Native American Adolescent Health Concerns

by

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLES OF CONTENTS (Continued)

TABLES OF CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

Introduction

Adolescence is often described as the time of transition from childhood into adulthood. The onset of adolescence is generally associated with the initial appearance of secondary sex characteristics and ends when the individual has achieved a relative state of independence (Havighurst, 1972; Kreipe, 1985; Marshall & Tanner, 1969, 1970). Conceptually, the period of adolescence can be divided into early, middle, and late adolescence. Each stage is often associated with subtle characteristics and developmental tasks. Theorists agree as to the existence of these stages, but there is controversy in the attempt to define the precise age span for each stage.

The transition that occurs during adolescence includes major changes in physiological, psychological, and sociocultural development. Adolescents struggle to find places for themselves in the adult world, leaving behind the dependency of their childhood. They are confronted with rapidly changing bodies and emotions, and they are often left with a sense of being out of control. They see their relationships with peers change as their sexuality develops. Attempts to

discover their own identity and achieve new levels of independence frequently cause tension and conflict with parents. As the adolescent progresses through the stages of development, the focus and magnitude of the problems encountered can change (Benedict, Lundeen, Morr, 1981; Eme, Maisiak, Goodale, 1979; Fabes, 1987; Mahon, 1983). It is no wonder that adolescence has frequently been called a time of emotional turmoil and stress.

Adolescence may be a time of transition, but it is also an important period in itself. Adolescents are active participants in their own lives, having specific tasks to perform, skills to develop, and goals to achieve (Konopka, 1973). They have special qualities and characteristics that set them apart from others in our society. The plethora of changes they encounter render them a population with unique health problems and concerns.

Statement of Problem

Adolescent health care needs have traditionally been determined by adults, most often physicians, without benefit of feedback from adolescents. From a society that characterizes "normal" adolescence as a time of emotional conflict and stress, the concerns and

needs of adolescents may be unmet. Statistics that emphasize the prevalence of mortality and morbidity factors among adolescents, and physician feedback are the most common sources of information used to develop guidelines for adolescent health care. Until recently, few attempts were made to determine what adolescents perceived their own health care needs to be. When asked, adolescents identify factors often quite different from those of their physicians. Various studies have shown that adolescents identify issues relating to school, body image, sexuality, and peer and parental relationships as being of strong concern to them (Brunswick, 1969; Deisher & Mills, 1963; Duchen-Smith, Turner, Jacobsen, 1987; Sternleib & Munan, 1972). Physicians are more likely to identify smoking, substance abuse, birth control, sexually transmitted diseases, peer opinions, and adjustment problems as issues of concern (Garell, 1965; Levenson, Pfefferbaum, Morrow, 1987; Orr, Weiser, Dian, Maurana, 1987).

Adolescents can provide valuable insight about their own health concerns that benefit health care practitioners (WHO, 1985). In order to deliver health care services relevant to adolescent needs, it is essential that adolescents be provided the opportunity

to share their perceived needs and concerns. Instead of basing clinical assessments and educational interventions on assumed health concerns, practitioners can make efficient use of time and capture the adolescents' attention by focusing on health concerns identified by their group (Duchen-Smith et al, 1987; Feldman, Hodgson, Corber, Quinn, 1986).

Although research studies eliciting the health concerns of adolescents are gaining in popularity, one critical area of neglect has been pertinent cross-cultural studies. The majority of studies conducted in this area has been done on White populations, with considerably fewer studies that include minority adolescents. Blacks and Hispanics are the most frequently represented minorities, but seldom has the Native American adolescent been studied. When Native Americans are included in such research, their sample size is small enough to encourage investigators to combine their data with other minorities of small sample size. The results from such techniques have little meaning for the health practitioner working with the Native American adolescent.

Research shows that adolescents are able to identify their own set of health concerns, ones that

are not always consistent with what health care providers perceive adolescent concerns to be. Additional research in this area can serve to narrow the gap between adolescent needs and provider services. This is particularly true for Native American adolescents, who, thus far, have been slighted in research efforts. Because of their unique culture, these adolescents may have additional concerns that would not be identified by white or other minority populations. Such information is essential for the practitioner interested in providing optimal care to Native American adolescents.

The purpose of this research endeavor is to ascertain current health concerns of Native American adolescents by building upon existing research and by using developmental theory.

CHAPTER 2

Literature Review

Adolescent health care has changed significantly over the past twenty years, largely as the result of research efforts aimed at identifying adolescent health needs and concerns. Adolescence has progressed from being part of a health care gap (falling between pediatric and adult practitioners) to being recognized as an entity in itself (Neinstein, 1987). The literature available on adolescent health care needs and concerns falls primarily into two categories. The first being comprised of the needs and concerns identified from statistical profiles or physician providers; the second is derived from adolescents identifying their own needs and concerns. Since this paper reports the adolescents' perspective of health related concerns, that body of literature will be discussed in greater depth. A representative sample of work presenting the statistical and medical viewpoint will be included to emphasize that discrepancies exist between the two. Lastly, the few available resources discussing Native American adolescents will be described.

Health Concerns Perceived By Adolescents

A frequent finding in the literature is the investigators' failure to identify the ethnic background of their subject population. Although results from such studies still yield valuable information, it is not in the best interest of practitioners to generalize such data to specific ethnic groups with whom they may be interacting. The literature reviewed in this section will be presented in three categories: 1) research in which ethnic background is not identified; 2) research that reports on only White subjects; and 3) research that includes White and other ethnic subjects.

Unidentified ethnic background.

In 1963, Deisher and Mills used a self-report questionnaire with over 600 15 to 17 year olds in urban, suburban, and rural schools to determine main health concerns and worries. Top-ranking concerns were growth for males and weight for females. Other identified concerns included skin, respiratory infections, and emotional issues. School was most often cited as a chief worry, regarding such issues as grades and activities. More females were worried about school issues than were males. Financial responsibility

and the future were the second most worrisome items, more so with males than females. Health, physical abilities and appearance followed, identified by a higher percentage of females than males. Interpersonal relationships and personality were also more worrisome to females. The fifth item, "opposite sex", was again slightly more worrisome to females. The main health problems for this population were primarily in the areas of growth and weight, while the chief worries centered around school problems. It is unfortunate that this well done study does not include a description of the sample so that more accurate comparisons with other studies could be made.

Sternlieb and Munan (1972) used a multiple choice questionnaire given at school or place of employment with 1400 15 to 21 year-olds. Subjects in this study came from high schools, colleges, and vocational schools and a nearby factory. These adolescents listed their top five health problems as nervousness, dental problems, acne, general health worries, and headaches. Differences between male and female responses were evident only with nervousness (#1 for females) and dental (#1 for males). The five most important personal problems were school (30.1%), family (20.9%), sex

(16.5%), religion (16.2%), and communicating with adults (13.4%). No differences according to gender were reported. Subjects in this study reported on physical as well as personal concerns.

Using semi-structured questions in self-selected groups, Blum (1981) polled approximately 800 teenagers about the kinds of changes they felt were most important in promoting health. These teens identified better nutrition, not smoking, getting more exercise, drinking less alcohol, losing weight, and getting more sleep. It is interesting to note that these subjects did not identify any personal concerns and appeared to be more focused on lifestyle changes than physical attributes.

Mailed questionnaires to a community based sample in Canada yielded over 700 responses from adolescents 12 to 20 years old (Feldman et al.1986), and provided information on their health concerns and habits. These data showed that the top five health concerns were: 1) acne (47%), 2) menstruation (32%), 3) emotions (26%), dental problems (26%), and weight (26%), 4) vision problems (22%), and 5) sports injuries (20%). It is interesting to note that the lowest rated items were birth control (9%), drugs (2%), alcohol use and

sexually transmitted diseases (1% each). The top emotional issues identified were school, family, making and keeping friends, and sexual matters. Gender was determined to be a more important variable than age. While males found school and family to be their top two emotional issues, females reversed the order of the two. The rest of the issues remained the same. When looking at health behaviors, the highest percentage of smokers were in the 16 to 17 year old group, and the highest percentages of those using alcohol and drugs and being sexually active were among those 18 and older. In all areas, those least involved in such behavior were 13 and younger. This study does a break down of health concerns by gender but does not include health concerns by age.

Another study utilizing mailed surveys was done by Hodgson, Feldman, Corber, and Quinn (1986). Their subjects included over 700 adolescents aged 12 to 20 years old who reported the health care issues by the degree of concern that they had for each. Results were that these subjects worried a lot or some about acne, menstrual problems, nervous or emotional problems, dental problems, and being overweight. At the bottom of the list, and consistent with Feldman et al (1986)

study, were alcohol and sexually transmitted diseases. However, when subjects were asked to identify what topics they would like to have additional counseling on, the top five issues were: 1) dental problems, 2) height, 3) sexually transmitted diseases, 4) birth control, and 5) alcohol use.

Pinch, Heck, and Vinal (1986) conducted a study with more than 300 male college students between the ages of 18 and 19. A self-administered questionnaire was used to determine the health needs and concerns for this group. The sample population was potentially biased as the research was conducted in a church-related university. Results showed that 93% of subjects had experienced physical signs of stress, 77% did not know how to perform testicular exams, 53% were concerned about pregnancy, 45% were not satisfied with their weight, and 42% felt they needed more information about sexuality. When asked what health services were most needed at school, 48% requested stress management for themselves, while 50% felt help with alcohol problems would be important to their friends.

Duchen-Smith et al. (1987) studied the health concerns of ninth graders using a self-administered questionnaire. They obtained 149 subjects and analyzed

data according to gender. Results showed statistical differences between male and female responses. Females ranked their top five health concerns as: 1) body weight (73%), 2) the future (69%), 3) hair (62%) 4) figure and skin (60%), and 5) teeth (54%). Males list their top five concerns as: 1) the future (48%), 2) body build, vision (44%), 3) muscles (41%), 4) teeth (39%), and 5) getting enough sleep (35%). Acne was listed as #6 and #7 for males and females respectively. The adolescents in this study were more concerned with physical characteristics than personal issues.

In another study of freshman at an urban university, 362 male and female subjects completed questionnaires about 15 health related topics as to the kind of health information they desired, and how frequently they had been counseled by their personal physicians on these topics (Joffe, Radius, Gall, 1988). The five most desired topics were: 1) exercise, 2) stress, 3) depression, 4) sexually transmitted diseases, and 5) weight control. A higher percentage of females were concerned with each of these topics, with the exception of exercise. Topics most frequently discussed with physicians were: 1) self breast examination, 2) exercise, 3) nutrition, 4) weight

control, and 5) smoking.

In summary, adolescents seem to identify either physical characteristics, such as acne, being overweight, and body build, or personal issues such as school, family, or friends. Females tend to be more concerned about health problems than males. These studies could be better used if they also included information on health concerns by age of adolescents.

Predominantly White subjects.

Eme, Maisiak, and Goodale (1979) studied 240 youth from the middle socioeconomic group to determine their most worrisome health-related problems. Using a questionnaire, these 13 to 17 year olds identified physical appearance as their number one problem, followed by career plans, and grades. Females were more concerned with physical appearance, grades and future schooling than were males. Freshman and seniors were more concerned with independence and careers, and seniors alone expressed greatest concern with careers.

In 1983, Daniel used a self-administered questionnaire on students enrolled in a health class to determine the reasons they most often sought health care. The three top reasons were stomach pains, headaches, and cough. When asked what problems they

had never seen a provider for but would like to, they listed weight problems, birth control, and emotional problems.

Seventh and eighth grade students were questioned on 30 health related topics by Sobal (1987). Subjects were asked to indicate their degree of concern over each item, then indicate which topics they would like to have discussed in class. Results showed students were very concerned about dental problems (50%), friends (49%), nutrition (46%), sex (43%), and vitamins (41%). Most indicated no concern over homosexuality (73%), birth control (67%), smoking (65%), menstruation (62%), and being underweight (60%). Topics about which they desired future discussion were primarily related to sex, and, to a lessor extent, drugs. Overall, females had more concerns than males, and seventh graders had more concerns than eighth graders.

Subjects in these studies continue to report concern over physical characteristics, as well as school and friends. Females again have more concern over health issues than males.

Cross-cultural studies

An initial pilot study by Brunswick (1969) reported on personal interviews conducted with White,

Black and Hispanic subject between the ages of 12 and 17. Interviewers were matched with respondents in regard to ethnicity and gender. The main health concerns most frequently mentioned by this population were exercise, nutrition, smoking and sleeping. The major health problems that adolescents identified were smoking, drugs, including alcohol, and air pollution. The author concluded that minority groups appeared to value the importance of good health more than White youth.

Brunswick & Josephson (1972) studied adolescent health in the Harlem district of New York City with youths 12 to 17 years of age. Personal interviews and physical examinations were used. Of this sample, 90% of subjects were Black and the remainder were of Hispanic descent. The top five major health problems reported by Black youths 12 to 15 years old were, in descending order; vision, frequent colds, repeated headaches, nervous or emotional problems, and stomach pains. Both self-reported and physician-reported health problems were found to increase with age. Greater increases were seen in late adolescent females than same aged males.

In 1983 Benedict studied over 100 White and

Hispanic youths in the 7th and 10th grades using a self-report questionnaire with reported validity and reliability. Responses were coded into two categories: actual and perceived health problems. The five areas most frequently identified in both categories were: psychological and social (78%), problems in family health history (61%), chronic health problems (49%), allergies (47%), and general health concerns (40%). Perceived and actual health problems changed little with respect to gender or grade. Females had significantly more problems reported at the 10th grade level than the 7th grade level. White scores of both genders increased with advanced grade level. With Hispanics, scores increased in females as grade level increased, but decreased with males as grade level increased.

In a health needs assessment questionnaire developed to determine students' willingness to use a school-based clinic, Riggs and Cheng (1988) determined the most prevalent health problems and behaviors in 600 youths were recent depression, suicidal thoughts, past suicide attempts, thoughts about being overweight, and forced vomiting. The reports of depression and sadness are consistent with findings in Feldman's study. It is

also of interest that these subjects reported higher rates of drug/alcohol use than other studies.

According to Malus et al (1987), who polled 1564 subjects 13 to 18 years old on questions regarding the physical and psychological aspects of teenage life, asked subjects to determine which topics they would like to discuss with a physician and whether or not such a discussion had ever taken place with their physician. The three topics more than 80% of teens wanted to discuss were physical fitness, nutrition, and growth. Such discussions actually occurred in less than 50% of subjects. Over 70% of teens desired discussion of sexually transmitted diseases, but only 18% of subjects reported having discussed this topic with their physicians. Contraception was a desired topic by 66% of teens, but actually conversations took place with physicians in only 22% of subjects. The authors concluded from the results that many adolescent health concerns are going unmet by their providers.

Parcel, Nadar, and Meyer (1977) conducted a study with over 3,000 high school students in an urban triethnic area. Subjects were White, Black and Hispanic, or categorized into an undefined "other" group. Subjects were tested for their knowledge about

health matters, concerns and problems, and health care utilization patterns. Only the first two will be discussed here. Three-fourths of the subjects felt young people did not know enough about birth control, two-thirds felt youth needed more information about drugs, and one-half felt more information was needed about sex. A higher proportion of Hispanics indicated more information was needed about birth control, than did Blacks or Whites. Needing information on sex ranked lowest for all three ethnic groups. Over 50% of all respondents felt information on drugs, sex, sexually transmitted diseases, birth control, and alcohol use should be provided in teen clinics. Of greatest concern to these adolescents were school (45%), drugs (38%), sex (37%), parents/family (35%), and getting along with adults (30%). The order of these issues did not change when ranked by grade level or ethnic background. Females, however, ranked their concerns as follow: parents/family, menstruation, pregnancy, and birth control. Males listed drugs, school, and sex. Subjects were also asked to select items with which they wanted help. Overall, acne and how far to go with sex were most frequently identified, with females and 10th graders making up the largest proportion of those

responding. Depression/sadness followed, with more females, 12th graders, and Whites requesting assistance with this topic. Being overweight was more frequently selected by females, while being underweight was selected more often by males. Getting along with parents had no significant differences present for age, gender, or ethnic background. Younger students more often requested assistance with drug and alcohol issues. In general, as students became older they were more likely to identify the need for assistance with health problems.

House et al. (1979) used a subject population including White, Black, Native American, and Asian adolescents. However, because of small sample size, Native Americans and Asians were grouped with Blacks for data analysis. Subjects were aged 11 to 20 years and in grades 7 through 12. A self-administered questionnaire including open-ended responses determined how often selected items were of personal concern. Subjects also rated items as they perceived them to be of concern to their classmates. Results showed use of free time as the highest ranked personal concern, with Blacks expressing greatest concern. However, no significant age or gender differences were apparent.

Personal appearance followed by weight, acne/skin problems, and height were the most frequently cited issues. More females identified appearance but differences were not significant with respect to age and race. Relationship with parents was the third most commonly identified item, with a higher prevalence in females and no differences with regard to age or race. Emotional stress manifested by nervousness, headache and stomach ache was also identified by more females, with no differences in age and race. Sex-related concerns that included pregnancy, birth control, sexual development and sexually transmitted diseases were selected more often by females and again, no differences were present for age or race. When subjects rated items they perceived to be concerns of their classmates, rank order changed only with the reversal of emotional stress and sex-related concerns. Open-ended questions having subjects identify their most important health or emotional problems revealed nerves and emotional issues as number one, followed by relationships with parents and peers of both sexes, concerns about personal appearance, and sex-related concerns. Analysis of these items by age, gender or race were not presented.

Overall, the results from these studies seem to indicate that adolescent health concerns fall primarily into two categories; those of a personal nature, and those of a medical or clinical nature. However, traditional medical issues are not necessarily identified as important priorities by this age group. The health concerns perceived by adolescents are most frequently those specifically associated with the adolescent period, such as body image, emotions, and sexuality. Females tend to have increased health concerns. Identified health concerns appear to change with age, gender, and ethnicity.

Epidemiological and Health Care Provider Views of Adolescent Health Needs

An early study by Garell (1965) surveyed the administrators of 322 hospitals and 34 adolescent clinics, using mailed questionnaires to obtain information on outpatient visits and hospital admissions. The clinic survey was used to determine the five most frequent organic and emotional diagnoses for adolescents. The leading organic diagnoses were: 1) obesity (74%), 2) acne (63%), 3) allergy (42%), 4) seizures (31%), and 5) orthopedic problems (31%). Leading emotional diagnoses were: 1) adjustment

reaction to adolescence (75%), 2) behavior problems (43%), 3) personality pattern and trait disturbances (38%), 4) psychoneurotic reactions (38%), and 5) scholastic failure (31%). Many of these issues are the same ones adolescents continue to identify for themselves today.

Levenson, Pfefferbaum, and Morrow (1987) surveyed adolescents and physicians as to the importance of selected health-related issues. Topics included weight control, smoking, physical fitness, self-actualization, comparison with others, peer opinion, and communications. Results showed that physicians and adolescents differed significantly in the importance they assigned to each topic, with the exception of weight. Physicians placed more importance on each item than did adolescents. Four of the five items most frequently rated very important by physicians were associated with smoking. Adolescents also identified smoking, but included other topics such as nutrition, and how to live a long, healthy life. When physicians were asked to identify the topics they felt adolescents would consider most important, they were unable to accurately do so. Physicians perceived that adolescents would consider the topics less important than the

adolescent actually reported. The exception was with peer opinion, as physicians felt adolescents would place more importance on this topic than adolescents actually reported. None of the items that physicians perceived as being very important to adolescents were reported as priorities by adolescents.

Orr et al. (1987) questioned physicians about their perceptions of specific health conditions affecting adolescents in general. Substance abuse was ranked number one by 88% of physicians, closely followed by pregnancy at 85%, sexually transmitted diseases at 84%, contraception at 81%, and premature sex at 80%. When physicians were asked to identify the important health conditions for their own adolescent patients, 80% identified unhealthy habits, 74% contraception, 71% pregnancy, 70% sexually transmitted diseases, and 69% substance abuse. Perhaps physicians are not really communicating with their adolescent clients.

Epidemiological studies show that the major causes of mortality of youths aged 15 to 24 years old are accidents, homicides, and suicides, which account for 77% of all deaths in this age group (Blum, 1987). Major causes of morbidity in youth are pregnancy, with one-

tenth of teenage females becoming pregnant each year, and 30% being impregnated by adolescent males (National Center for Health Statistics, 1981). Additionally, substance abuse including alcohol and tobacco, have all increased over the past decade (Blum, 1987). Males are more likely to abuse alcohol. Fewer males are smoking tobacco, but are more frequently using snuff or chewing tobacco (Blum, 1987). The age of initiation into drug use has declined, with the peak onset being between 16 and 18 years of age, followed by a reduction in use after age 22 (Kandel & Logan, 1984). However, these statistics are now five years old and may not accurately reflect current adolescent trends.

The World Health Organization has likewise identified an increase in mortality rates for youths from age 10 to age 24 (1985). This is due primarily to accidents and suicides, with up to 50% of accidents being linked to alcohol consumption.

The results from these studies show that the health concerns and problems identified by adolescents are seldom related to morbidity and mortality factors. This could, in part, reflect the lack of cognitive development in some adolescents, coupled with the fact that many have not yet assumed full responsibility for

their own health care. Most adolescents exhibit a continuing dependency on their parents.

It is also clear that adolescents and their physicians are not in agreement about adolescent health concerns. Physicians tend to identify medical or clinical issues to a much greater extent than adolescents do, while they acknowledge personal issues much less frequently. It also appears that physicians identify different health concerns for their own adolescent patients than they do for the adolescent population in general.

Native American Adolescent Health Concerns

No studies could be found that questioned Native American adolescents about their perceived health concerns. Research relies on epidemiological studies or self-report data on adolescent behavior to identify adolescent needs.

Meeting the health care needs of Native Americans is largely the responsibility of the Indian Health Service. Statistical reports generated by this agency identify the leading outpatient diagnoses and causes of death by service unit areas. In the Portland service area in 1984, leading causes of death among females of all ages were heart disease, accidents, malignant

neoplasms, liver disease, and diabetes. For males, the five leading causes were accidents/adverse effects, heart disease, liver disease, malignant neoplasms, and homicide. Leading causes of death for those 15 to 24 years were accidents, malignant neoplasms, heart disease, pneumonia, and liver disease. Outpatient visits for females, again not age specific, were most frequently for upper respiratory infections, preventive health services, diabetes, hypertensive disease, and acute otitis media. For males most visits were for upper respiratory infections, preventive health services, acute otitis media, hypertensive disease, and well child care. Youths from 15 to 24 years comprised 15.6% of all outpatient visits (U.S. Congress, 1986).

In a discussion of the health problems of Native Americans, Shah and Farkas (1985) acknowledged that few studies had been conducted to identify specific health problems in this ethnic group. Alcohol and drug abuse are commonly cited problems, but research into their prevalence and health related conditions is lacking.

Cockerham (1977) studied patterns of alcohol and drug use in rural white and Indian adolescents. The results showed that Indian youths are somewhat more likely to be involved with alcohol, marijuana, and hard

drugs. Oetting, Edwards, and Goldstein (1980) also studied drug use among adolescents belonging to five southwestern tribes. Using a questionnaire adolescents reported their drug use behavior. The results showed a higher use of alcohol, marijuana, and inhalants from the 7th through 12th grade than a national sample did. Alcohol and marijuana were the clear drugs of choice beginning at the 7th or 8th grade level. Many students self-reported that they were already using inhalants by the time they reached the 7th grade.

Yates (1987) described emotional problems in Indian children aged 5 to 9 years as being equivalent in frequency to those found in whites. However, between 10 and 14 years, emotional problems in Indians begin to escalate beyond those in whites, with the greatest number of problems identified between 15 and 19 years. The literature is abundant with descriptions of Indian adolescents exhibiting profound alienation and depression.

It can be seen that Native Americans may have their own unique set of health care needs but the availability and interpretation of statistics makes it difficult to ascertain just what the needs of these adolescents are. It is clear that research lacks the

Native American perspective on health care needs and concerns.

Conceptual Framework

The conceptual framework for this study includes the concepts of culture, development, and health beliefs. Each of these concepts and the relationships between them will be discussed.

Culture can be defined as a system of socially transmitted behavioral patterns that connects individuals and groups with their environment. It involves patterns of learned behavior and values that are passed from one generation to the next (Friedman, 1986). One's culture influences the behavior, attitudes, and values that each individual attains, as well as family behavior, values systems, and functions. Culture provides the foundation for all aspects of daily living, by influencing man's way of thinking, feeling, and behaving. Cultural orientation may be the single most important variable in understanding behavior and values.

Development during adolescence is characterized by rapid physical growth, increased cognitive development that progresses from concrete to formal operational thought, and resolution of the identity crisis

(Erikson, 1963; Piaget,1972; Tanner, 1980). The period of adolescence is typically divided into three stages: early, middle, and late, each with associated developmental tasks to be accomplished. For example, the egocentric early adolescent must come to terms with a changing physical appearance, while the social middle adolescent works at establishing an identity and gaining peer approval, and the late adolescent achieves independence and makes future career and relationships plans (Havighurst, 1972). Not all adolescents achieve developmental tasks in sequential order. In fact, some are working on tasks for two or all three developmental stages simultaneously (Roscoe & Peterson, 1984).

Personal health beliefs are determined by a number of factors including one's cultural background, social class, personality traits, and peer and reference group pressure (Rosenstock, 1974). The health belief system of an individual's environment generally provides the foundation for the development of personal health beliefs. An individual from an environment that values physical fitness will be more concerned with lifestyle factors promoting the concept of wellness, such as exercise and nutrition, than an individual from a society that values social skills.

Cultural background can affect the rate and pattern of adolescent development. Native American adolescents are raised in an environment of noninterference where parents do not consciously teach or encourage the achievement of developmental tasks. Indian children are viewed as autonomous and responsible, and allowed to progress through life at their own pace (Yates, 1987). Commitment to family and community is strong in the Indian population, and takes precedence over personal goals. Thus, achieving independence may be less an issue for the Native American adolescent, while achieving social responsibility may be of more importance to this group than for White adolescents.

The influence that culture has on health beliefs in the Indian population can be demonstrated by their belief in the spiritual world. Native Americans often attribute the physical signs and symptoms of illness to the presence of spiritual forces. When illnesses are characterized as spiritual maladies, they cannot be perceived as health concerns. The Native American population is also more present than future oriented. It therefore may be difficult for this group to

understand the long term effects that some lifestyle practices may have on their health.

An adolescent's developmental level can also influence health beliefs. The early adolescent who is involved in egocentric thinking may identify health concerns that only relate to physiologic changes. As the adolescent achieves formal operations, health concerns expand to include social issues such as peer relationships, substance abuse, and pregnancy. Late adolescents who are in a position to lead independent lives, focus their concerns on securing future needs. As a group, adolescents are characterized by a sense of invulnerability. Although statistics are able to identify major causes of morbidity and mortality, adolescents have difficulty perceiving such factors as a threat to their own well-being.

The relationship between culture, development, and health care needs is an interactive one. This study will test this conceptual framework specifically to determine what influence these three concepts might have on the health concerns identified by Native American adolescents.

CHAPTER 3

Methods

In order to identify prominent health concerns of Native American adolescents, a survey was conducted of students attending an Indian boarding school in northwest Oregon. A questionnaire modified by this investigator from one presented by Duchen-Smith et al. (1987) was administered to elicit responses to the following research questions:

1. What selected health care items will Native American adolescents identify as being of concern?
2. Will the identified health care items differ with regard to gender or age?
3. Will the identified health care items differ according to subject's grade in school?
4. Will the percent Indian or tribal affiliation influence the health care items selected?

Additionally, two sets of scales were developed. One reflected the physiologic, psychologic, social, and cultural focus of the health care items. The other was a set of three developmental scales, consisting of items reported to be of concern to adolescents during early, middle and late adolescence. Information from

the scales will be used to support or reject the following hypotheses:

1. Native American adolescents will report significantly more concern on the psychological and cultural scales than on the physiologic and social scales.
2. Native American subjects in the early adolescent age group will report more concern on the early adolescence developmental scale, while subjects in the middle adolescent age group will report more concern on the middle adolescence developmental scale, and subjects in the late adolescent age group will report more concern on the late adolescence developmental scale.

Design

This research is a descriptive correlational design conducted as a survey using a self-administered structured questionnaire format.

Setting

The sample of students were obtained from an Indian boarding school located in an urban area of the Pacific Northwest. The school offers a high school education to students who are at least one-quarter

Indian descent. Students who do not have access to public schools or who experience social or interpersonal problems are eligible for attendance. Enrollment varies, with a high turnover rate, but as many as 400 to 450 students may be in attendance at any one time. A dormitory for student housing is located on the school grounds.

Located near the school is the Indian Health Service Clinic that provides students with medical, dental, and various counselling services. A Recreation Therapy program is also available to help these adolescents make appropriate choices in recreational activities. Students are seen by appointment or on a walk-in basis before and after scheduled classes during the week. Medical staff is also available to see students needing emergency care during clinic hours, but after hours, students receive care through the emergency room of the local hospital.

Sample

Completed questionnaires were returned by 135 students, slightly less than the projected sample size of 150. However, at the time the survey was conducted, student enrollment had dropped to approximately 270, which yielded returns from a higher percentage of

subjects (50%) than was originally anticipated.

Subjects in the sample represented 42 U.S. tribes from 12 states. The majority of subjects were from Alaska (24%), followed by Montana (22%), Washington (15%), and Wyoming (14%). More subjects belonged to the Athabascan (10%), Shoshone (9%), and Yakima (7%) tribes than any others.

The sample was nearly evenly divided by gender with 68 males (50.4%) and 67 females (49.6%). Ages ranged from 14 to 20.5 years with a mean age of 17.12 years. Seventeen was the modal age of the sample (23.7%), while the least number of subjects were found among 14 year-olds (4.1%) and those 20 years or older (2.2%). Table 1 provides a summary of subjects by age and gender. (See also Appendix C).

Table 1

Number of subjects by age and gender

Age:	14	15	16	17	18	19	20	Total
Males	2	12	10	19	14	9	2	68
Females	1	12	20	13	16	4	1	67
Total	3	24	30	32	30	13	3	135

A sizeable majority of the sample was 100% Indian (43.7%), while fewer subjects were in the 25% Indian group (11.1%). Figure 1 displays the distribution of subjects by percent Indian.

Subjects currently juniors in high school accounted for the largest percent of the sample (33.3%) when divided by grade in school. The three remaining classes were close in number, with freshman accounting for 21.5% of the sample, sophomores 24.4%, and seniors 20.8%.

The time students had spent at this school ranged from .5 to 4.5 years, with the majority of subjects being there less than two years. (See Figure 2).

As these students resided in dormitories on the school grounds, with perhaps more structure and supervision than they received in their home environment, it is difficult to determine just how representative the sample is of Native American adolescents living in other settings. It is known that the school experiences alcohol, drug, and sexual problems with the students, just as any community does.

Due to the extent of differences in demographics and limited access to the sample, no attempts were made to characterize students who did not participate.

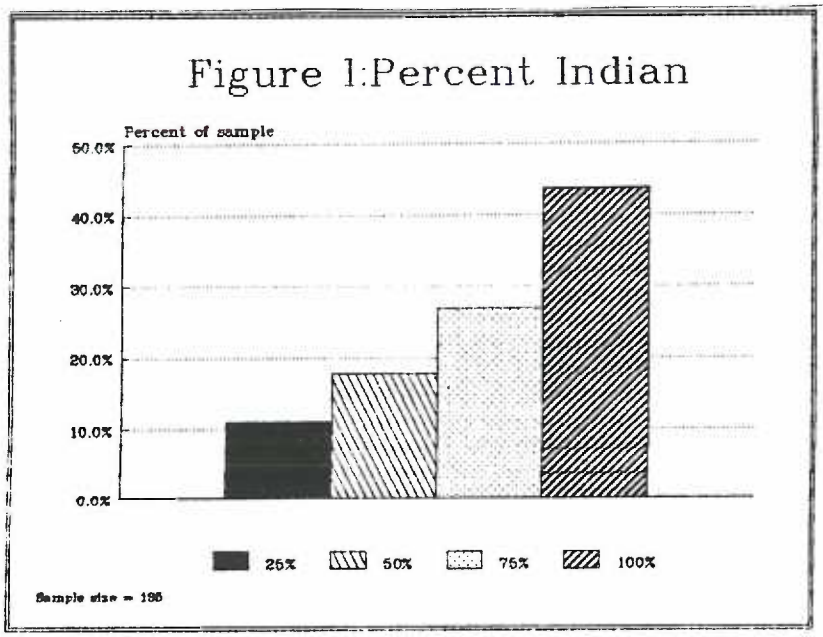
Figure 1:Percent Indian
Percent of sample
60.0%
40.0%
30.0%
20.0%
10.0%
0.0%
25%
50%
75%
100%
Sample size = 135

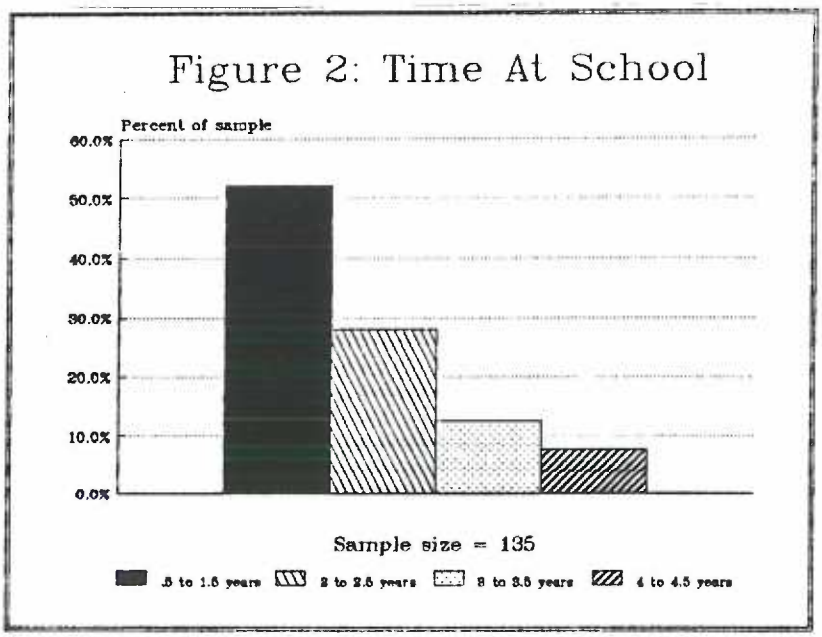
Figure 2: Time At School
Percent of sample
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Sample size = 135
.5 to 1.5 years
2 to 2.5 years
3 to 3.5 years
4 to 4.5 years

Data Collection

Data were collected on selected health care items associated with adolescence. Brief demographic information was also collected, including the subject's gender, age. state of residence, percent Indian and tribal affiliation, present grade in school, and length of time at this school.

Instrument.

Modified from an earlier form used by Duchen-Smith et al. (1987), a two page questionnaire identifying 52 health care related items was used for data collection (Appendix A). Items were selected for inclusion based upon consensus in the literature that each was associated with the physiologic, psychologic, and social developmental changes that occur during the adolescent period. Additionally, items specific to the Indian population, as identified in the literature, were included in this study as a cultural component. Examples of items representing physiological changes are body build/figure, being overweight or underweight, and being too tall or too short. Psychological changes included such items as emotions and feelings, and ability to control temper. Getting along with family and friends, loneliness, and achieving independence are

examples of social items. Items included specifically for the Indian population were of two types: those that identify diseases prevalent in their population, such as diabetes and heart problems, and unique cultural concerns such as living off the reservation and keeping Indian traditions. Collectively, these items made up the cultural component of the questionnaire.

Subjects were able to chose from four possible responses for each item. They were:

3 = I worry a lot about this; I am very concerned about this

2 = I worry sometimes about this; I am somewhat concerned about this

1 = I don't worry about this; I am not concerned about this

0 = Item is unclear; not able to answer

For the purposes of this study, expressing worry or concern about an item were considered to be equal. No attempt was made to distinguish why a subject did not respond to a particular health care item.

At the end of the questionnaire each subject was asked to rank five of the 52 items listed according to the degree of concern. These five items were then assigned a number from one to five (with five

expressing the greatest concern) in order to determine which items subjects most frequently found as being of great concern.

The questionnaire was not designed to identify the adolescent experiencing ill-health or engaging in any detrimental health behaviors. The intent was only to identify the health related items that were of concern to respondents. Indirect concern might be present because of a particular health care item's influence on friends, family, or the Indian population in general.

Content validity of the instrument was established by a panel of experts that included two physicians at an Indian Health Service Clinic, two nurses employed at the same facility, also of Indian descent, two Pediatric Nurse Practitioners, and a Mental Health Nurse Practitioner. A pilot test was done with 10 Indian adolescents between 15 and 17 years of age. Based on feedback from all of these individuals, the initial questionnaire was revised to its present form.

Procedure

Access to Sample.

A copy of the research proposal was submitted to the Indian School for review. As the school has guardianship for enrolled students, a formal consent

form was secured (See Appendix D).

Students interested in participating in the study were able to obtain and complete the questionnaire in their English class. This class is one that all students must take, and so assures that each student was afforded equal opportunity for participation.

Protection of Human Subjects. The questionnaire was anonymous and no coding was used to identify respondents. No individual responses were singled out for presentation as analysis was done on group scores only. Students were presented with a brief explanation regarding the purpose and intent of the study, emphasizing anonymity and that participation, or lack thereof, would in no way affect their relationship with the school or the clinic.

Approval of research methods and the questionnaire was also obtained from the Committee on Human Research of The Oregon Health Sciences University.

Research Process.

Participation in the study was voluntary and the return of a completed questionnaire constituted consent. Questionnaires were made available to all students during English class, where they were provided time for completion. The class instructor gave each

student returning a questionnaire a "certificate of completion" that was exchangeable at the student bank for $1.00. The cash amount was decided upon by the investigator and an attorney associated with the university, as being an amount appropriate for the students' participation, but not great enough to imply coercive efforts. The investigator did not have access to student names, nor did instructors at the school have access to completed questionnaires. No attempts were made to contact students who did not initially participate in the study.

Analytical Procedure.

As this author was primarily concerned with the health care items subjects reported as being of most concern to them, items that were identified as #3 (worry a lot or are very concerned about) were reported and discussed in this paper. Traditional analysis using the means of all scores reported for each health care item were also done and reported. This author believes that in populations that may have limited health care resources, identifying the issues that are of greatest concern, even though they may be so for a smaller segment of that population, is a worthwhile endeavor.

CHAPTER 4

Results and Analysis

This chapter presents the findings of the data analysis. Results for each research question are discussed separately.

Findings for Research Question One: Native American Adolescent Health Concerns

To answer research question one, "What selected health care items will Native American adolescents identify as being very concerned about?", items from the questionnaire that subjects scored as 3 (3=very concerned) were ranked according to the percentage of students most frequently selecting those items. Table 2 displays the 10 leading health care items that all respondents selected as being very concerned about. Only 17.78% were very concerned about diabetes and alcohol use, and 15.56% were concerned with lung problems. Stomach/digestion and being too tall were the least frequently selected items among this group, with 9.63% and 7.41% of subjects expressing concern. (Appendix E).

Findings for Research Question Two: Health Care Items Identified by Gender and Age

To answer the second research question, "Will the

identified health care items differ with regard to subjects' gender or age?", all items scored as a 3 by subjects were first listed in rank order by the percentage of respondents in male and female groups, and in early, middle and late adolescent age groups.

Table 2

Leading Health Concerns by Percent of Subjects Reporting Items as Very Concerning: All Subjects

Health Concern	Percent
1. The future	61.48%
2. Finishing high school	51.11%
3. Going to college	46.67%
4. Getting along with family	43.70%
5. Finding a job	40.74%
6. Keeping Indian traditions	37.78%
7. Sexually transmitted diseases	37.04%
8. Feeling good about oneself	33.33%
9. Being overweight	31.11%
10. Achieving independence	31.11%

Table 3 contains a comparison, by gender, of the 10 health care items identified most frequently by subjects in gender groups. The leading five items

reflect the same concerns as all subjects identified, with the exception of sexually transmitted diseases, which was more frequently a concern of males.

Table 3

Most Prevalent Health Concerns Identified by Gender

Rank	Males (n=68)		Females (n=67)	
1	The future	60.29%	1. The future	62.69%
2.	Finishing high school	44.12%	2. Finishing high school	58.21%
3.	Sexually transmitted diseases	39.71%	3. Going to college	55.22%
4.	Going to college	38.24%	4. Getting along with family	50.75%
5.	Getting along with family	36.76%	5. Finding a job	44.78%
6.	Finding a job	36.76%	6. Keeping Indian traditions	43.28%
7.	Feeling good about oneself	33.82%	7. Being overweight	40.30
8.	Keeping Indian traditions	32.35%	8. Achieving independence	38.81
9.	Body build/ figure	29.41%	9. Getting along with friends	37.31
10.	Feeling good about being Indian	27.94%	10. Making or keeping friends	35.82

Females were more concerned about pregnancy (29.85%),

and birth control (17.91%) than were males (10.29%, and 5.88% respectively), but more males were concerned with getting enough sleep (19.21%) and drug use (22.06%) than were females (8.96% and 17.91%). (Appendix F).

Using independent t-tests on the mean scores ($p=<.05$), significant differences were found between gender groups on the following health care items; headaches, being overweight, birth control, pregnancy, getting along with friends, achieving independence, and going to college. (See Table 4). In all cases,

Table 4

T-Test Table: Significant Health Concerns by Gender

Health Concern	$\bar{x}_M$	$\bar{x}_F$	t	p
1. Headaches	1.29	1.59	-2.29	.024
2. Being Overweight	1.66	2.10	-2.93	.004
3. Birth Control	1.24	1.70	-3.12	.002
4. Pregnancy	1.30	1.90	-3.65	.0004
5. Getting along with friends	1.82	2.12	-2.06	.041
6. Achieving independence	1.75	2.09	-2.23	.027
7. Going to college	2.03	2.40	-2.46	.015

females expressed more concern than males. The percent of subjects responding to each of these items as being very concerning is presented in Table 5.

Table 5

Significant Health Concerns by Percent of Subjects: Gender *

Health Concern	Males (n=68)	Females (n=67)
1. Headaches	10.29%	14.93%
2. Being overweight	22.06%	40.30%
3. Birth control	5.88%	17.91%
4. Pregnancy	10.29%	29.85%
5. Getting along with friends	23.53%	37.31%
6. Achieving independence	23.53%	38.81%
7. Going to college	38.24%	55.22%

* Groups with significant differences are underlined

When examining the health care items most frequently selected by age groups (See Table 6), results show more subjects in the early adolescent group selecting the item finishing high school as their leading health concern, while middle and late adolescent groups selected the future. Sexually

transmitted diseases appeared as a greater concern for late adolescents, while more subjects in middle adolescence were very concerned about getting along with family than were late adolescents. Keeping Indian traditions was identified more frequently for late adolescents than middle or early adolescents.

Table 6

Leading Health Concerns By Percent of Subjects Reporting Items as Very Concerning: Age Groups

Health Concern	Adolescence Early	Middle	Late
1. The future	48.15%	65.57%	63.83%
2. Finishing high school	59.26%	55.74%	40.43%
3. Getting along with family	48.15%	49.18%	34.04%
4. Keeping Indian traditions	37.04%	37.70%	38.30%
5. Going to college	37.04%	57.38%	38.30%
6. Making/keeping friends	37.04%	36.07%	17.02%
7. Finding a job	33.33%	49.18%	34.04%
8. Sexually transmitted diseases	33.33%	37.70%	38.30%
9. Feeling good about oneself	33.33%	36.07%	29.79%
10. Achieving independence	25.93%	36.07%	27.66%

Comparatively few subjects in the late adolescence group were very concerned about living away from the Indian community (6.38%) and with how to use free time (4.26%), while fewer subjects of middle adolescence found hearing problems (8.20%) and being too tall (4.92%) very concerning. The early adolescence group was less frequently concerned with being too tall, birth control, and becoming sick (7.41%). (Appendix G).

With the ANOVA ($p < .05$) significant differences were noted among age groups on drug use ($p = .04$), finishing high school ($p = .02$), and going to college ($p = .004$). The Scheffe' post-hoc test ($p < .05$) identified differences between early and late adolescents on drug use (.05), with early adolescents expressing less concern. Early adolescents were also less concerned with going to college than were middle adolescents (.04). Differences between middle and late adolescents were found with finishing high school (.03) and going to college (.02), with middle adolescents expressing more concern in both cases. (Appendix H). The percentage of subjects finding each significant item as very concerning is presented in Table 7.

Table 7

Significant Health Concerns by Percent of Subjects: Age Groups *

Health Concern	Adolescence Early	Middle	Late
1. Drug Use	18.52%	19.67%	21.28%
2. Finishing high school	59.26%	55.74%	40.43%
3. Going to college	37.04%	57.38%	38.30%

* Groups with significant differences are underlined

Findings For Research Question Three: Health Care Items Identified by Grade In School

Research question three, "Will identified health care items differ according to subjects' grade in school?", was initially evaluated by comparing the percentages of subjects in each grade level who scored health care items as number 3. The results showed that finishing high school and the future were equal leading concerns for more freshman and sophomores, with juniors being slightly more concerned about finishing high school than the future, and seniors more concerned about the future. Seniors also identified concern over

sexually transmitted diseases (42.86%), getting along with family and feeling good about oneself (35.71%), loneliness and going to college (32.14%). More juniors were concerned with going to college (53.33%), keeping Indian traditions (48.89%), getting along with family (42.22%), and finding a job (40.00%). A large number of sophomores were very concerned with finding a job (63.64%), getting along with family and going to college (57.58%), and being overweight (54.55%), while more freshman found concern over getting along with family, keeping Indian traditions, and going to college (37.93%). Table 8 presents the leading health care items selected as very concerning by the percentage of subjects responding as such. (See Appendix I).

Using the ANOVA ($p < .05$) significant differences between grades in school were found on the following items: dental problems ($p=.03$), being overweight ($p=.004$), being too tall ($p=.02$), skin problems ($p=.007$), making/keeping friends ($p=.004$), finding a job ($p=.003$), and finishing high school ($p=.00$). Table 9 displays the percent of subjects identifying each of these items as very concerning. Differences between groups were determined by using the Scheffe' post-hoc test ($p < .05$), and were found between freshman and

Table 8

Leading Health Concerns by Percent of Subjects Reporting Items as Very Concerning: Grade in School

Health Concern	Grade 9	10	11	12
1. Finishing high school	51.72%	69.70%	62.22%	10.71%
2. The future	51.72%	69.70%	60.00%	64.29%
3. Getting along with family	37.93%	57.58%	42.22%	35.71%
4. Going to college	37.93%	57.58%	53.33%	32.14%
5. Keeping Indian traditions	37.93%	33.33%	48.89%	25.00%
6. Finding a job	31.03%	63.64%	35.56%	25.00%
7. Sexually transmitted diseases	27.59%	48.48%	31.11%	42.86%
8. Feeling good about oneself	27.59%	33.33%	35.56%	35.71%
9. Body build/figure	24.14%	42.42%	24.44%	25.00%
10. Getting along with friends	20.69%	48.48%	26.67%	25.00%

sophomores, with sophomores being more concerned over dental problems (.05), being overweight (.01), skin problems (.05), and finding a job (.04). Significant differences between freshman and juniors were found only on the item skin problems (.05), with juniors being more concerned. Between sophomore and senior

groups, sophomores expressed more concern with being overweight (.05), making/keeping friends (.005), and finding a job (.01). Freshman were more concerned with finishing high school than seniors (.0002), as were sophomores (.000) and juniors (.000). (Appendix J).

Table 9

Significant Health Concerns by Percent of Subjects: Grade In School *

Health Concern	Grade 9	10	11	12
1. Dental problems	10.34%	21.21%	26.67%	21.43%
2. Being overweight	10.34%	54.55%	33.33%	21.43%
3. Skin problems	6.90%	21.21%	24.44%	10.71%
4. Making/keeping	27.59%	51.52%	24.44%	14.29%
5. Finding a job	31.03%	63.64%	40.00%	25.00%
6. Finishing high school	51.72%	69.70%	62.22%	10.71%

* Groups with significant differences are underlined

Findings for Research Question Four: Health Concerns Identified by Percent Indian or Tribal Affiliation

The fourth research question, "Will percent Indian

or tribal affiliation influence the health care items selected?", was answered by identifying the items subjects in each percent Indian group selected as number 3, and rank ordering those items. Because 42 distinct tribes were involved in the survey, no attempt was made to analyze the data for this variable. Leading health care items selected by subjects 100% Indian included; the future, finishing high school, going to college and getting along with family, and finding a job. Subjects 75% Indian also identified the future, finishing high school and going to college as their three leading concerns, but sexually transmitted diseases and keeping Indian traditions followed. Finishing high school and the future were selected by more subjects 50% Indian, with sexually transmitted diseases, cancer, making or keeping friends, and keeping Indian traditions following. Subjects 25% Indian were concerned about going to college, getting along at school, getting along with family, and the future. Also, more subjects 50% Indian were concerned over feeling good about being Indian (33.33), than were subjects 100% Indian (28.81%), 75% Indian (21.62%), or 25% Indian (13.33%). However, fewer 50% Indian subjects were concerned with living away from the Indian

community (8.33%), than were 100% Indian (16.95%), 75% Indian (16.22%), or 25% Indian (13.33%) subjects. (Appendix K).

Table 10

Leading Health Concerns by Percent of Subjects Reporting Items as Very Concerning: Percent Indian

Health Concern	Percent Indian 25%	50%	75%	100%
1. The future	46.67%	70.83%	54.05%	66.10%
2. Finishing high school	40.00%	70.83%	37.84%	54.24%
3. Going to college	53.33%	45.83%	37.84%	50.85%
4. Getting along with family	46.67%	50.00%	27.03%	50.85%
5. Ability to control temper	40.00%	45.83%	13.51%	23.73%
6. Keeping Indian traditions	26.67%	54.17%	29.73%	38.98%
7. Finding a job	26.67%	50.00%	29.73%	47.46%
8. Sexually transmitted diseases	33.33%	62.50%	29.73%	32.20%
9. Being overweight	33.33%	50.00%	24.32%	27.10%
10. Feeling good about oneself	40.00%	45.83%	27.03%	30.51%

Table 10 displays the leading health care

concerns by percent of subjects in each percent Indian group that identified items as very concerning.

The ANOVA ($p < .05$) showed significant differences between the percent Indian groups on the following items: headaches ($p=.009$), heart problems ($p=.03$), cancer ($p=.002$), sexual relationships ($p=.02$), sexually transmitted diseases ($p=.006$), emotions/feelings ($p=.03$), ability to control temper ($p=.02$), becoming sick ($p=.01$), and finding a job ($p=.01$). The Scheffe' post-hoc test ($p < .05$) was used to determine between group differences. Subjects 25% Indian were less concerned with headaches than were 50% Indians (.02). Finding a job was less concerning to 25% Indians than 100% Indians (.01). Subjects 50% Indian were more concerned with heart problems (.03), cancer (.004), sexual relationships (.02), emotions and feelings (.03), ability to control temper (.02), and becoming sick (.03) than were 75% Indians. Subjects 50% Indian were also more concerned than subjects 100% Indian over cancer (.02), and sexually transmitted disease (.01). (Appendix L). Table 11 presents the percentage of subjects finding the significant health care items as being very concerning.

Table 11

Significant Health Concerns by Percent of Subjects: Percent Indian *

Health Concerns	Percent Indian 25%	50%	75%	100%
1. Headaches	6.67%	25.00%	11.86%	10.81%
2. Heart problems	20.00%	29.17%	5.41%	16.95%
3. Cancer	13.33%	54.17%	5.41%	16.95%
4. Sexual relationships	20.00%	45.83%	16.22%	25.42%
5. Sexually transmitted diseases	33.33%	62.50%	29.73%	32.20%
6. Emotions/feelings	26.67%	45.83%	10.81%	27.12%
7. Ability to control temper	40.00%	45.83%	13.51%	23.73%
8. Becoming sick	6.67%	20.83%	5.41%	25.42%
9. Finding a job	26.67%	45.83%	29.73%	47.46%

* Groups with significant differences are underlined

Findings for Hypothesis One: Relationship Between Sample Subgroups and Physical, Psychological, Social, and Cultural Scales

In order to find support for the first hypothesis, "Native American adolescents will report significantly more concern on psychological and cultural scales than

on physiological and social scales", scale scores were analyzed using ANOVA ($p < .05$). No significant differences were found between scales for all subjects, but mean scale scores showed the social (1.89) and psychological (1.82) scales to be slightly more concerning than the physiological (1.74) or cultural (1.72) scales. A Significant p-value was found on the physiologic scale when analyzed by grade in school ($p = .05$), but the Scheffe' post-hoc test did not show significance between the groups. The psychologic scale had a significant p-value ($p = .03$) when analyzed by grade in school, and the Scheffe' post-hoc tests showed significance between freshman and sophomores (.04), with freshman scoring lower on this scale. The psychological scale also had a significant p-value ($p = .03$) when analyzed by percent Indian, but again, the Scheffe' post-hoc test was unable to identify significant differences between the groups. No statistical significance was found on either the social or cultural scale. The results from these data analyses did not support the hypothesis.

Findings For Hypothesis Two: Relationship Between Sample Subgroups and Developmental Scales

This hypothesis stated, "Subjects in the early

adolescent age group will report more concern on the early adolescence developmental scale, while subjects in the middle adolescent age group will report more concern on the middle adolescence developmental scale, and subjects in the late adolescent age group will report more concern on the late adolescence developmental scale, than will subjects in other age groups". The ANOVA ($p < .05$) was used for analysis. The only statistically significant difference found between the age groups was on the middle adolescence scale ($p = .03$). The Scheffe' post-hoc test showed this difference to be between middle and late adolescents (.03), with middle adolescents expressing more concern on this scale. Although not significant, mean scores were higher for middle adolescents than early adolescents on the early adolescence developmental scale, and also higher for middle adolescents than late adolescents on the late adolescence developmental scale. When the developmental scales were analyzed by subgroups of the population, significant differences were found on the early adolescence developmental scale ($p = .008$), with the Scheffe' post-hoc test showing freshman scoring higher than sophomores (.02). The middle adolescence developmental scale had a

significant p-value (p=.03) when analyzed by grade in school, but the Scheffe' did not indicate a significant difference between the groups. The late adolescence developmental scale had a significant p-value (p=.01) when analyzed by grade in school, and the Scheffe' post-hoc test revealed the difference to be between freshman and sophomores (.03), with sophomores reporting more concern on this scale. This hypothesis could not be supported.

Additional Questions for Consideration

Subjects were asked to select five of the 52 health care items listed on the questionnaire that concerned them the most. These items were listed in order of importance from one to five (with one being of most importance). Frequencies were determined for each item subjects reported. The item most subjects identified as being of greatest concern to them was the future. Going to college, finishing high school, vision problems, body build/ figure, getting along with family, alcohol use, finding a job, being overweight, and keeping Indian traditions completed the ten health care items most frequently selected. When subjects self-selected items, alcohol and drug use, cancer, and particularly lung problems were identified more

frequently as being items of concern than when subjects originally scored these items on the questionnaire. Feelings of not belonging and following rules moved to the bottom of the self-select list as numbers 50 and 52, whereas when scored on the questionnaire they were numbers 24 and 40 respectively.

A true/false question asking if Indian ways were tried before White ways when dealing with most health care problems was responded to by 129 subjects of whom 50.39% were male and 49.61% were female. Data showed that most subjects answered this question "false" (62.79%) and that more females responded "false" (55.56%) than males (44.44%). In addition, more subjects in the middle adolescent age group answered the question "false" (44.44%), as did juniors in school (29.63%) and subjects 100% Indian (37.04%).

A final question asked subjects to indicate if they felt Indian methods of health care were better than White methods, if both methods were the same, or if White methods of health care were better than Indian. Answers were scored on a 1 to 5 likert scale, with 1 being Indian methods are better, 3 being both methods are equal, and 5 being White methods are better than Indian. Using the ANOVA ($p < .05$), statistical

significance was found only between age groups (p=.0006), with subjects in the early adolescent age group favoring Indian methods of health care more than middle adolescents (.0006) or late adolescents (.025) according to the Scheffe' post-hoc test. The mean score for males was 2.60 and for females 2.76. When comparing mean scores by percent Indian, subjects 50% Indian had a score of 3.0, while subjects 25% Indian slightly favored White methods with a score of 3.62. Subjects 75% and 100% Indian had mean scores of 2.92 and 2.78 respectively, indicating a slight preference for Indian methods. Grade in school showed that freshman and sophomores, with mean scores of 2.60 and 2.76, had more of a preference for Indian methods than did juniors and seniors, with mean scores of 3.12 and 3.07.

Chapter 5

Discussion

This chapter discusses the findings for each research question and hypothesis, and compares the findings with the available literature. Limitations of the study and suggestions for further research are discussed. Implications for nursing and a summary of this research conclude the chapter.

Discussion of Research Question One: Native American Adolescent Health Concerns

The results from this study indicate Native American adolescents identify specific health care items of concern to them that are not always consistent with health care concerns identified by adolescents in other research studies. The five leading health concerns reported by Native American subjects in this study are; the future, finishing high school, going to college, getting along with family, and finding a job. The results from other studies show leading adolescent concerns to be primarily of two types: 1) physical changes, such as acne, being overweight, body build, hair, and teeth; and 2) social issues that include sexual relationships, pregnancy, birth control, sexually transmitted diseases, and substance abuse

(Blum, 1981; Daniel, 1983; Deisher & Mills, 1963; Duchen-Smith et al, 1987; Eme et al, 1979; Feldman et al, 1986, Hodgson, 1986; Joffe et al, 1988; Parcel et al, 1977). Concern over school has been noted in other adolescent studies, with subjects in the Parcel et al (1977) survey listing it as their leading concern, while 34% of subjects reported it as a concern in the Pletsch and Leslie (1988) study, and school was among the leading ten health concerns of adolescents in the Duchen-Smith et al (1987) study. It is difficult to make precise comparisons with the results from other studies, as many researchers do not adequately describe their sample population by including ethnic background.

Native American adolescents report more concern over health care items that are influenced by the cultural conflict that exists for them in many areas of our society and by economic situations. Finishing high school, going to college and finding a job are important items to the Native American in creating a better way of life for themselves and to ensure the survival of their cultural group. These adolescents are faced with finding a place for themselves in the White mans' world as well as within their own Indian world.

Most adolescents today are confronted with the parental and societal emphasis on education as a way to improve their personal lives. Native American adolescents are faced with the additional responsibility of bettering themselves so they can, in turn, create a better place in this world for their people. Allegiance has traditionally been to the family and community rather to the self in this culture (Yates, 1987). So, the responsibility for preserving the culture that is passed on to the youth of each tribe is not taken lightly. Education and employment are also viewed as ways out of poverty. Overall, Native Americans experience a 40% unemployment rate, although on some reservations it is as high as 75% to 90% (U.S.Department of Commerce, 1973). Education may be viewed as the only way to break this cycle. Hoyt (1961) also demonstrated through essays written by Native American adolescents, that as a group, they felt less confident than did White children in knowing about jobs, and had greater fears about "making the grade", even for low-level jobs. This lack of confidence and/or lack of information regarding employment may still hold true for Native American adolescents today.

One area that this study has in common with other

studies is the adolescent's lack of identifying health concerns that have accompanying high mortality and morbidity statistics. Diabetes, heart and lung problems, and cancer are known to be leading causes of death among Native Americans, but few adolescent's in this sample identified these factors as being of concern. Additionally, alcohol, drug use, tobacco, and pregnancy were less frequently identified by many subjects as being of concern, although statistics would suggest otherwise. Studies on Native American adolescents tend to focus on the increase in substance abuse in this population when compared with Whites (Cockerham, 1977; Oetting et al, 1980; Shah & Farkas, 1985; Yates, 1987). The pregnancy rate for Native Americans is also twice as high when compared with pregnancy rates for the U.S. population as a whole. But, Liberman & Frank (1980) demonstrated in their study that Native Americans experience less stress over pregnancy than do subjects in a White sample. Adolescent suicides and fatalities related to alcohol and drugs have continued to rise, yet few studies report adolescents acknowledging concern over these items for themselves. This is likely in keeping with the adolescent thinking of being invulnerable and the

associated increase in risk taking behavior during adolescent years.

Discussion of Research Question Two: Health Care Items Identified by Gender and Age

More females than males were very concerned about all the health care items shown to be significantly different between gender groups. That females have greater concern over health related factors appears to be a trend among adolescents. Pregnancy, birth control, and being overweight have frequently been documented as female health concerns in past studies, and the results from this study continue to support that theory. More female subjects in this study identified headaches as being of great concern. Perhaps this is due to the additional worry and/or concern that females demonstrate overall.

Parcel et al (1977) also found males to be more concerned about drugs, alcohol, and sex than their female counterparts. Data from this study also shows a higher percentage of males concerned with these items than females, but the differences were not significant. Fourteen health care items were found to be statistically significant in the Duchen-Smith et al. (1987) survey, including weight, skin, hair, emotions,

tension, the future, getting along at school, nervousness, temper and acne. These were leading concerns for females with the only significant concern for males being muscles. Their study closely resembled this author's current work in survey content and sample size, although their sample included only 12 to 15 year olds and ethnic background was not presented. Native American adolescents in this study, again fail to demonstrate concern over items related to physical characteristics, with the exception of being overweight. Perhaps this is due to the decreased attention Native Americans focus on themselves. That more females are concerned with achieving independence and going to college was somewhat surprising. In a less progressive and more traditional culture, it was thought that marriage and raising a family would have been items of greater concern to more females. However, achieving independence may be a precursor to starting one's own family, while going to college might be viewed as a way to escape poverty and unemployment while finding a more acceptable place within two cultures for one's family. And too, females may feel the responsibility for preserving their culture as strongly as males.

There were few differences between gender groups in this sample, indicating that male and female Native American adolescents have similar health care concerns. More males and females selected the future and finishing high school as leading health concerns, followed by going to college, getting along with family, and finding a job. Slightly more males were concerned about sexually transmitted diseases than going to college which disrupted the otherwise identical order of the five leading health care items for males and females. Sexually transmitted diseases, when included on a questionnaire of health concerns for adolescents, generally finds somewhat equal concern over this item between males and females (Feldman et al, 1986; Sternlieb & Munan, 1972). However, in studies determining the health counseling adolescents most frequently request, males more frequently identify information on sexually transmitted diseases than do females (Joffe et al, 1988; Marks et al, 1983).

Another difficulty in comparing the results of studies is the lack of describing significant findings according to gender. Most studies prefer to report total scores, or settle upon reporting gender scores for only selected topics. Differences between early and

late adolescents were found over the items, getting along with family and getting along with friends, with early adolescents reporting more concern. Following developmental theory, these items are typically ones that should be of more concern to middle and late adolescents. Early adolescents are still involved in egocentrism and concrete operations. Studies indicate that early adolescents are more concerned with items related to personal characteristics than to interpersonal relationships. However, as the subjects in this study are attending a boarding school, with many being away from home for the first time, family and peer relationships may take on greater meaning. Older students who have resided at the school longer have had opportunity to adjust to the absence of family and to establish a peer group. More middle adolescents were concerned about these same factors than were late adolescents which can be explained, in part, by developmental theory. It also appears in this study that middle adolescence is a time of greater turmoil and so familial bonds and relationships with peers may be of greater significance.

Surprisingly, more middle adolescents were concerned about living away from the Indian community

and feeling good about being Indian than were other age groups. This researcher thought these items would be of concern to more early and late adolescents as they leave their homes for a new school within a white culture, or are preparing to leave school and establish themselves in a world where cultural conflict exists. However, according to the Liberman and Frank study (1980) Native Americans experience less anxiety over starting at a new school than does an equivalent White sample. Perhaps, early adolescents initially are excited about the change and an opportunity for education and adventure. Many of these subjects live in predominantly Indian communities and particularly younger subjects may not yet have been introduced to cultural strife. Late adolescents, on the other hand, may look forward to attaining a new life outside the reservation or perhaps have already made the decision to return. Late adolescents may also have attained a good feeling about being Indian through the natural adolescent process of identity formation in an environment that promotes the Indian culture, as this school does. It is not surprising to find more middle adolescents concerned with finishing high school than late adolescents who are near completion of their

studies. This may be particularly true in this case, as this survey was conducted just shortly before graduation. For reasons that are not clear, headaches, lung problems, and diabetes caused concern for more middle adolescents than late. Possible explanations may be the increased stress of an academic curriculum coupled with living away from home, and/or the school's own health education program that may have presented health teaching to this age group on common health problems.

That more middle adolescents find sexual relationships, controlling their tempers, making and keeping friends, and getting along with family and friends as causing concern is consistent with developmental theory. More late adolescents were concerned with keeping Indian traditions, which again, is most likely attributed to the adolescents' identity development, assisted by the school's promotion of cultural traditions, and the responsibility elders bestow upon their youth for maintaining the native traditions.

Findings For Research Question Three: Health Care Items Identified by Grade in School

Fewer freshman were concerned about vision, dental

problems, body build/figure, being overweight, skin problems, stomach/digestion and body development than were sophomores or juniors. There were also less freshman than seniors concerned about dental problems and blood pressure. These are typically items of more concern to early adolescents, as they focus on the physical changes typical of adolescents during that stage. The early adolescent age span in this study includes both freshman and sophomores (and one senior), which may partially explain why more sophomores found these items concerning. Another possible, and likely explanation, could be that Native American adolescents achieve developmental goals at later ages than do adolescents of other ethnic background. Their progression through developmental stages may be more dependent upon culture and environmental issues than age alone. This theory is further supported by data that shows more juniors than sophomores worrying about the same early adolescent concerns. Also, dental and vision care are not services routinely available to all subjects. Availability is dependent upon IHS funding and the area in which the subject resides and also seeks care in. Subjects in this study may identify these items as being of greater concern while they are

in a situation that has health care services available, particularly if they do not have such to health care at home.

Adolescent developmental stages would explain that more juniors than freshman found concern with achieving independence, finding a job, and going to college. It is unclear, however, why more juniors than seniors show concern about getting a job. This author's speculation was that more seniors would identify finding a job as being very concerning since that group was approaching graduation and making future plans. However late adolescents may already have made decisions about returning to the Indian community, or may already have secured jobs following graduation. Whatever the explanation, when Native American adolescents reach their senior year in high school, they are more definite about their employment opportunities than their younger counterparts.

More juniors were concerned over living away from the Indian community and feeling good about being Indian than were seniors. The same explanations cited above may also hold true in this circumstance. Late adolescents may already have made decisions about returning to the Indian community, or may have decided

upon a life outside the reservation. Their feelings about being Indian could also be resolved in their present situation, but research shows that cultural conflict may become more of a concern later on, particularly if they are living away from the reservation (Ablon, 1970; Weppner, 1972).

Findings for Research Question Four: Health Concerns Identified by Percent Indian

When comparing percent Indian, few differences were found between groups other than when compared with 75% Indians. Finding a job was more concerning to subjects 100% Indian than to those 25% Indian. When Indians 50% and 100% were compared with 75% Indians numerous differences were found. Fewer 75% Indians expressed concern over the items heart problems, cancer, sexual relationships, and becoming sick, than did 50% Indians. More 50% Indians were concerned with cancer, sexually transmitted diseases, and the ability to control temper, than were 100% Indians. Percent Indian may reflect the cultural environment in which the adolescent has grown up. Those 100% Indian may be raised in a more traditional manner than subjects of lessor Indian percent. That might explain why more subjects of increased Indian descent were concerned

with items characteristically more problematic in the Indian culture. Subjects 50% Indian may have a less traditional upbringing with more influence from the White culture, which could explain why more subjects in this group identify concerns consistent with adolescent's in the White population. That finding a job is more concerning with adolescents 100% Indian than adolescents 25% Indians stand to reason. Unemployment rates only confirm Yates' (1987) statement that the American Indian is the most severely disadvantaged population within the United States.

Discussion of Findings for Hypothesis One: Relationship Between Physical, Psychological, Social and Cultural Scales

The hypothesis that subjects in this study would be more concerned on the psychological and cultural subscales than physiologic and social subscales was not upheld. When analyzed by gender, age, percent Indian and grade in school, the only significant difference on the physiologic scale was with freshman being less concerned than sophomores. This is somewhat in keeping with previous research results, in that early adolescents find physiological concerns more important, but it was thought that freshman might consider this an

item of greater concern than sophomores. A possible explanation again, might be that the age span, with early adolescents spilled into the sophomore year, may be skewing the results. Also, the traditional developmental stages as we know them, may be delayed in this population.

On the psychological scale, freshman scored lower than did sophomores. Again, it was thought that adolescents in higher grade levels would regard this item with more concern. Perhaps freshman are still experiencing the "newness" of their situation and enjoying the change of environment, while sophomores may be more oriented to the reality of academic and boarding school life. Although not significant, group means showed that greater concern was expressed over the social scale, followed by the psychological scale, and the physiological and cultural scales.

That there were no significant differences on the cultural or social scale cannot be totally explained. The sample percentages show that cultural and social issues are of concern to these adolescents, as evidenced in most subgroups. What may be a more likely finding is that Native American adolescents do not fit the typical theoretical mold when they are asked to

identify health concerns typical of other adolescents in the developmental stages of early, middle, and late adolescence. Cultural anthropologists as far back as Margaret Mead (1949) have implied that developmental age tasks are based only on White, middle class populations, and do not hold up when used cross-culturally. It may be that our developmental theories are appropriate only for select populations, and do not hold true when we try to generalize them to populations beyond what they were originally tested on.

Discussion of Findings For Hypothesis Two: Relationship Between Sample Subgroups and Developmental Scales

This hypothesis was also not upheld by the data. Middle adolescents expressed more concern over the middle adolescent developmental scale than did late adolescents, which was predicted with developmental theory, but this was the only significant difference that occurred. Middle adolescents were also more concerned about the early adolescent developmental scale than were early adolescents, and middle adolescents were more concerned about the late adolescent scale than were late adolescents. Freshman were also less concerned than juniors or seniors on the early adolescent developmental scale. Possible

explanations for this may again be the age span of early adolescents throughout the freshman and sophomore class, along with delayed development in this population. But, again a more likely explanation is that Native American adolescents do not fit the typical mold for adolescent development.

Discussion of Additional Research Questions

The five health care items that subjects self-selected as being very concerning to them differed somewhat from the scored items on the questionnaire. The future remained the item that subjects selected most frequently as being very concerning, with finishing high school and going to college reversing their positions. However, the percentage of subjects identifying alcohol and drug problems, cancer, and lung problems as concerns increased when subjects self-selected health care items. It may be that asking subjects to self-select health care items of concern provides a more accurate report. It was surprising to this researcher that alcohol was not identified as an item of concern by the majority of subjects on the questionnaire, given the highly publicized relationship between Indians and alcohol abuse. Other health care items, known to be problematic among the Indian

population, were also identified by more students as being concerns, when they self-selected their answers. They also reported concerns similar to White adolescent populations by including such items as vision and dental problems, body build/figure, alcohol and drug use, and sexually transmitted diseases.

A question included to determine if subjects tried Indian ways before White ways in dealing with health care problems revealed that over half of the subjects did not. Although, the results imply that Native American adolescents use White ways of health care before using Indian ways, it is worth noting that nearly 40% of this sample preferred to use Indian ways first. Identifying these adolescents in the health care system could be a factor crucial to the successful delivery of care.

Additionally, subjects were asked if they felt Indian methods of health care were better than White methods. Results showed that overall, there was a slight preference for Indian methods. Subjects of middle and late adolescence, however, favored White methods over Indian, while those in early adolescence favored Indian methods. Subjects who were 50% Indian felt Indian and White methods were equal, while those

25% Indian favored White methods, and those 75% and 100% favored Indian methods.

The findings on two questions comparing Indian ways and White ways of health care are worthy of consideration, but cannot be taken seriously as there were significant problems with content on both questions. An important concept of which this author was unaware at the time of the study, was that most subjects did not have any means to compare White methods with Indian methods. For most subjects, the only source of health care is the IHS Clinic, but wording of the questions did not make clear whether that was considered as a White or an Indian method of health care. Just what constitutes "health care" should also be defined as Native Americans do not have the same health and illness beliefs as other populations.

Implications for Nursing Practice

Nurses working cross culturally should be cautioned against generalizing research results from one population to another. Many theories used by nurses in the delivery of health care have been developed through research on primarily White, middle-class populations. Unless theories have been adequately tested for a specific cultural group, special care

should be taken not to misinterpret results, which could, in turn, label a client inappropriately. In particular, adolescent developmental theory, may not be an appropriate assessment tool when working with Native American adolescents. They do not fit into the same developmental groups as other adolescents and are less concerned at all ages with developmental issues identified as of concern to other adolescent populations. Depending on the area being assessed, an Indian adolescent could easily be mislabeled as developmentally delayed or developmentally advanced, when actually the adolescent is probably at the same developmental level as his/her peers.

Exploring a client's cultural orientation should always be included in any nursing assessment. This study offers a reminder of the importance in doing so. Native American adolescents are more concerned with issues unique to their culture and less with issues commonly reported of other adolescents. A large number of subjects in this study also preferred to use Indian methods of health care before White methods. An assessment that is not sensitive to cultural orientation would miss these clients with special needs.

Suggestions For Further Research

Nursing should take responsibility for ensuring that theories used in the delivery of health care are appropriate for populations they are used with. This requires cross-cultural testing of many nursing theories.

This current study should be repeated to further test the applicability of adolescent developmental stages and the associated tasks, to Native American adolescents. Future samples should be limited in the number of tribes represented, and should be obtained from reservation high schools as opposed to Indian boarding schools. These changes will help to reduce the influence that tribal and environmental background may have on the results.

In future studies, the variable "percent Indian" should be included and further analyzed to determine if it is useful as a predictor of cultural upbringing.

Particular emphasis should be placed on refining the tool. As noted by Yates (1987), Native American children do not easily acquire English language skills and often have difficulty with the language because its structure is so different from their own. The tool should be reviewed by Native Americans of the same

tribe as subjects who will be used in the study, to make sure that all English words and ideas are easily interpreted in the native language.

Summary

Native American adolescents participating in this study have identify their own unique set of health care concerns. These items include the future, finishing high school, going to college, getting along with family, and finding a job. Few significant differences were noted between gender and age groups, but more differences were found between percent Indian groups and grade in school. Native American adolescents did not report concern over health care items frequently reported as concerning by other adolescents, and when analyzed by age group and developmental tasks, did not easily fit into early, middle or late adolescent categories.

From this study, it seems apparent that the current research and theory we have on adolescent health care concerns should not be generalized to the Native American population without further study. It appears, at least for this population, that grade in school may be a better indicator of adolescent concerns than is developmental age. Results of analyses using

the variable percent Indian, also yielded interesting results and its use should be considered in future studies. It would be important to determine if this variable is an accurate predictor of cultural upbringing.

This study also suggests that differences in adolescent concerns may not be as great within the culture as they are between cultures. The traditional cultural background of these subjects may result in an adolescent experience not addressed by developmental theories derived from White, middle-class, adolescent samples.

What was not found in this study were the extreme emotional problems frequently reported of Indian children living at boarding schools. Of course, this study is limited and was not developed to test for emotional problems, but few subjects reported concern with psychological items used in the questionnaire.

Native American adolescents do not appear to progress through the adolescent developmental stages as the literature reports other adolescents do. In fact, Native American adolescents may have different developmental tasks to accomplish than other adolescents. They also identify health concerns quite

different from the reported concerns of adolescents from other cultures. This study shows that developmental theory is not appropriate for use in the Native American population without further testing, and that health care concerns from a non-Native American adolescent population cannot be generalized to a Native American adolescent population with any degree of accuracy.

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Appendix A

Questionnaire

Survey of Native American Adolescent Health Concerns

The attached questionnaire lists health-related items that are of common concern to people of your age. You are asked to rate how concerned you are about a series of questions on the following page. These items may be of concern to you personally, or have meaning because of family or friends, or your people in general. The form takes about 20 minutes to complete. The information that you provide is anonymous and confidential: none of the answers can be traced back to the person that provided them. Your participation in the study is voluntary. You give your consent to participate by completing the questionnaire. Each student that returns a completed form will receive $1.00 for his or her participation.

This questionnaire is part of a Master's Research Project being conducted by Trudy Z. Evans, R.N., a master's student at Oregon Health Sciences University. The information will be used to determine what health-related concerns are most important to males and females of different ages in your population. Any questions pertaining to this study may be directed to Ms. Evans at (503)227-3944.

Whether or not you participate in this study will in no way affect your relationship with the school or clinic.

Please provide the following information about yourself:

AGE: Years____ Months____ **SEX:** Male____ Female____

PERCENT INDIAN: 25%___ 50%___ 75%____ 100%____

TRIBE: _____ **HOME STATE:** _____

TIME AT THIS SCHOOL: Years___ Months___ **GRADE IN SCHOOL:** ____

I try Indian ways of dealing with most health problems before I use white ways:
[ ] True [ ] False

In comparing Indian and white health care methods, I feel: (Circle number that best applies to your feelings)

Indian methods are better than white	Indian and white methods are the same	White methods are better than Indian

1_____2_____3_____4_____5

*** * PLEASE DO NOT SEPARATE THE TWO SHEETS * ***

Survey of Native American Adolescent Health Concerns

Write the number that expresses your feelings in front of each item:

0 = Item is unclear; unable to answer
1 = I don't worry about this; I am not concerned
2 = I worry sometimes; I am somewhat concerned
3 = I worry a lot about this; I am very concerned

1. ____hearing problems
2. ____vision problems
3. ____dental problems
4. ____headaches
5. ____body build/figure
6. ____being overweight
7. ____being underweight
8. ____being too tall
9. ____being too short
10. ____skin problems
11. ____lung problems
12. ____heart problems
13. ____blood pressure
14. ____stomach/digestion
15. ____getting enough sleep
16. ____eating the right foods
17. ____tobacco use
18. ____alcohol use
19. ____drug use
20. ____nervousness
21. ____acne
22. ____diabetes
23. ____cancer
24. ____stress
25. ____following rules
26. ____getting exercise
27. ____how to use free time
28. ____raising a family
29. ____body development
30. ____sexual relationships
31. ____birth control
32. ____pregnancy
33. ____sexually transmitted diseases
34. ____emotions and feelings
35. ____ability to control temper
36. ____making or keeping friends
37. ____getting along at school
38. ____getting along with family
39. ____getting along with friends
40. ____loneliness
41. ____living away from the Indian community
42. ____feeling good about being Indian
43. ____keeping Indian traditions
44. ____feeling good about oneself
45. ____achieving independence
46. ____feelings of not belonging
47. ____becoming sick
48. ____finding a job
49. ____getting married
50. ____finishing high school
51. ____going to college
52. ____the future

Place the item number from five of the health concerns listed above that concern you most in order of their importance, with number 1. being most important:

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

If you have other health concerns not included in this questionnaire, please list them on the back of this page.

Thank you for your participation!

Appendix B

Health Care Items Used To Form Subscales

Appendix B

Health Care Items Used To Form Scales

Physiologic Scale

Item number	Health care concern
5	Body build/figure
6 & 7	Being over/underweight
8 & 9	Being too tall/short
10	Skin problems
21	Acne
29	Body development

Psychologic Scale

Item number	Health care concern
4	Headaches
24	Stress
34	Emotions and feelings
35	Ability to control temper
44	Feeling good about oneself
45	Achieving independence

Social Scale

Item number	Health care concern
25	Following rules
30	Sexual relationships
36	Making or keeping friends
38	Getting along with family
40	Loneliness
49	Getting married

Cultural Scale

Item number	Health care concern
18	Alcohol use
22	Diabetes
41	Living away from the Indian community
42	Feeling good about being Indian
43	Keeping Indian traditions
6	Feelings of not belonging

Appendix B

Health Care Items Used to Form Scales (Continued)

Early Adolescence Developmental Scale

Item number	Health care concern
5	Body build/figure
6 & 7	Being over/underweight
8 & 9	Being too tall/short
10	Skin problems
16	Eating the right foods
21	Acne
26	Getting exercise
29	Body development

Middle Adolescence Developmental Scale

Item number	Health care concern
17, 18, 19	Alcohol, drug and tobacco use
25	Following rules
27	How to use free time
30	Sexual relationships
35	Ability to control temper
36	Making or keeping friends
39	Getting along with friends
45	Achieving independence
46	Feelings of not belonging

Late Adolescence Developmental Scale

Item number	Health care concern
28	Raising a family
31	Birth control
32	Pregnancy
33	Sexually transmitted diseases
37	Getting along at school
38	Getting along with family
44	Feeling good about oneself
48	Finding a job
49	Getting married
50	Finishing high school
52	The future

Appendix C

Demographics of Sample Population By Age

Appendix C

Demographics of Sample Population by Age: All Subjects

AGE	GENDER		PERCENT INDIAN				GRADE IN SCHOOL			
	M	F	25%	50%	75%	100%	9	10	11	12
14.00	0	1	0	0	1	0	1	0	0	0
14.50	1	0	0	0	1	0	1	0	0	0
14.75	1	0	0	0	0	1	1	0	0	0
15.00	5	5	1	3	2	4	8	2	0	0
15.50	4	5	2	3	3	1	6	3	0	0
15.75	3	2	0	1	3	1	1	3	0	1
16.00	5	2	1	1	2	3	3	3	1	0
16.25	1	1	0	0	1	1	1	1	0	0
16.50	2	10	2	5	2	3	2	8	2	0
16.75	2	7	0	1	3	5	3	1	5	0
17.00	3	6	0	1	3	5	1	2	6	0
17.25	1	1	0	0	1	1	0	1	1	0
17.50	6	4	3	1	0	6	0	3	7	0
17.75	9	2	0	1	3	7	0	4	5	2
18.00	4	3	0	1	2	4	1	1	4	1
18.25	0	4	1	0	2	1	0	0	0	4
18.50	5	5	0	1	4	5	0	0	6	4
18.75	5	4	2	1	0	6	0	1	4	4
19.00	5	2	2	2	1	2	0	0	3	4
19.25	2	0	0	2	0	0	0	0	0	2
19.50	1	1	1	0	0	1	0	0	0	2
19.75	1	1	0	0	1	1	0	0	1	1
20.25	0	1	0	0	1	0	0	0	0	1
20.50	2	0	0	0	1	1	0	0	0	2
TOTALS:	68	67	15	24	37	59	29	33	45	28

Appendix D

Permission To Conduct Study

IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Chemawa Indian School
3700 Chemawa Road N.E.
Salem, Oregon 97305
Com (503) 399-5721
FTS 8-422-5721

May 24, 1989

Marie Brown, PhD., Advisor
Committee on Human Research
Oregon Health Sciences University
3181 S.W. Sam Jackson Park Road
Portland, Oregon 97201

SUBJECT: Trudy Z. Evans, BSN, Master's Candidate
Master's Research Project

TITLE: Native American Adolescent Health Concerns

This letter is to verify that the above named research proposal submitted by Trudy Z. Evans, BSN, has been approved. As guardians of students enrolled at Chemawa Indian School, it is within our legal rights to grant such permission. Ms. Evans has permission to conduct a survey to determine the health concerns of our students through use of a self-report questionnaire. Students will be compensated for the time involved by receiving a $1.00 monetary fee.

At the completion of the study, Ms. Evans will provide the school with a copy of her research findings. It is our understanding that this information is anonymous and cannot in any way be used to identify individual students who agreed to participate in the study.

Sincerely,

Gerald J. Gray

Gerald J. Gray,
Superintendent

cc: Van Peters, Area EPA
Trudy Z. Evans

Appendix E

Percent of Subjects Reporting Health Care Items as Very Concerning: All Subjects

Appendix E

Percent of Subjects Reporting Health Care Items as Very Concerning: All Subjects

Health care concern	Percent
1. The future	61.48%
2. Finishing high school	51.11%
3. Going to college	46.67%
4. Getting along with family	43.70%
5. Finding a job	40.74%
6. Keeping Indian traditions	37.78%
7. Sexually transmitted diseases	37.04%
8. Feeling good about oneself	33.33%
9. Being overweight	31.11%
10. Achieving independence	31.11%
11. Getting along with friends	30.37%
12. Making or keeping friends	29.63%
13. Body build/figure	28.89%
14. Vision problems	26.67%
15. Ability to control temper	26.67%
16. Loneliness	26.67%
17. Sexual relationships	25.95%
18. Emotions and feelings	25.93%
19. Feeling good about being Indian	25.93%
20. Getting exercise	25.19%
21. Nervousness	24.44%
22. Stress	22.96%
23. Raising a family	22.96%
24. Feelings of not belonging	22.22%
25. Acne	20.74%
26. Getting married	20.74%
27. Dental problems	20.00%
28. Drug use	20.00%
29. Cancer	20.00%
30. Pregnancy	20.00%
31. Alcohol use	17.78%
32. Diabetes	17.78%
33. Skin problems	17.04%
34. How to use free time	17.04%
35. Becoming sick	17.04%

Appendix E

Percent of Subjects Reporting Health Care Items as Very Concerning: All Subjects (Continued)

Health care concern	Percent
36. Heart problems	16.30%
37. Eating the right foods	16.30%
38. Body development	16.30%
39. Lung problems	15.56%
40. Following rules	14.81%
41. Living away from the Indian community	14.81%
42. Blood pressure	14.07%
43. Getting enough sleep	14.07%
44. Tobacco use	14.07%
45. Being too short	13.33%
46. Headaches	12.59%
47. Hearing problems	11.85%
48. Birth control	11.85%
49. Nervousness	11.11%
50. Being underweight	10.37%
51. Stomach/digestion	9.63%
52. Being too tall	7.41%

Appendix F

Percent of Subjects Reporting Health Care Items as Very Concerning: By Gender

Appendix F

Percent of Subjects Reporting Health Care Items as Very Concerning: By Gender

Male

Health care concern		Percent
1.	The future	60.29%
2.	Finishing high school	44.12%
3.	Sexually transmitted diseases	39.71%
4.	Going to college	38.24%
5.	Getting along with family	36.76%
6.	Finding a job	36.76%
7.	Feeling good about oneself	33.82%
8.	Keeping Indian traditions	32.35%
9.	Body build/figure	29.41%
10.	Feeling good about being Indian	27.94%
11.	Getting exercise	25.00%
12.	Sexual relationships	25.00%
13.	Stress	23.53%
14.	Raising a family	23.53%
15.	Making or keeping friends	23.53%
16.	Getting along with friends	23.53%
17.	Achieving independence	23.53%
18.	Feelings of not belonging	23.53%
19.	Vision problems	11.76%
20.	Being overweight	22.06%
21.	Drug use	22.06%
22.	Ability to control temper	22.06%
23.	Getting along at school	20.59%
24.	Loneliness	20.59%
25.	Getting enough sleep	19.12%
26.	Alcohol use	19.12%
27.	Acne	19.12%
28.	Cancer	19.12%
29.	How to use free time	19.12%
30.	Emotions and feelings	19.12%
31.	Becoming sick	19.12%
32.	Lung problems	17.65%
33.	Eating the right foods	17.65%
34.	Getting married	17.65%

Appendix F

Percent of Subjects Reporting Health Care Items as Very Concerning: By Gender (Continued)

Male

Health care concern	Percent
35. Dental problems	16.18%
36. Skin problems	16.18%
37. Following rules	16.18%
38. Body development	16.18%
39. Heart problems	14.71%
40. Being underweight	13.24%
41. Blood pressure	13.24%
42. Living away from Indian community	13.24%
43. Hearing problems	11.76%
44. Being too short	11.76%
45. Tobacco use	11.76%
46. Diabetes	11.76%
47. Headaches	10.29%
48. Being too tall	10.29%
49. Nervousness	10.29%
50. Pregnancy	10.29%
51. Stomach/digestion	8.82%
52. Birth control	5.88%

Appendix F

Percent of Subjects Reporting Health Care Items as Very Concerning: By Gender (Continued)

Female

Health care concern		Percent
1.	The future	62.69%
2.	Finishing high school	58.21%
3.	Going to college	55.22%
4.	Getting along with family	50.75%
5.	Finding a job	44.78%
6.	Keeping Indian traditions	43.28%
7.	Being overweight	40.30%
8.	Achieving independence	38.81%
9.	Getting along with friends	37.31%
10.	Making or keeping friends	35.82%
11.	Sexually transmitted diseases	34.33%
12.	Emotions and feelings	32.84%
13.	Feeling good about oneself	32.84%
14.	Loneliness	32.84%
15.	Vision problems	31.34%
16.	Ability to control temper	31.34%
17.	Pregnancy	29.85%
18.	Body build/figure	28.36%
19.	Getting along at school	28.36%
20.	Sexual relationships	26.87%
21.	Getting exercise	25.37%
22.	Dental problems	23.88%
23.	Diabetes	23.88%
24.	Feeling good about being Indian	23.88%
25.	Getting married	23.88%
26.	Acne	22.39%
27.	Stress	22.39%
28.	Raising a family	22.39%
29.	Cancer	20.90%
30.	Feelings of not belonging	20.90%
31.	Skin problems	17.91%
32.	Heart problems	17.91%
33.	Drug use	17.91%

Appendix F

Percent of Subjects Reporting Health Care Items as Very Concerning: By Gender (Continued)

Female

Health care concern	Percent
34. Birth control	17.91%
35. Tobacco use	16.42%
36. Alcohol use	16.42%
37. Body development	16.42%
38. Living away from Indian community	16.42%
39. Headaches	14.93%
40. Being too short	14.93%
41. Blood pressure	14.93%
42. Eating the right foods	14.93%
43. How to use free time	14.93%
44. Becoming sick	14.93%
45. Lung problems	13.43%
46. Following rules	13.43%
47. Hearing problems	11.94%
48. Nervousness	11.94%
49. Stomach/digestion	10.45%
50. Getting enough sleep	8.96%
51. Being underweight	7.46%
52. Being too tall	7.41%

Appendix G

Percent of Subjects Reporting Health Care Items as Very Concerning: By Age Groups

Appendix G

Percent of Subjects Reporting Health Care Items as Very Concerning: By Age Groups

Early Adolescence Age Group

Health care concern	Percent
1. Finishing high school	59.26%
2. Getting along with family	48.15%
3. The future	48.15%
4. Body build/figure	40.74%
5. Making or keeping friends	37.04%
6. Getting along with friends	37.04%
7. Keeping Indian traditions	37.04%
8. Going to college	37.04%
9. Sexually transmitted diseases	33.33%
10. Feeling good about being Indian	33.33%
11. Feeling good about oneself	33.33%
12. Finding a job	33.33%
13. Being overweight	29.63%
14. Body development	29.63%
15. Sexual relationships	29.63%
16. Heart problems	25.93%
17. Eating the right foods	25.93%
18. Raising a family	25.93%
19. Pregnancy	25.93%
20. Emotions and feelings	25.93%
21. Ability to control temper	25.93%
22. Getting along at school	25.93%
23. Achieving independence	25.93%
24. Cancer	22.22%
25. Stress	22.22%
26. Following rules	22.22%
27. Getting married	22.22%
28. Hearing problems	18.52%
29. Dental problems	18.52%
30. Lung problems	18.52%
31. Tobacco use	18.52%
32. Alcohol use	18.52%
33. Drug use	18.52%

Appendix G

Percent of Subjects Reporting Health Care Items as Very Concerning: By Age Groups (Continued)

Early Adolescence Age Group

Health care concern	Percent
34. Acne	18.52%
35. Getting exercise	18.52%
36. How to use free time	18.52%
37. Feelings of not belonging	18.52%
38. Being underweight	14.81%
39. Being too short	14.81%
40. Skin problems	14.81%
41. Blood pressure	14.81%
42. Getting enough sleep	14.81%
43. Diabetes	14.81%
44. Loneliness	14.81%
45. Achieving independence	25.93%
46. Vision problems	11.11%
47. Headaches	11.11%
48. Stomach/digestion	11.11%
49. Nervousness	11.11%
50. Being too tall	7.41%
51. Birth control	7.41%
52. Becoming sick	7.41%

Appendix G

Percent of Subjects Reporting Health Care Items as Very Concerning: By Age Groups (Continued)

Middle Adolescence Age Group

Health care concern		Percent
1.	The future	65.57%
2.	Going to college	57.38%
3.	Finishing high school	55.74%
4.	Getting along with family	49.18%
5.	Finding a job	49.18%
6.	Sexually transmitted diseases	37.70%
7.	Keeping Indian traditions	37.70%
8.	Being overweight	36.07%
9.	Making or keeping friends	36.07%
10.	Feeling good about oneself	36.07%
11.	Achieving independence	36.07%
12.	Getting along with friends	34.43%
13.	Sexual relationships	32.79%
14.	Loneliness	32.79%
15.	Vision problems	31.15%
16.	Ability to control temper	31.15%
17.	Getting exercise	29.51%
18.	Feeling good about being Indian	29.51%
19.	Body build/figure	27.87%
20.	Feelings of not belonging	27.87%
21.	Becoming sick	27.87%
22.	How to use free time	26.23%
23.	Emotions and feelings	26.23%
24.	Acne	24.59%
25.	Stress	24.59%
26.	Getting along at school	24.59%
27.	Diabetes	22.95%
28.	Cancer	22.95%
29.	Raising a family	22.95%
30.	Getting married	22.95%
31.	Skin problems	21.31%
32.	Living away from the Indian community	21.31%
33.	Lung problems	19.67%

Appendix G

Percent of Subjects Reporting Health Care Items as Very Concerning: By Age Groups (Continued)

Middle Adolescence Age Group

Health care concern	Percent
34. Drug use	19.67%
35. Pregnancy	19.67%
36. Dental problems	18.03%
37. Headaches	18.03%
38. Alcohol use	18.03%
39. Blood pressure	16.39%
40. Tobacco use	16.39%
41. Birth control	16.39%
42. Heart problems	14.75%
43. Body development	14.75%
44. Being too short	13.11%
45. Getting enough sleep	13.11%
46. following rules	13.11%
47. being underweight	11.48%
48. Stomach/digestion	11.48%
49. Eating the right foods	11.48%
50. Nervousness	11.48%
51. Hearing problems	8.20%
52. Being too tall	4.92%

Appendix G

Percent of Subjects Reporting Health Care Items as Very Concerning: By Age Groups (Continued)

Late Adolescence Age Group

Health care concerns		Percent
1.	The future	63.83%
2.	Finishing high school	40.43%
3.	Sexually transmitted diseases	38.30%
4.	Keeping Indian traditions	38.30%
5.	Going to college	38.30%
6.	Getting along with family	34.04%
7.	Finding a job	34.04%
8.	Vision problems	29.79%
9.	Feeling good about oneself	29.79%
10.	Achieving independence	27.66%
11.	Being overweight	25.53%
12.	Emotions and feelings	25.53%
13.	Loneliness	25.53%
14.	Being overweight	25.53%
15.	Dental problems	23.40%
16.	Body build/figure	23.40%
17.	Getting exercise	23.40%
18.	Getting along at school	23.40%
19.	Drug use	21.28%
20.	Stress	21.28%
21.	Raising a family	21.28%
22.	Ability to control temper	21.28%
23.	Getting along with friends	21.28%
24.	Eating the right foods	17.02%
25.	Alcohol use	17.02%
26.	Acne	17.02%
27.	Pregnancy	17.02%
28.	Making or keeping friends	17.02%
29.	Feeling good about being Indian	17.02%
30.	Feelings of not belonging	17.02%
31.	Getting married	17.02%
32.	Getting enough sleep	14.89%
33.	Cancer	14.89%
34.	Sexual relationships	14.89%

Appendix G

Percent of Subjects Reporting Health Care Items as Very Concerning: By Age Groups (Continued)

Late Adolescence Age Group

Health care concern	Percent
35. Being too short	12.77%
36. Skin problems	12.77%
37. Heart problems	12.77%
38. Diabetes	12.77%
39. Following rules	12.77%
40. Being too tall	10.64%
41. Blood pressure	10.64%
42. Nervousness	10.64%
43. Body development	10.64%
44. Lung problems	8.51%
45. Tobacco use	8.51%
46. Birth control	8.51%
47. Becoming sick	8.51%
48. Headaches	6.38%
49. Being underweight	6.38%
50. Stomach/digestion	6.38%
51. Living away from Indian community	6.38%
52. How to use free time	4.26%

Appendix H

ANOVA Table: Significant Health Care Items Identified By Age Groups

Appendix H

Summary of Analysis of Variance Between Health Care Concerns and Age Groups

Drug Use	X	SD
Early Adolescence	1.04	1.09
Middle Adolescence	1.51	0.98
Late Adolescence	1.62	0.90

Source	df	SS	MS	F
Between Groups	134	131.44	3.06	3.22
Within Groups	132	125.32	0.95	

Finishing High School	X	SD
Early Adolescence	2.26	0.98
Middle Adolescence	2.31	0.90
Late Adolescence	1.79	1.10

Source	df	SS	MS	F
Between Groups	134	138.10	3.98	4.04
Within Groups	132	130.14	0.99	

Going to College	X	SD
Early Adolescents	1.82	1.04
Middle Adolescents	2.40	0.84
Late Adolescents	1.85	1.06

Appendix H

Summary of Analysis of Variance Between Health Care Concerns and Age Groups (continued)

Source	df	SS	MS	F
Between Groups	134	132.93	5.17	5.57
Within Groups	132	122.59	0.93	

Appendix I

Percent of Subjects Reporting Health Care Items As Very Concerning: By Grade In School

Appendix I

Percent of Subjects Reporting Health Care Items as Very Concerning: By Grade In School

Freshman

Health care concern	Percent
1. Finishing high school	51.72%
2. The future	51.72%
3. Getting along with family	37.93%
4. Keeping Indian traditions	37.93%
5. Going to college	37.93%
6. How to use free time	31.03%
7. Feeling good about being Indian	31.03%
8. Finding a job	31.03%
9. Stress	27.59%
10. Sexually transmitted diseases	27.59%
11. Making or keeping friends	27.59%
12. Feeling good about oneself	27.59%
13. Body build/figure	24.14%
14. Following rules	24.14%
15. Raising a family	24.14%
16. Sexual relationships	24.14%
17. Getting along at school	24.14%
18. Getting enough sleep	20.69%
19. Eating the right foods	20.69%
20. Ability to control temper	20.69%
21. Getting along with friends	20.69%
22. Achieving independence	20.69%
23. Feelings of not belonging	20.69%
24. Getting married	20.69%
25. Alcohol use	17.24%
26. Drug use	17.24%
27. Acne	17.24%
28. Getting exercise	17.24%
29. Loneliness	17.24%
30. Living away from Indian community	17.24%
31. Hearing problems	13.79%
32. Vision problems	13.79%
33. Being underweight	13.79%
34. Being too short	13.79%

Appendix I

Percent of Subjects Reporting Health Care Items as Very Concerning: By Grade in School (Continued)

Freshman

Health care concern	Percent
35. Tobacco use	13.79%
36. Cancer	13.79%
37. Body development	13.79%
38. Pregnancy	13.79%
39. Dental problems	10.34%
40. Headaches	10.34%
41. Being overweight	10.34%
42. Heart problems	10.34%
43. Nervousness	10.34%
44. Diabetes	10.34%
45. Emotions and feelings	10.34%
46. Becoming sick	10.34%
47. Being too tall	6.90%
48. Skin problems	6.90%
49. Lung problems	6.90%
50. Blood pressure	6.90%
51. Birth control	6.90%
52. Stomach/digestion	3.45%

Appendix I

Percent of Subjects Reporting Health Care items as Very Concerning: By Grade in School (Continued)

Sophomores

Health care concerns	Percent
1. Finishing high school	69.70%
2. The future	69.70%
3. Finding a job	63.64%
4. Getting along with family	57.58%
5. Going to college	57.58%
6. Being overweight	54.55%
7. Making or keeping friends	51.52%
8. Sexually transmitted diseases	48.48%
9. Getting along with friends	48.48%
10. Body build/figure	42.42%
11. Sexual relationships	42.42%
12. Emotions and feelings	39.39%
13. Ability to control temper	39.39%
14. Achieving independence	39.39%
15. Cancer	36.36%
16. Diabetes	33.33%
17. Raising a family	33.33%
18. Pregnancy	33.33%
19. Feeling good about being Indian	33.33%
20. Keeping Indian traditions	33.33%
21. Feeling good about oneself	33.33%
22. Getting married	33.33%
23. Heart problems	30.30%
24. Feelings of not belonging	30.30%
25. Vision problems	27.27%
26. Blood pressure	27.27%
27. Acne	27.27%
28. Stress	27.27%
29. Body development	27.27%
30. Getting along at school	27.27%
31. Becoming sick	27.27%
32. Lung problems	24.24%
33. Tobacco use	24.24%
34. Alcohol use	24.24%

Appendix I

Percent of Subjects Reporting Health Care Items as Very Concerning: By Grade in School (Continued)

Sophomores

Health care concern	Percent
35. Loneliness	24.24%
36. Dental problems	21.21%
37. Skin problems	21.21%
38. Stomach/digestion	21.21%
39. Eating the right foods	21.21%
40. Drug use	21.21%
41. Getting exercise	21.21%
42. Headaches	18.18%
43. Living away from Indian community	18.18%
44. Nervousness	15.15%
45. How to use free time	15.15%
46. Birth control	15.15%
47. Hearing problems	12.12%
48. Being too short	12.12%
49. Being underweight	9.09%
50. Getting enough sleep	9.09%
51. Following rules	9.09%
52. Being too tall	0.00%

Appendix I

Percent of Subjects Reporting Health Care Items as Very Concerning: By Grade in School (Continued)

Juniors

Health care concerns	Percent
1. Finishing high school	62.22%
2. The future	60.00%
3. Going to college	53.33%
4. Keeping Indian traditions	48.89%
5. Getting along with family	42.22%
6. Finding a job	40.00%
7. Vision problems	35.56%
8. Getting exercise	35.56%
9. Feeling good about oneself	35.56%
10. Achieving independence	35.56%
11. Being overweight	33.33%
12. Sexually transmitted diseases	31.11%
13. Loneliness	31.11%
14. Emotions and feelings	26.67%
15. Ability to control temper	26.67%
16. Getting along with friends	26.67%
17. Feeling good about being Indian	26.67%
18. Dental problems	24.44%
19. Body build/figure	24.44%
20. Skin problems	24.44%
21. Making or keeping friends	24.44%
22. Getting along at school	24.44%
23. Drug use	22.22%
24. Acne	22.22%
25. Sexual relationships	22.22%
26. Raising a family	20.00%
27. Living away from Indian community	20.00%
28. Diabetes	17.78%
29. Stress	17.78%
30. How to use free time	17.78%
31. Pregnancy	17.78%
32. Feelings of not belonging	17.78%
33. Getting married	17.78%
34. Lung problems	15.56%

Appendix I

Percent of Subjects Reporting Health Care Items as Very Concerning: By Grade in School (Continued)

Juniors

Health care concerns	Percent
35. Getting enough sleep	15.56%
36. Alcohol use	15.56%
37. Cancer	15.56%
38. Becoming sick	15.56%
39. Headaches	13.33%
40. Eating the right foods	13.33%
41. Nervousness	13.33%
42. Body development	13.33%
43. Birth control	13.33%
44. Being underweight	11.11%
45. Being too tall	11.11%
46. Being too short	11.11%
47. Blood pressure	11.11%
48. Tobacco use	11.11%
49. Following rules	11.11%
50. Heart problems	8.89%
51. Hearing problems	6.67%
52. Stomach/digestion	4.44%

Appendix I

Percent of Subjects Reporting Health Care Items as Very Concerning: By Grade in School (Continued)

Seniors

Health care concern	Percent
1. The future	64.29%
2. Sexually transmitted diseases	42.86%
3. Getting along with family	35.71%
4. Feeling good about oneself	35.71%
5. Loneliness	32.14%
6. Going to college	32.14%
7. Vision problems	25.00%
8. Body build/figure	25.00%
9. Emotions and feelings	25.00%
10. Getting along with friends	25.00%
11. Keeping Indian traditions	25.00%
12. Achieving independence	25.00%
13. Finding a job	25.00%
14. Dental problems	21.43%
15. Being overweight	21.43%
16. Stress	21.43%
17. Getting exercise	21.43%
18. Getting along at school	21.43%
19. Feelings of not belonging	21.43%
20. Hearing problems	17.86%
21. Being too short	17.86%
22. Heart problems	17.86%
23. Drug use	17.86%
24. Following rules	17.86%
25. Ability to control temper	17.86%
26. Lung problems	14.29%
27. Alcohol use	14.29%
28. Acne	14.29%
29. Cancer	14.29%
30. Raising a family	14.29%
31. Sexual relationships	14.29%
32. Pregnancy	14.29%
33. Making or keeping friends	14.29%

Appendix I

Percent of Subjects Reporting Health Care Items as Very Concerning: By Grade in School (Continued)

Seniors

Health care concern	Percent
34. Becoming sick	14.29%
35. Being too tall	10.71%
36. Skin problems	10.71%
37. Blood pressure	10.71%
38. Stomach/digestion	10.71%
39. Getting enough sleep	10.71%
40. Eating the right foods	10.71%
41. Body development	10.71%
42. Birth control	10.71%
43. Feeling good about being Indian	10.71%
44. Getting married	10.71%
45. Finishing high school	10.71%
46. Headaches	7.14%
47. Being underweight	7.14%
48. Tobacco use	7.14%
49. Diabetes	7.14%
50. Nervousness	3.57%
51. How to use free time	3.57%
52. Living away from Indian community	0.00%

Appendix J

ANOVA Table: Significant Health Care Items Identified by Grade In School

Appendix J

Summary of Analysis of Variance Between Health Care Concerns and Grade In School

Dental Problems	X	SD
Freshman	1.41	0.73
Sophomore	1.97	0.68
Junior	1.89	0.83
Senior	1.82	0.82

Source	df	SS	MS	F
Between Groups	134	84.19	1.88	3.13
Within Groups	131	78.56	0.60	

Being Overweight	X	SD
Freshman	1.41	0.73
Sophomore	2.18	1.01
Junior	1.91	0.93
Senior	1.54	0.92

Source	df	SS	MS	F
Between Groups	134	120.19	3.88	4.68
Within Groups	131	108.55	0.83	

Skin Problems	X	SD
Freshman	1.03	0.86
Sophomore	1.67	0.92
Junior	1.67	0.90
Senior	1.25	0.80

Appendix J

Summary of Analysis of Variance Between Health Care Concerns and Grade In School (continued)

Source	df	SS	MS	F
Between Groups	134	111.33	3.26	4.20
Within Groups	131	101.55	0.77	

Making/Keeping Friends	X	SD
Freshman	1.83	0.93
Sophomores	2.33	0.82
Juniors	1.87	0.84
Seniors	1.54	0.84

Source	df	SS	MS	F
Between Groups	134	105.75	3.37	4.62
Within Groups	131	95.64	0.73	

Finding a Job	X	SD
Freshman	1.93	0.83
Sophomore	2.51	0.71
Junior	2.24	0.74
Senior	1.82	0.86

Source	df	SS	MS	F
Between Groups	134	91.73	3.07	4.87
Within Groups	131	82.52	0.63	

Appendix J

Summary of Analysis of Variance Between Health Care Concerns and Grade In School (continued)

Finishing High School	X	SD
Freshman	2.17	1.00
Sophomore	2.48	0.91
Junior	2.44	0.81
Senior	1.11	0.79

Source	df	SS	MS	F
Between Groups	134	138.10	12.64	16.54
Within Groups	131	100.17	0.767	

Appendix K

Percent of Subjects Reporting Health Care Items as Very Concerning: By Percent Indian Groups

Appendix K

Percent of Subjects Reporting Health Care Items as Very Concerning: By Percent Indian

Twenty-Five Percent Indian

Health care concern	Percent
1. Going to college	53.33%
2. Getting along at school	46.67%
3. Getting along with family	46.67%
4. The future	46.67%
5. Getting along with friends	46.67%
6. Body build/figure	40.00%
7. Getting exercise	40.00%
8. Ability to control temper	40.00%
9. Feeling good about oneself	40.00%
10. Finishing high school	40.00%
11. Vision problems	33.33%
12. Being overweight	33.33%
13. Sexually transmitted diseases	33.33%
14. Getting along with friends	46.67%
15. Achieving independence	33.33%
16. Being too short	26.67%
17. Skin problems	26.67%
18. Eating the right foods	26.67%
19. Drug use	26.67%
20. Acne	26.67%
21. Raising a family	26.67%
22. Emotions and feelings	26.67%
23. Loneliness	26.67%
24. Keeping Indian traditions	26.67%
25. Feelings of not belonging	26.67%
26. Finding a job	26.67%
27. Dental problems	20.00%
28. Being underweight	20.00%
29. Lung problems	20.00%
30. Heart problems	20.00%
31. Tobacco use	20.00%
32. Alcohol use	20.00%
33. Nervousness	20.00%
34. Stress	20.00%

Appendix K

Percent of Subjects Reporting Health Care Items As Very Concerning: By Percent Indian (Continued)

Twenty-Five Percent Indian

Health care concern	Percent
35. Following rules	20.00%
36. Body development	20.00%
37. Sexual relationships	20.00%
38. Pregnancy	20.00%
39. Getting married	20.00%
40. Hearing problems	13.33%
41. Getting enough sleep	13.33%
42. Diabetes	13.33%
43. Cancer	13.33%
44. How to use free time	13.33%
45. Birth control	13.33%
46. Living away from Indian community	13.33%
47. Feeling good about being Indian	13.33%
48. Headaches	6.67%
49. Being too tall	6.67%
50. Blood pressure	6.67%
51. Stomach/digestion	6.67%
52. Becoming sick	6.67%

Appendix K

Percent of Subjects Reporting Health Care Items as Very Concerning: By Percent Indian (Continued)

Fifty-Percent Indian

Health care concern	Percent
1. Finishing high school	70.83%
2. The future	70.83%
3. Sexually transmitted diseases	62.50%
4. Cancer	54.17%
5. Making or keeping friends	54.17%
6. Keeping Indian traditions	54.17%
7. Being overweight	50.00%
8. Getting along with family	50.00%
9. Finding a job	50.00%
10. Sexual relationships	45.83%
11. Emotions and feelings	45.83%
12. Ability to control temper	45.83%
13. Feeling good about oneself	45.83%
14. Going to college	45.83%
15. Achieving independence	41.67%
16. Body build/figure	37.50%
17. Diabetes	37.50%
18. Getting along at school	37.50%
19. Getting along with friends	37.50%
20. Loneliness	37.50%
21. Raising a family	33.33%
22. Pregnancy	33.33%
23. Feeling good about being Indian	33.33%
24. Feelings of not belonging	33.33%
25. Vision problems	29.17%
26. Heart problems	29.17%
27. Alcohol use	29.17%
28. Drug use	29.17%
29. Acne	29.17%
30. Getting exercise	29.17%
31. Getting married	29.17%
32. Lung problems	25.00%
33. Body development	25.00%
34. Headaches	20.83%

Appendix K

Percent of Subjects Reporting Health Care Items as Very Concerning: By Percent Indian (Continued)

Fifty-Percent Indian

Health care concern	Percent
35. Skin problems	20.83%
36. Blood pressure	20.83%
37. Getting enough sleep	20.83%
38. Nervousness	20.83%
39. Stress	20.83%
40. Becoming sick	20.83%
41. Hearing problems	16.67%
42. Dental problems	16.67%
43. Being too short	16.67%
44. Stomach/digestion	16.67%
45. Tobacco use	16.67%
46. Following rules	16.67%
47. Birth control	16.67%
48. Being underweight	12.50%
49. How to use free time	12.50%
50. Eating the right foods	8.33%
51. Living away from Indian community	8.33%
52. Being too tall	4.17%

Appendix K

Percent of Subjects Reporting Health Care Items as Very Concerning: By Percent Indian (Continued)

Seventy-Five Percent Indian

Health care concern	Percent
1. The future	54.05%
2. Finishing high school	37.84%
3. Going to college	37.84%
4. Sexually transmitted diseases	29.73%
5. Keeping Indian traditions	29.73%
6. Finding a job	29.73%
7. Getting along with family	27.03%
8. Feeling good about oneself	27.03%
9. Body build/figure	24.32%
10. Being overweight	24.32%
11. Loneliness	24.32%
12. Feeling good about being Indian	21.62%
13. Achieving independence	21.62%
14. Skin problems	18.92%
15. Eating the right foods	18.92%
16. Acne	18.92%
17. Making or keeping friends	18.92%
18. Getting along with friends	18.92%
19. Vision problems	16.22%
20. Dental problems	16.22%
21. Stress	16.22%
22. How to use free time	16.22%
23. Sexual relationships	16.22%
24. Living away from Indian community	16.22%
25. Following rules	13.51%
26. Getting exercise	13.51%
27. Ability to control temper	13.51%
28. Hearing problems	10.81%
29. Headaches	10.81%
30. Alcohol use	10.81%
31. Body development	10.81%
32. Pregnancy	10.81%
33. Emotions and feelings	10.81%
34. Getting married	10.81%

Appendix K

Percent of Subjects Reporting Health Care Items as Very Concerning: By Percent Indian (Continued)

Seventy-Five Percent Indian

Health care concern	Percent
35. Tobacco use	8.11%
36. Drug use	8.11%
37. Raising a family	8.11%
38. Getting along at school	8.11%
39. Feeling of not belonging	8.11%
40. Lung problems	5.41%
41. Heart problems	5.41%
42. Blood pressure	5.41%
43. Stomach/digestion	5.41%
44. Getting enough sleep	5.41%
45. Nervousness	5.41%
46. Diabetes	5.41%
47. Cancer	5.41%
48. Birth control	5.41%
49. Becoming sick	5.41%
50. Being underweight	2.70%
51. Being too short	2.70%
52. Being too tall	0.00%

Appendix K

Percent of Subjects Reporting Health Care Items as Very Concerning: By Percent Indian (Continued)

One-Hundred Percent Indian

Health care concern	Percent
1. The future	66.10%
2. Finishing high school	54.24%
3. Getting along with family	50.85%
4. Going to college	50.85%
5. Finding a job	47.46%
6. Keeping Indian traditions	38.98%
7. Getting along with friends	33.90%
8. Sexually transmitted diseases	32.20%
9. Achieving independence	32.20%
10. Vision problems	30.51%
11. Feeling good about oneself	30.51%
12. Stress	28.81%
13. Feeling good about being Indian	28.81%
14. Being overweight	27.10%
15. Getting exercise	27.12%
16. Raising a family	27.12%
17. Emotions and feelings	27.12%
18. Body build/figure	25.42%
19. Sexual relationships	25.42%
20. Making or keeping friends	25.42%
21. Feelings of not belonging	25.42%
22. Becoming sick	25.42%
23. Dental problems	23.73%
24. Ability to control temper	23.73%
25. Getting along at school	23.73%
26. Loneliness	23.73%
27. Getting married	23.73%
28. Drug use	22.03%
29. How to use free time	20.34%
30. Pregnancy	20.34%
31. Blood pressure	18.64%
32. Diabetes	18.64%
33. Lung problems	16.95%

Appendix K

Percent of Subjects Reporting Health Care Items as Very Concerning: By Percent Indian (Continued)

One-Hundred Percent Indian

Health care concern	Percent
34. Heart problems	16.95%
35. Getting enough sleep	16.95%
36. Alcohol use	16.95%
37. Acne	16.95%
38. Cancer	16.95%
39. Living away from Indian community	16.95%
40. Being too short	15.25%
41. Eating the right foods	15.25%
42. Tobacco use	15.25%
43. Following rules	15.25%
44. Body development	15.25%
45. Being too tall	13.56%
46. Birth control	13.56%
47. Headaches	11.86%
48. Being underweight	11.86%
49. Skin problems	11.86%
50. Hearing problems	10.17%
51. Stomach/digestion	10.17%
52. Nervousness	8.47%

Appendix L

ANOVA Table: Significant Health Care Items Identified by Percent Indian Groups

Appendix L

Summary of Analysis of Variance Between Health Care Concerns and Percent Indian

Headaches	X	SD
25% Indian	1.00	0.76
50% Indian	1.83	0.76
75% Indian	1.27	0.80
100% Indian	1.39	0.81

Source	df	SS	MS	F
Between Groups	134	90.19	2.51	3.98
Within Groups	131	82.66	0.63	

Heart Problems	X	SD
25% Indian	1.27	1.03
50% Indian	1.83	0.92
75% Indian	1.19	0.74
100% Indian	1.54	0.90

Source	df	SS	MS	F
Between Groups	134	107.60	2.34	3.04
Within Groups	131	100.59	0.77	

Cancer	X	SD
25% Indian	1.47	0.99
50% Indian	2.08	1.14
75% Indian	1.16	0.73
100% Indian	1.34	0.96

Appendix L

Summary of Analysis of Variance Between Health Care Concerns and Percent Indian (continued)

Source	df	SS	MS	F
Between Groups	134	129.21	4.47	5.05
Within Groups	131	115.81	0.88	

Raising a Family	X	SD
25% Indian	1.47	1.19
50% Indian	1.83	1.05
75% Indian	1.16	0.76
100% Indian	1.66	1.04

Source	df	SS	MS	F
Between Groups	134	137.60	2.76	2.80
Within Groups	131	129.31	0.99	

Sexual Relationships	X	SD
25% Indian	1.47	0.99
50% Indian	2.25	0.85
75% Indian	1.57	0.83
100% Indian	1.68	0.97

Source	df	SS	MS	F
Between Groups	134	118.86	2.89	3.43
Within Groups	131	110.20	0.84	

Appendix L

Summary of Analysis of Variance Between Health Care Concerns and Percent Indian (continued)

Sexually Transmitted Diseases	X	SD
25% Indian	2.07	0.80
50% Indian	2.42	0.88
75% Indian	1.65	1.01
100% Indian	1.56	1.19

Source	df	SS	MS	F
Between Groups	134	160.19	4.82	4.33
Within Groups	131	145.74	1.11	

Emotions and Feelings	X	SD
25% Indian	1.67	0.98
50% Indian	2.21	0.93
75% Indian	1.54	0.80
100% Indian	1.90	0.86

Source	df	SS	MS	F
Between Groups	134	107.08	2.40	3.15
Within Groups	131	99.87	0.76	

Ability to Control Temper	X	SD
25% Indian	1.93	1.03
50% Indian	2.17	0.92
75% Indian	1.46	0.80
100% Indian	1.66	0.96

Appendix L

Summary of Analysis of Variance Between Health Care Concerns and Percent Indian (continued)

Source	df	SS	MS	F
Between Groups	134	118.86	2.73	3.23
Within Groups	131	110.68	0.84	

Becoming Sick	X	SD
25% Indian	1.53	0.74
50% Indian	1.87	0.74
75% Indian	1.24	0.72
100% Indian	1.73	0.93

Source	df	SS	MS	F
Between Groups	134	96.40	2.52	3.72
Within Groups	131	88.83	0.68	

Finding a Job	X	SD
25% Indian	1.67	1.05
50% Indian	2.33	0.76
75% Indian	1.97	0.83
100% Indian	2.32	0.73

Source	df	SS	MS	F
Between Groups	134	91.73	2.40	3.73
Within Groups	131	84.52	0.65	

AN ABSTRACT OF THE THESIS OF

TRUDY Z. EVANS

FOR THE MASTER OF SCIENCE

Title: Native American Adolescent Health Concerns

Approved: [redacted]
Marie Scott Brown, PhD., Thesis Advisor

Adolescent health care needs have traditionally been determined by adult health providers without benefit of feedback from adolescents. Over the past decade, studies presenting the adolescents' view of health care needs have gained in popularity. However, few studies have been done that present a cross-cultural perspective beyond including Blacks and Hispanics in sample populations. Native Americans have largely been excluded from such studies as a distinct ethnic group.

The purpose of this study was to determine what health care factors Native American adolescents would report as being very concerned about. A sample of 135 male and female high school students, ranging in age from 14 to 20 years, and at least 25% Indian, were self-selected for this descriptive correlational study.

Data collection was done using a questionnaire based upon health care needs previously identified by primarily White adolescent populations, plus cultural

concerns of Native Americans as reported in the literature, and on developmental theory. Two sets of scales were created from questionnaire items for additional analyses to determine which areas of developmental transitions (physiological, psychological, social, and cultural) were more concerning to this population, and to determine which subgroups of the sample found the developmental tasks associated with early, middle, and late adolescence to be more concerning.

Overall, results demonstrated Native American adolescents as reporting more concern over health care items not frequently identified by other adolescent populations. Their five leading health concerns were: 1) the future, 2) finishing high school, 3) going to college, 4) getting along with family, and 5) finding a job. Cultural items specifically relating to the Native American population were also frequently reported as leading concerns. Health care items relating to the physiological changes or social issues commonly attributed to the adolescence period were not reported as leading health concerns for this sample.

Significant differences were found between gender groups ($p < .05$) on the items being overweight, birth

control, pregnancy, headaches, getting along with friends, achieving independence, and going to college. Females reported more concern with each item.

Few differences were found between age groups ($p < .05$), with late adolescents reporting more concern over drug use than early adolescents, middle adolescents more concerned with finishing high school than late adolescents, and middle adolescents more concerned with going to college than early or late adolescents.

Grade in school showed significant differences ($p < .05$) over dental problems with sophomores expressing more concern than freshman. Sophomores were also more concerned with being overweight than freshman or seniors. Sophomores and juniors were more concerned with skin changes than freshman. Sophomores also reported more concern than seniors with making/keeping friends, finding a job, and finishing high school.

Subjects 50% Indian were significantly more concerned ($p < .05$) with headaches than subjects 25% Indian. With heart problems, sexual relationships, cancer, emotions/feelings, ability to control temper, and becoming sick, subjects 50% Indian were again more concerned than subjects 75% Indian. The 50% Indian group identified cancer and sexually transmitted diseases as

more concerning than subjects 100% Indian. Subjects 100% Indian were more concerned with finding a job than subjects 25% Indian.

No significant differences ($p < .05$) were found between the scales measuring concern over physiological, psychological, social and cultural factors. However, mean scale scores revealed more concern with the social and psychological scales than with the physiological or cultural scales. The only significant difference ($p = .03$) found between developmental scales was with middle adolescents reporting more concern with the middle adolescence developmental scale than late adolescents.

Findings from this research demonstrate the fallacy of generalizing research findings from one culture to another, an important consideration for health care providers working cross-culturally.