006). Important first steps might include the use of cultural humility: nurses reflecting on and becoming aware of their own beliefs while respecting the individuality of their patients (Goodkind et al, 2011). Nurses who work with Native youth, especially Native American nurses, should be encouraged and supported to conduct their own research to improve nursing care, ensuring this research is culturally relevant. Finally, nurses are expected to serve as advocates for culturally appropriate mental health care, which includes integration of culture into all prevention and treatment interventions, in a holistic manner (Gary, Baker & Grandbois, 2005).

Summary

This integrative literature review allowed for identification of the unique factors contributing to Native American youth suicide and practice implications thought to be culturally relevant and effective in the prevention of suicide in Native youth. The bioecological systems model provided a framework allowing for the organization of these

risk factors, illustrating that the risk for Native American youth is multi-faceted, spanning across all areas of their existence. Practice implications then were organized according to the risk factors to which they most closely related. The need for increased research related to addressing the Native American youth suicide crisis is described as imperative with suggestions to focus on current culturally appropriate, holistic care in attempts to determine its effectiveness. It is thought that some of the collaborative approaches in tribal communities across the Nation are effective in protecting Native youth from suicide, but simply have not been studied.

The results of this integrated literature review provided the evidence for the development of a collaborative approach that is culturally anchored in the world of the Native youth. A quote from a Native American participant in one of the studies included in this review highlights the importance of honoring the world in which the Native American youth live, as well as actively addressing the sickness surrounding them:

Doing this together is the only way it's gonna get done. You know, we can't do this individually. It's not gonna happen through individual treatment and care because you have to send them back to a sick community. And so, how do they function in that barely functional system? Because what I want are beautiful, healthy Native communities that thrive and are successful, and are not only resilient, but are really, really strong and powerful. And that fits in line with the way our culture is, the way we were taught, and the way we're taught every day, how we're supposed to represent ourselves. (Goodkind et al., 2011, p. 456)

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APPENDICES

APPENDIX A

HIERARCHY OF EVIDENCE

Hierarchy of Evidence, Total number of articles (41)

Level I Systematic review of RCTs & non-randomized trials	Level II Singe RCT, single non-randomized trial	Level III Systematic review of correlational/observational studies	Level IV Single correlational /observational study	Level V Systematic review of descriptive/qualitative/ physiologic studies	Level VI Single desp/qual/ physiologic study	Level V II Opinions of authorities, expert committees
	Goodkind, LaNoue & Milford, 2010	Chandler & Proulx, 2006	Baldwin, 2007	Alcantara & Gone, 2007	Echohawk, 2006	Crofoot Grahm, 2002
	May, Serna, Hurt, DeBruyn, 2005	Smokowski, David-Ferdon & Stroupe, 2009	Bohn, 2003	Gone & Trimble, 2011	Strickland & Cooper, 2011	Gary, Baker, Grandbois, 2005
			Chino, Fullerton-Gleason, 2006	Goodkind et al, 2010	Strickland, Walsh, Cooper, 2006	Goldston, Molock, Whitbeck, Murakami et al, 2008
			Freedenthal, Stiffman, 2004	Goodkind et al, 2011	Olson, Wahab, Thompson & Durrant, 2011	Grandbois, 2005
			Garrouthe, Goldber, Beals et al, 2003	Hamilton & Rolf, 2010	Wexler, 2009	Gray & Muehlenkamp, 2010
			Hill, 2009	Olson & Wahab, 2006	Wexler, 2006	Hill, 2006
			Hodge & Nandy, 2011		Wexler, Hill, Bertone-Olson et al, 2008	Jacono & Jacono, 2008
			LaFromboise, Medoff, Lee & Harris, 2007			LaFromboise, Lewis, 2008
			LeMaster, Beals, Novins, Manson, AI-SUPERPFP, 2004			SAMSHA, 2011
			Mullany, Barlow, Goklish et al, 2009			Wexler, 2011
			Pettingell, Bearinger, skay, et al, 2008			
			Shaughnessy, Doshi & Jones, 2004			
			Walls, Chapple & Johnson, 2007			
			Yoder, Whitbeck, Hoyt, Fromboise, 2006			
0	2	2	14	6	7	10

APPENDIX B

STUDIES MEETING INCLUSION CRITERIA

Studies Meeting Inclusion Criteria, Total number of articles (41)

Author (YEAR)	Evidence Level	Study Design & Purpose	Methods & Samples	Sample	General Findings
Alacantara & Gone, 2006	V	Comprehensive lit review, uses of transactional-ecological framework to determine points of intervention	Review of current empirical reports looking at epidemiology of NA suicidal behaviors	Literature review	Interventions should focus on interactions between individuals and their environments, and risks that lead to heightened suicide risk zones
Baldwin, 2007	IV	Cross-sectional study, case report and literature review on fetal alcohol spectrum disorders, suicidality and implications for providers	FAS database was compared to behavioral health urgent response database to determine prevalence of suicidality in population of FAS	n=1 case study, 15 yr old AI female, FAS, suicidal behavior chart review of 451 AI children with FAS, 10 of which had been seen by BH response team	Pt w/FAS spectrum disorders have many risk factors associated with suicide (mental illness, substance abuse, impulsivity, hx of trauma/abuse, employment and relationship issues).
Bohn, 2003 NURSING	IV	Study examining relationship between abuse, substance use, depression and suicide attempts in women	Data gathered from review of prenatal recorded, interview and postpartum review of record	n=30 AI/AN pregnant women, recruited from an urban Midwestern clinic	87% of patients had been abused in their lifetime, significant relationships between abuse, substance use, depression, etc, called for accelerated public health and community response to address abuse in this specific community
Chandler & Proulx, 2006	III	Article that refers to or includes various previous research, assessments, main purpose to determine role of personal /cultural persistence and continuity in suicide	Administering self-continuity assessment to patients admitted to inpatient psych facility and matched group of non-hospitalized patients, inpatients also completed Beck's inventory, reading of classic comics	At least 250 youth from mainstream and 90 from First Nations	Personal persistence and persistent peoples have low or absent rates of youth suicide, while people and communities lacking a requisite sense of continuity regularly suffer suicides
Chino, Fullerton-Gleason, 2006	IV	Cross-sectional study to examine the correlates of suicide attempts of AI adolescents on reservations in New Mexico	Data was pulled from Search Institute profiles of Student Life Attitudes and behaviors survey	n=690 AI students who participated in the survey	Suggest focus on strengthening parent-child relationships and community support for families may increase resiliency among youth at risk
Crofoot Graham, 2002	VII	Article suggestion RFL assessment as a tool for bridging traditional and Western perspectives when assessing for AI/AN suicide and for use as a protective factor			
EchoHawk, 2006	VI	Article presenting epidemiology on suicide for AI/AN, 1 psychological autopsy, case illustration	Multidisciplinary team performed psychological autopsy, review of data, area-wide suicide prevention committee	1 case study, stats from Aberdeen area, 17 tribes	Greater effort is required by IHS for suicide prevention, which is being addressed by Suicide Prevention Committee in attempts to evaluate current efforts and learn how to best integrate Western and traditional methods
Freedenthal, Stiffman, 2004	IV	Exploratory study to compare suicidal behavior between urban and reservation youth	Data from AIM-III inquiry, Interview of stratified random sample of urban	N=144 urban and 170 reservation AI/AN	Suicidal ideation greater in reservation youth, attempts similar, urban youth less psychosocial problems, different approaches to

			and reservation youth	adolescents in a southwestern state	prevention and treatment may be warranted for urban youth
Garroutee, Goldberg, Beals et al, 2003	IV	Exploring the relation of spirituality to the life time prevalence of attempted suicide of AI, not specific to adolescents	Personal interviews of stratified random sampling, cross sectional enrolled members of northern plains tribe	n= 1456 AI tribal members living on or near NP reservation (15-57)	Strong association between cultural spiritual orientations and suicide attempts, suggesting importance of incorporating indicators of cultural spirituality in studies of the health and well-being of AI
Gary, Baker, Grandbois, 2005 NURSING	VII	Article presenting case study, ‘Psychological Autopsy’ Assist nurses to gain knowledge and skills necessary to provide culturally competent MH care to AI/AN children/adolescents	Application of Durkheim’s Theory of fatalistic suicide as a framework for understanding suicide among AI/AN youth, and applies to case study, suggesting nursing implications for care	n=15yr old AI/AN male	Culturally sensitive programs addressing social determinants of health outcomes (poverty, school failure, family conflicts, limited access to healthcare) should be focus of planning, culturally competent providers are key to reducing suicide in youth
Goldston, Molock, Whitbeck, Murakami, et al 2008	VII	Article discussing the cultural context of suicidal behavior among ethnic groups and the implications of these contexts for suicide prevention and treatment			
Gone & Trimble, 2011	V	Literature review describing the disproportionate burden of mental illness, substance abuse, PTSD, violence suicide, access to care issues, and need for cultural interventions			AI/AN communities suffer from clear disparities for dx categories associated with substance abuse, trauma, violence and the externalizing behaviors of youth, varying intra- and cross-tribal prevalences 11.8
Goodkind, LaNoue & Milford, 2010	II	Pilot study of an adaptation to the Cognitive Behavioral intervention for Trauma in Schools to AI youth	CBITS was tested in 3 AI in SW US. TRIVE (Teen health Resiliency Intervention for Violence Exposure)	n=24 AI adolescents	Participants experienced significant decreases in anxiety and PTSD symptoms. Avoidant coping strategies, depression, improvements in depression and anxiety were maintained at 6 months, symptoms of PTSD and avoidant coping strategies were not
Goodkind et al, 2010	V	Comprehensive review of literature	Literature review, advisory meetings, AI youth, parents, elders, surveyed providers, consult 4 traditional practitioners	71 AI Y.P.E 25 providers 4 traditional	AI multiple stressors and trauma: poverty, current institutional racism, micro-aggressions, and traumatic life events. Current BH systems don’t address these challenges or use indigenous health practices
Goodkind et al, 2011	V	Comprehensive review of literature to make policy, provider and research recommendations; focus group with project TRUST members. Synthesizes epidemiology and risk factors to make recommendations for research and practice	Literature review, advisory meetings with youth, parents and elders, survey of providers, consult with 4 traditional practitioners, and focus group project with TRUST members		20 policy, provider and research recommendations. Need for more research of what works-practice- based evidence, historical trauma, BH responsive to needs identified by NA youth families, traditional practices, connecting prevention and treatment, recognizing sovereignty and self-determination
Grandbois, 2005 NURSING	VII	Article describing the stigma associated with mental illness, role of historical issues and			

		recommendations for more diverse workforce			
Gray & Muehlenkamp, 2010	VII	Article presenting a case description of the effectiveness of college student suicide prevention program (integrative and culturally grounded-medicine wheel)			
Hamilton & Rolf, 2010	V	Literature review, describes various programs and looks at effectiveness and drawbacks	Literature review	12 articles	Need for culturally appropriate, programs at community level
Hill, 2006 NURSING	VII	Article to describe sense of belonging as connectedness within a specific ethnic minority worldview and its potential impact on MH of AI			
Hill, 2009 NURSING	IV	Descriptive-correlational design to examine the relationship of sense of belonging as connectedness to suicide within the AI/AN cultural world view	Health care assessment questionnaire administered to AI/AN adults utilizing rural Indian health clinics	N=453 AI/AN Adults in 13 rural tribal communities in California	Support that sense of belonging may buffer the development of depressive symptoms
Hodge & Nandy, 2011	IV	A cross-sectional randomized household survey to measure wellness perceptions, barriers, health status/health conditions, spirituality, cultural connectivity, high-risk behaviors and abuse history		n=457 AI adults in 13 rural health care sites in California, all 18 years of age or older	Recommendations include culturally appropriate education and interventions focusing on community and cultural connectivity for improving wellness status.
Jacono & Jacono, 2008 NURSING	VII	Article describing hybrid approach (traditional and Western), puppets to promote culture, language and history as a protective factor for suicide	Puppetry initiative, aboriginal youth made puppets and then put on shows to younger aboriginal children	Exact numbers not provided-estimate dozens of aboriginal youth	The initiative promoted self-esteem and self-efficacy in older Mi'Kmag youth and pride in the younger youth, also promoting culture, language and history to address discontinuity with heritage and its negative relation to MH
LaFromboise, Lewis, 2008	VII	Article discussing a community-initiate and high-school-based suicide prevention intervention	Review of Zuni Life Skills Development Program, high school based suicide prevention program, and American Indian Life Skills		Need for prevention curriculum from a hybrid approach tailoring cultural interventions
LaFromboise, Medoff, Lee & Harris, 2007	IV	Cross-sectional study examines cognitive, behavioral and emotional correlates of suicidal ideation		122 AI/AN middle school students(11-15 years) on a Northern plains reservation	Depression and substance abuse significant predictors of suicidal ideation, suggests CBT
LeMaster, Beals, Novins, Manson, AI-SuPERFP, 2004 NURSING	IV	Community-based study of the psychiatric epidemiology and related service utilization, and examined the prevalence of suicidal behaviors, not specific to adolescents	Face to face interviews by community members trained, population-based survey	n=1638 enrolled members of NP tribe, 15-57 years old lived on or near reservation	Suicidal behaviors reported more frequently among females and younger, and were associated with depressive disorders, PTSD, substance abuse/dependence, violent ideation/aggression, stress importance of effective alcohol, drug, MH services

May, Serna, Hurt, Lemyra DeBruyn, 2005	II	Evaluation of a public-health-oriented suicidal-behavior prevention program among youths living on a reservation	All suicidal behavior was monitored, age-specific analyses over time were used to assess outcomes (15 years)	n= AI/AN 10-19 year olds in one community, over a 15-year period	Successful community-based approach resulted in a downward trend of suicidal acts, although completions may have remained the same
Mullany, Barlow, Goklish, Larzelere-Hinton, et al 2009	IV	First phase of a community-based participatory research process that examined the suicide rates/attempts, patterns and risk factors among Apache youth	Apache paraprofessionals gathered data for a tribally-mandated suicide surveillance system (2001-2006), attempt data 05-06; findings were compared to other populations. Methods balanced traditional and scientific expertise	n=approximately 7,250 Active user population at Whiteriver Service Unit IHS, under 25 years	More suicides in youth younger than 25yrs, M/F ratio 5/1, attempts 1/1, hanging was most common suicide method, precipitants were family or intimate partner conflict; surveillance system identified high suicide /attempt rates, patterns and risk factors and guide prevention programs
Olson & Wahab, 2006	V	Synthesizes epidemiology and risk factors to make recommendations for research and practice	Literature review, interview practitioners and academics in field of suicide prevention	Not clear	Need for broad policy and recommendations to address current knowledge, priorities for research and funding
Olson, Wahab, Thompson & Durrant, 2011	VI	Analyzed suicide notes, using constant comparison method, among minorities to determine that can be learned about ethnic differences from suicide notes	Mexico Office of the Medical Investigator concerning suicide completion between the years of 1999-2001	n=53, suicide note writers, AI/AN, Hispanic and Anglos	Categories of motivation that emerged: alienation, failure or inadequacy, being psychologically overwhelmed, desire to leave problems behind, reunification in an afterlife, commonalities outweighed the differences between ethnic groups, major difference was alienation greater in AI, Hispanics
Pettingell, Bearinger, Skay, Et al, 2008 NURSING	IV	Study grounded in resilience paradigm to examine the past likely hood of a past suicide attempt for urban AI adolescents, given salient risk and protective factors	Survey data, 9-15 years in school, to determine probability of past suicide attempts (UIYHS)	n=569 urban AI youth	Importance of determining both risk and protective factors for suicidal vulnerability and prioritizing prevention strategies
SAMSHA, 2011	VII	Government document completed by expert committee to serve as a guide for AI/AN communities in developing effective, culturally appropriate suicide prevention plans			
Shaughnessy, Doshi & Jones 2004	IV	Cross-sectional study to examine association between risky behaviors and suicide attempts	Pulled data from BIA 2001 Youth risk behavior survey to examine this association: unintentional injury and violence, sexual risk, tobacco use and substance use	BIA-funded high schools with 10 or more students enrolled in grades 9-12	Of those youth who attempted suicide (16%), they were more likely to engage in high risk behaviors; this provides health professionals to better identify at risk youth or at risk behaviors associated with attempted suicide
Smokowski, David-Ferdon & Stroupe, 2009	III	Comprehensive review of research linking acculturation and violence behavior in 3 minority populations	Review of empirical literature, critically analyzes relationship between acculturation and violent outcomes, discusses implications for prevention/intervention planning	41 studies met inclusion criteria, 4 AI/NA	Found acculturation-related variables to be unrelated to suicide in AI/AN youth, supports more research for Bicultural Skills Training as suicide prevention and calls for more research specific to AI/NA
Strickland, Walsh,	VI	Descriptive study to obtain parents' and	Data collected from focus groups	n=40 parents, 9 elders	Stressed importance of family and healing intergenerational pains,

Cooper, 2006 NURSING		elders' perspective on community needs and strengths to reduce suicide risk	with parents, and interviews with elders		completing school and employment, supports development of culturally- appropriate, family or community-based interventions to prevent suicide in youth
Strickland & Cooper, 2011 NURSING	VI	Descriptive, ethnographic study to gain an understanding of the life experiences of the youth	Focus groups and observations of youth in a Pacific NW tribe, asked to talk about stressors, sense of family/ community support	n=30 Indian youth between 14-19 years	They hoped for strengthening of cultural values, economic development and opportunities to give their talents to the tribe; findings provide insight about suicide risk and advance understanding of suicide prevention in a transcultural setting
Walls, Chapple & Johnson, 2007	IV	Part of a Longitudinal study testing the utility of Agnew's general strain theory to explain suicidal behavior among AI youth, cross-sectional design	Data collected via interviews	n=721 AI families interviewed	Coercive parenting, caretaker rejection, negative school attitudes and perceived discrimination were related to suicide behavior; depressive symptoms and anger mediated the effects of several of the key predictors of suicidality
Wexler, 2006	VI	Ethnographic approach to describing how Inupiat understand and talk about youth suicide; using participatory action research, they clearly link self-destruction with historical oppression, loss of Inupiaq culture and current manifestations of these realities in alcoholism, abuse and neglect	Field notes, focus groups, community discussions, interviews over two-year period, resulting in ethnographic narrative. PAR is collaborative approach		Links self-destruction with historical oppression and loss of culture which are manifested in alcoholism, abuse and neglect. Provides possibilities for community-based prevention and promotion of wellness in circumpolar communities
Wexler, 2009	VI	Article, with narratives from Inupiat youth, illustrating how colonial discourse affects their mental health, self-concept, perceived choices	Data collected from youth focus groups in the region's 12 villages (2001-02), convenience sample in every village	3-12 participants per village, two focus groups in the largest one N=13	Describes how historic and ongoing colonialism effects Inupiat youth's representation of self and conceptions of the future
Wexler, 2011	VII	Article describing how community programming can be inappropriate at best and continuation of colonization at worst to outline cultural discontinuities in Euro-American approaches for Inupiaq population			
Wexler, Hill, Bertone-Johnson, Fenaughty, 2008	VI	Descriptive study, analyzed data from Suicide Reporting forms maintained by the tribal health organization, to identify predictors of suicide behaviors in AN people	Data from this region (1990-2001) were aggregated and compared to 2000 US census data using chi-squared tests, multivariable logistic regression		Suicidal behaviors more significant among single, unemployed, AN who had not completed high school, male, greater than 25, firearms and substance abuse hx were each associated w/ suicide death

APPENDIX C

CONDENSED DATA MANAGEMENT

Condensed Data Management

	Alcantara & Gone, 2006	Baldwin, 2007	Bohn, 2003	Chandler & Proulx, 2006	Chino, Fullerton-Gleason, 2006	Crofoot Graham, 2002	EchoHawk, 2006	Freedenthal, Stiffman, 2004	Garroutee, Goldberg, Beals, 2003	Gary, Baker, Grandbois, 2005	Goldston, Molock, Whitbeck, 2008	Gone & Trimble, 2011	Goodkind, LaNoue & Milford, 2010	Goodkind et al, 2010	Goodkind et al, 2011	Grandbois, 2005	Gray & Muehlenkamp, 2010	Hamilton & Rolf, 2010	Hill, 2006	Hill, 2009	Hodge & Nandy, 2011	Jacono & Jacano, 2008	LaFromboise, Lewis, 2008	Lafromboise, Medoff, et al, 2007	LeMaster, Beals, Novins,2004	May, Serna, Hurt, Lemyra, 2005	Mullany, Barlow, Goklish, 2009	Olson & Wahab, 2006	Olson, Wahab, Thompson, 2011	Pettingell, Bearinger, Skay, 2008	SAMSHA, 2011	Shaughnessy, Doshi & Jones, 2004	Smokowski, et al, 2009	Strickland, Walsh, Cooper, 2006	Strickland & Cooper, 2011	Walls, Chapple & Johnson, 2007	Wexler, 2006	Wexler, 2009	Wexler, 2011	Wexler, Hill, Bertone, 2008	Yoder, Whitbeck, Hoyt, 2006	Totals	Findings or recommendations				
Level of Evidence	V	IV	IV	III	IV	VI	VI	IV	IV	VI	VI	V	II	V	V	VI	VI	VI	VI	IV	IV	VI	VI	IV	IV	II	IV	V	VI	IV	VI	IV	III	IV	VI	VI	IV	VI	VI	VI	IV						
Microsystem, individual, family & day-to-day reality																																															
Clinical Disorders																																															
Behaviors (risk) conduct disorder							x	x		x	x	x							x											x		xl		x		x		x					1	1	8		
No behaviors																				x																							1	1	1		
Childhood abuse, ex- periencing violence	x	x	xl		x	x	x	x				x	xl	xl	x			x	x	x	x		x		x	xl		x			x		x	x	x		x							2	4	1	4
No exposure to childhood abuse																																											0	0	0		
Depression, hopelessness	xl	x	xl	x	x	xl	xl	x		x	x	x	x	x	x	xl		x	x	x			x	x	xl		xl	x	x	x	xl	xl	x		x	x	x	x	x					3	2	1	9
Positive mood					x																x									x	x	x												5	2	2	
Fetal alcohol syndrome/ FAE		xl																																										1	1	1	
No cognitive or develop- mental delays																																											0	1	1		
Intoxication /substance abuse	xl	x	xl		x	x	x	x		x	x	x	x	xl	xl	xl	x	xl	x	x	x		xl	xl	xl	x	xl	xl	xl		xl	xl	xl	xl	x	x	x	x	x		xl	xl	3	6	2	2	
Substance free			x																																								1	0	0		
Other mental illness	xl	x	xl		x	x	x	xl				x	x	x		xl				x								xl	x	x	xl	xl					x	x						1	8	1	0
No mental illness																					x											x											2	1	1		
Violent ideation/ aggression	x		x									x													x						x			x	x		x							8	4	4	
No violent behavior																																											0	0	0		
Coping Skills																																															
Decreased interpersonal skills																																													0	0	0
Perceived interpersonal commun-ication skills	x																																										xl		2	2	2

	Alcantara & Gone, 2006	Baldwin, 2007	Bohn, 2003	Chandler & Proulx, 2006	Chino, Fullerton-Gleason, 2006	Crofoot Graham, 2002	EchoHawk, 2006	Freedenthal, Stiffman, 2004	Garroutee, Goldberg, Beals, 2003	Gary, Baker, Grandbois, 2005	Goldston, Molock, Whitbeck, 2008	Gone & Trimble, 2011	Goodkind, LaNoue & Milford, 2010	Goodkind et al, 2010	Goodkind et al, 2011	Grandbois, 2005	Gray & Muehlenkamp, 2010	Hamilton & Rolf, 2010	Hill, 2006	Hill, 2009	Hodge & Nandy, 2011	Jacono & Jacono, 2008	LaFromboise, Lewis, 2008	Lafromboise, Medoff, et al, 2007	LeMaster, Beals, Novins,2004	May, Serna, Hurt, Lemyra, 2005	Mullany, Barlow, Goklish, 2009	Olson & Wahab, 2006	Olson, Wahab, Thompson, 2011	Pettingell, Bearinger, Skay, 2008	SAMSHA, 2011	Shaughnessy, Doshi & Jones, 2004	Smokowski, et al, 2009	Strickland, Walsh, Cooper, 2006	Strickland & Cooper, 2011	Walls, Chapple & Johnson, 2007	Wexler, 2006	Wexler, 2009	Wexler, 2011	Wexler, Hill, Bertone, 2008	Yoder, Whitbeck, Hoyt, 2006	Totals	Findings or recommendations				
Level of Evidence	V	IV	IV	III	IV	VI	VI	IV	IV	VI	VI	V	II	V	V	VI	VI	VI	VI	IV	IV	VI	VI	IV	IV	IV	II	IV	V	VI	IV	VI	IV	III	VI	VI	IV	VI	VI	VI	VI	IV					
Impulsive-ness	x	x									x														x	x		x	x			x	x										10	4			
Ability to regulate actions																					x											x	x											3	1		
Lack of coping skills												x	x						x									x								x	x							9	6		
Appropriate coping skills													x													x	x						x												9	8	
Previous attempts	x			x				x			x							x		x					x	x	x	x	x				x											12	6		
No previous attempts				x																																									1	0	
Sense of Self or Self Identity																																															
Loss of sense of self/self-esteem	x			x		x		x		x								x	x		x	x	x						x	x	x	x				x									19	13	
Personal persistence/sense of self				x	x	x		x				x							x	x	x	x							x	x	x	x				x									16	13	
No feelings of purpose	x			x	x	x		x																						x			x						x	x	x	x			12	7	
Optimism about future-purpose				x	x	x		x													x										x		x					x							9	4	
Relationship to Family																																															
Gap between generations																			x				x														x								5	3	
Connected extended family	x				x						x								x	x			x										x												11	4	
No connect-ion to family/alienation				x		x					x							x	x	x	x		x														x	x	x	x					14	7	
Connected-ness to family	x			x	x	x					x	x						x	x	x	x		x																						22	15	
Youth's Family Context																																															
Antisocial behavior norms of parents											x							x	x																											8	3
Prosocial behavior norms of parents											x							x	x	x																										11	6

	Alcantara & Gone, 2006	Baldwin, 2007	Bohn, 2003	Chandler & Proulx, 2006	Chino, Fullerton-Gleason, 2006	Crofoot Graham, 2002	EchoHawk, 2006	Freedenthal, Stiffman, 2004	Garroutee, Goldberg, Beals, 2003	Gary, Baker, Grandbois, 2005	Goldston, Molock, Whitbeck, 2008	Gone & Trimble, 2011	Goodkind, LaNoue & Milford, 2010	Goodkind et al, 2010	Goodkind et al, 2011	Grandbois, 2005	Gray & Muehlenkamp, 2010	Hamilton & Rolf, 2010	Hill, 2006	Hill, 2009	Hodge & Nandy, 2011	Jacono & Jacono, 2008	LaFromboise, Lewis, 2008	Lafromboise, Medoff, et al, 2007	LeMaster, Beals, Novins,2004	May, Serna, Hurt, Lemyra, 2005	Mullany, Barlow, Goklish, 2009	Olson & Wahab, 2006	Olson, Wahab, Thompson, 2011	Pettingell, Bearinger, Skay, 2008	SAMSHA, 2011	Shaughnessy, Doshi & Jones, 2004	Smokowski, et al, 2009	Strickland, Walsh, Cooper, 2006	Strickland & Cooper, 2011	Walls, Chapple & Johnson, 2007	Wexler, 2006	Wexler, 2009	Wexler, 2011	Wexler, Hill, Bertone, 2008	Yoder, Whitbeck, Hoyt, 2006	Totals	Findings or recommendations				
Level of Evidence	V	IV	IV	III	IV	VI	VI	IV	IV	VI	VI	V	II	V	V	VI	VI	VI	VI	IV	IV	VI	VI	VI	IV	IV	II	IV	V	VI	IV	VI	IV	III	VI	VI	IV	VI	VI	VI	VI	IV					
Single parent family					x													x																								3	1				
Intact family					x	x				x																							x										7	2			
Stressed family relationships						x				x								x	x								x						x				x							10	7		
Positive family relationships	x				x	x		x		x	xl				xl			x	x	x								xl			x	x		x											17	9	
Substance abuse in families								x		x								x									x			x			x											10	8		
No substance abuse in family											x																	xl		x					x										5	2	
Family violence/abuse	x	x								x				xl	x			x	x								x						x				x								14	9	
No violence in family										x									x								x	xl		x					x										7	3	
Youth's Context Outside of Family																																															
Alienation, no connect- edness				x														x	x			x	x						x																	9	7
Feelings of connected- ness	x			x		x					x				x			x	x			x								x			x													14	9
Adolescent develop- ment	x			x											x		x									xl			xl																	8	1
Older or younger than adolescent																										xl																				1	0
Increased general stress	x					x														x											x	x														10	6
Decreased amount of stress																																														0	0
Interpers-onal conflict	x	x				x				x																x			x		x			x												11	6
No interpersonal conflict																												xl																		2	1
Low level of education											x	x				x														x																6	5
Educational attainment																														x																2	1
Victim of bullying																																		x		xl										2	1

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Level of Evidence	V	IV	IV	III	IV	I	VI	IV	IV	I	I	V	II	V	V	I	VI	I	VI	IV	IV	I	I	IV	IV	II	IV	V	VI	IV	I	IV	III	VI	IV	VI	VI	I	VI	IV					
Not victim of bullying																															x											1	1		
Mesosystem, relationships among major microsystems																																													
Access to Care																																													
Underfunded systems								x		xl	x	x	x	x	x	x	x	x										x														1	5		
Adequate funding																																										0	0		
Stigma related to MH care	x							x		x	xl		xl		x	x	xl	x									x	x			x												1	8	
No stigma related to MH care										xl	xl																																2	2	
Geographic isolation								x			xl			x	x													x			x												6	2	
Physical access to service																																											0	0	
MH provider shortage								x		xl		x		xl	x	xl	x	x											x														9	5	
Adequate providers																																											0	0	
Under-utilization of services								x			x							x										x															x	5	1
Utilization of existing services											xl																																1	1	
Low continuity/coordination of MH care, no traditional						x				xl	xl	xl	xl	xl	x	xl	xl	x										x															1	1	
Continuity/ coordina-tion of care, hybrid or traditional	xl					xl	xl	x		xl	xl	xl	xl	xl	x	xl	xl	xl	xl	xl	xl	xl				xl	x	xl				x				xl	x		x	x	x	x	x	2	2
Contagion																																													
Friend/ family member who has suicidal behavior/ exposure	x				x	x	x	x			xl																x	x									x							1	7
No exposure to suicidal	x																																											1	

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Level of Evidence	V	IV	IV	III	IV	VI	VI	IV	IV	I	I	V	II	V	V	VI	I	I	I	IV	IV	I	I	IV	IV	II	IV	V	VI	IV	I	IV	III	VI	VI	IV	VI	VI	I	VI	IV						
behavior																																															
Negative school experience										x																		x			x				x	x	x						6	5			
Positive school experience	xl				x			x		x								xl										x		x		xl							xl			1	1	7			
Exosystem, external environment with indirect influence																																															
Tribe/Community/Reservation																																															
Decreased cultural continuity in entire communities/tribes	x			x	x	x		x											x				x	x												x								1	5	7	
Communities/tribes with cultural continuity	xl		x	x	x	x	x	x			x	x	xl	x	x	x	x	x	x	x	x	x	x					x	x	x		x				x	x		x	x	x			3	0	2	
Tribes who place high stigma on MH																x								x																				2	0		
Tribes who don't stigmatize MH																x												x				x												3	0		
Nonlocal control of commun-ities/culture	x			x				x												x																								6	1		
Local control of community, culture	x			x		x		x				x	x			x												x	x																1	1	3
Lack of community involvement	x			x	x			x								x								x																				1	3	3	
Community involvement	x		x	x	x			x			x	x			x			x		x	x	x				x	x	x	x			x				x	x	x	x	x	x			2	4	1	
Ineffectual tribal leadership	x			x				x										x	x								x	x	x																8	1	
Strong tribal leadership	x		x	x		x		x		x	x	x			x				x	x								x	x																1	8	9
Racial discrimination/pred-judice	x	x				x	x	x		x	xl		xl	x	x									x						x														1	8	0	
No racial discrimination								x							xl																													2	1		
Macrosystem, broad ideology, customs of culture, subculture, social class																																															

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Level of Evidence	V	IV	IV	III	IV	VI	VI	IV	IV	VI	VI	V	II	V	V	VI	VI	VI	VI	IV	IV	VI	VI	IV	IV	II	IV	V	VI	IV	VI	IV	III	IV	VI	VI	IV	VI	VI	VI	VI	IV					
Culture, Spirituality																																															
No spirituality as risk	x					x			xl						x	x		x	x										x														8	2			
Spirituality as protective	xl					x			xl	xl	xl			x	x	x	x			x								x	x		x				xl									14	6		
Loss of culture: no traditional practices	x			x	x	x		x	xl	x					x			x											x	x					x			x	x	x	x			17	7		
Cultural support: traditional practices	x			x		x		x	xl	xl	xl	x	xl	x	x	xl	x	x	xl		xl								x	x		x				xl	x	x		x					24	17	
Enculturation as stressor								x			x	x																																4	2		
Enculturation as protective								x			x																								x									x	4	3	
Decreased resilience														x																															1	0	
Enhanced resilience				x		xl								x			x													x															5	2	
Accultura-tion stress	x			x	x			x							x														x	x						xl				x	x	x			14	7	
No accultura-tion stress																																				xl									1	0	
Present-oriented					x						x																										x				x			5	3		
Future-oriented				x	x																																x							3	2		
Social acceptance of suicide																																													0	1	
No social acceptance																							x																						1	0	
Socioeconomic Status																																															
Low socioecon-omic status	x					x		x		x	x	x				x		x					x						x	x		x			x		x	x	x	x					19	9	
High socioecon-omic status								x																												x									2	0	
Unemploy-ment	x	x						x			x	x				x							x				x		x	x						x									14	8	
Employ-ment								x																													x								3	2	
Policies/Treaties																																															
Decreased funding/ recognition												x		x	x	x		x	x											x																7	6

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APPENDIX D

PRACTICE IMPLICATIONS FOR ADDRESSING NATIVE AMERICAN YOUTH
SUICIDE: A CROSS-CULTURAL APPLICATION OF BRONFRENBRENNER'S
BIOECOLOGICAL SYSTEMS THEORY MODEL

PRACTICE IMPLICATIONS FOR ADDRESSING NATIVE AMERICAN YOUTH SUICIDE

A Cross-Cultural Application of Bronfenbrenner's Bioecological Systems Theory Model

