A comparative study: Health care providers and student attitudes towards persons with HIV seropositivity or the definitive diagnosis of AIDS

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A COMPARATIVE STUDY:
HEALTH CARE PROVIDERS AND STUDENT ATTITUDES
TOWARDS PERSONS WITH HIV SEROPOSIVITY
OR THE DEFINITIVE DIAGNOSIS OF AIDS

A Thesis
Presented to the
Faculty of
California State University
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In Partial Fulfillment
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in
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by
Sandra L. Boyd-Flanagan
September 1989
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ABSTRACT

The purpose of this study was to determine health care provider attitudes towards HIV seropositive persons and/or those persons diagnosed with Acquired Immune Deficiency Syndrome (AIDS), and to compare those attitudes with student attitudes towards persons identified as HIV seropositive or having AIDS. Completion of written questionnaires indicated that the attitudes of health care providers (N=52) and students (N=133) varied according to individual personality characteristics and accurate knowledge regarding Acquired Immune Deficiency Syndrome. Health care providers were more negative in their attitudes towards persons with AIDS and more homophobic (p < .01), than were students. Surprisingly, as accuracy of knowledge about AIDS increased, so did homophobia (p < .001). Results were discussed in terms of a comparison between health care providers and students self-reports on a variety of psychosocial variables including personal attitudes towards and knowledge about Acquired Immune Deficiency Syndrome, homophobia, sex-roles, and individual coping styles.
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Introduction

Attitudes towards disease processes, and the persons diagnosed with them, have been shown to be predominantly negative. Diseases that carry a social stigma have usually been described as ones that are infectious, dangerous, physically disfiguring or socially damaging due to association with ostracized groups (Herek & Glunt, 1988; Weiner, Perry & Magnusson, 1987). AIDS, or Acquired Immune Deficiency Syndrome, meets all these descriptions. AIDS is considered to be infectious and highly dangerous by most health professionals and some members of the general public (Clark, Huck, Quade & Cantor, 1987; Temoshok, Sweet, & Zich, 1987; Wachter, 1986). AIDS is a stigmatized disease as it is identified with persons engaging in homosexual activities and intravenous drug use, which are two of the largest identified statistical categories of AIDS. These two categories are low in social acceptability and have the characterization of 'high-risk' for AIDS. The pictures of a well-known actor with extreme emaciation have emphasized AIDS as a disfiguring disease (Adler, 1985; "New AIDS Forecast," 1985; Simms, 1981), although the general public is not yet aware of the full disfigurement of such AIDS symptoms as Kaposi's sarcoma (an obvious skin lesion) or ophthalmic Herpes Zoster (an unpleasant appearing ocular infection).

Facts about AIDS

It was in 1981 that the term Acquired Immunodeficiency Syndrome, or AIDS, was introduced. This term describes an acquired disease of the immune system that reflects a gross deficiency in immune function and predisposes affected people to frequent and overwhelming infections not identified in human populations with intact immune systems. Two of the infections that are considered overwhelming and frequent in occurrence are Pneumocystis Carinii Pneumonia (PCP) (a pneumonia specific to AIDS patients) and Kaposi's Sarcoma (KS) (Centers for Disease Control, CDC, 1985; Holland & Tross, 1985).
AIDS is a life-threatening disease that is acquired, occurs in those individuals whose immune system has been compromised, and is characterized by a group of symptoms which reflect an underlying opportunistic infection. The infectious viral agent is one that produces no disease in exposed individuals in good health. (CDC, 1981).

HIV seropositivity is defined as the presence of Human Immune Deficiency Virus in a patient whose serum has been tested and has indicated the presence of antibodies to the AIDS virus present in the bloodstream. This may result in the diagnosis of AIDS and was first formally recognized in the United States in 1981 when some people were observed to have developed an unusual constellation of infections. In retrospect, cases probably appeared as early as 1978 (CDC, 1981). The first few cases were attributed to a cluster of homosexual males who had unexplainable, fatal infections. The severity of the infections in these men demonstrated a total failure of their immune systems to fight off invading microorganisms that generally pose no threat to the average and usually healthy individual. In addition, the inability to fight off opportunistic infection in these males was underscored by the fact that these individuals had not received drugs and did not have diseases known to compromise normal human immune function. What was initially perceived as a phenomenon limited only to homosexual men quickly expanded to include intravenous drug abusers, and some recipients of blood transfusions. The spread of this illness to intravenous drug users and transfusion recipients (which included female and male patients) suggested that the cause of the disease was a viral agent probably transmitted through both blood (through possible unsterile needle use) or, as previously implied, by semen. The AIDS virus has since been identified in all human body fluids (CDC, 1988).

Less than three years following the identification of AIDS, researchers isolated a virus as the possible causative agent. AIDS is caused by the human immunodeficiency virus (HIV), also previously called the human
T-lymphotrophic virus Type III/lymphadenopathy-associated virus (HTLV-III/LAV) (Melbye, 1986). The AIDS virus predisposes its host to severe opportunistic infection by killing lymphocytes, which are cells in the bloodstream that are crucial to the human body's ability to fight off invading bacteria, fungi, protozoa, and viruses. At the time this virus was finally isolated, thousands of cases of the disease had been diagnosed. Over 12,000 American citizens had contracted the disease, and of these most had died within a year after diagnosis. The Centers for Disease Control (CDC) estimated that the number of cases would double by the end of 1985, or approximately 24,000 cases (CDC, 1984). However, their predictions have since been exceeded.

AIDS is now considered to be of pandemic proportions. The initial appearance of the virus in well-defined risk groups, such as homosexual males (in the first thousand patients diagnosed with AIDS in the U.S., 70 percent of the patients were homosexual or bisexual, Jaffe, Bregman & Selik, 1983) and intravenous drug abusers in the United States, may give the impression of a special susceptibility of those exclusive groups to the disease. The weekly statistical AIDS surveillance reports from the Centers for Disease Control in Atlanta, Georgia, clearly indicates this is not the case. AIDS has occurred on all inhabited continents and in people from all situations of life. Just as the AIDS virus has been shown to ignore all geographical boundaries, it has also been shown to have permeated any population that it enters. As of early 1987, it has been estimated that at least 1.5 million people in the United States have been infected (CDC, 1987).

According to the November 1986 Surgeon General's report on AIDS, these 1.5 million infected Americans can transmit the virus through semen, blood, feces, and urine (CDC, 1986), and spread the virus sexually or by sharing intravenous drug instruments. Heterosexual women are currently one of the fastest growing groups of AIDS patients (Boyd-Flanagan, 1988). In November 1986, 28,000 diagnosed persons in the United States died from AIDS.
virus-related diseases. Based on present trends, the Centers for Disease Control estimate 179,000 deaths by 1991 with 270,000 diagnosed cases of AIDS since initial recognition. In the year 1991, an estimated 145,000 patients with AIDS will need health and supportive services at a total cost $8 to $16 billion dollars (Koop, 1986). The CDC also estimated that the number of infected persons in the United States in late 1987 was between 945,000 to 1.4 million persons.

Social Attitudes towards AIDS

Social reactions to AIDS are generally a mixture of uninformed prejudice, fear, loathing, and righteous indignation. The social action of isolating the persons identified as having this disease process includes ostracism from public and private areas, termination of employment and job loss, physical assault, and inequitable access to optimum health care (CDC, 1981; Kaplan, 1983; Kelly, St. Lawrence, Smith, Hood, & Cook, 1988; Martin & Vance, 1984; Millar & Tesser, 1986; Pryor, Reeder, Vinacco & Kott, 1989).

The reciprocal relationship between patient and community, which exists in any disease process, seems to be altered in the case of a disease such as AIDS. The usual rights and privileges of any human medical patient (such as the right to equitable and comprehensive medical care and the privilege of patient confidentiality) are altered. Additionally, the usual exemption from blame for personal illness is not applicable to AIDS patients. The opposite occurs - there is no exemption from blame. The ascribed illness responsibility is greater in patients with AIDS than in patients with other disease processes (Katz, Hass, Parisi, & Astone, 1987). The patient is actively blamed because the mode of acquisition is assumed to have been illicit, illegal, or unacceptable sexual relations, with a possible exception being those diagnosed as pediatric hemophiliacs. The patient or person with AIDS is not merely excused from their usual duties and responsibilities due to a disease process, but is often forcibly excluded from employment either from the fear of infection or by the process of being ostracized. The combination of being stigmatized with a
pre-existing social category, as a person diagnosed with AIDS, combined with the fear of infection, has resulted in blaming AIDS patients for their disease process and insuring social distance.

Persons having the human immunodeficiency virus are said to be HIV seropositive and are infected, but may not be ill. An excellent example of a person who was infected but who did not demonstrate the signs and symptoms of the typhoid bacilli was a turn-of-the-century cook, named Mary Mallon. She prepared the meals for wealthy northeastern families, many of whom contracted typhoid fever, some of whom died. She was referred to in the literature of the day as 'Typhoid Mary' (Sufrin, 1970). Although AIDS is not acquired through casual contact as typhoid can be, persons who are HIV seropositive (who are infected, but not necessarily ill) have been treated similarly to Typhoid Mary. Persons who are HIV seropositive, and who have the potential for developing acquired immune deficiency (immunodeficiency) syndrome, face a compound social stigmatization being carriers of a dangerous infection which is inaccurately perceived to be highly-communicable, as well as the possibility of chronic illness, severe opportunistic infections, negative attitudes and ostracism from the majority of the human population which remains unaware or misinformed and terrified of HIV seropositivity and AIDS.

From an historical perspective, it seems that the histories of leprosy, mental illness, syphilis, and tuberculosis are being re-enacted (Biemiller, 1988; Brandt, 1988). It appears that public reaction to AIDS, persons at-risk for AIDS, and persons diagnosed with AIDS is based on strong attitudes and feelings, rather than cognitive data or accurate knowledge.

**Previous Research on AIDS**

A review of the literature suggests that only a limited body of systematic research has been published on attitudes towards HIV seropositive persons or persons with AIDS (PWA'S). Attitudes towards AIDS, and persons who are HIV seropositive, or who have been definitively diagnosed with AIDS, have
been reported in the literature primarily among three groups - the public, health professionals, and students (Coates, Temoshok, & Mandel, 1984; Dawson, Cynamon, & Fitti, 1989; DiClemente, Zorn & Temoshok, 1986; Dorman & Rienzo, 1988; Gaines, Iglar, Michal & Patton, 1988; Greene, 1988; Herek & Glunt, 1988; Kelly & St. Lawrence, 1988; Kelly, St. Lawrence, Hood, Smith, & Cook, 1988; Kelly, St. Lawrence, Smith, Hood, & Cook, 1986; Morin & Batchelor, 1984; Strunin & Hingson, 1987; Temoshok, Sweet, & Zich, 1987).

In a study designed to measure lay people's and health care personnel's perceptions of disease processes, 433 college students, nurses, medical students, and chiropractic students rated AIDS, cancer, diabetes, and heart disease patients and those who were not ill. Subjects, who were not compared among occupational category, perceived cancer victims less favorably than diabetics, heart patients, and the non-ill on competence, dependence, depression, and morbidity. AIDS patients were the most negatively evaluated and the most rejected group (Katz, Hass, Parisi, & Astone, 1987).

The literature clearly reports that health professionals appear to be reacting more strongly by their refusal to care for PWA's combined with the increased need for contact with patients who are HIV seropositive and/or definitively diagnosed with AIDS (Cantly, 1988; Douglas, Kalman, & Kalman, 1985; Fowler, 1988; Greene, 1988; Holtz, Dobro, Palinkas, Kapila, & Oleske, 1983; Kalman, Kalman, & Douglas, 1987; Kelly, St. Lawrence, Hood, Smith & Cook, 1988; Kelly, St. Lawrence, Smith, Hood, & Cook, 1988; Nichols, 1983; Searle, 1987; Treiber, Shaw, & Malcolm, 1987; Triplet & Sugarman, 1987; van Servellen, Lewis, & Leake, 1988; Whalen, 1987; Wiley, Heath, & Acklin, 1988). These studies provide evidence that health professionals (inclusive of registered nurses and physicians) are reporting a greater reluctance to work with seropositive and/or AIDS patients.

One of the most comprehensive studies of the general population to date is the provisional data from the National Center for Health Statistics in which
4,121 adults were surveyed (Fitti, 1989). The National Health Interview Survey (NHIS) is a continuous, cross-sectional household interview survey. Each week, a probability sample of the civilian noninstitutionalized population is interviewed by personnel of the U.S. Bureau of the Census to obtain information on the health and other characteristics of each member of the household. Supplemental information is collected for all, or a sample, of household members. The 1988 National Health Interview Survey of AIDS Knowledge and Attitudes was asked of a randomly chosen adult, 18 years of age or older, in each family.

As of September 1988, 22% of adults stated that they knew a substantial amount about AIDS, 43% said they knew some, 26% felt they knew a little, and 8% claimed they knew nothing about AIDS. In this sample, 86% thought it was definitely true that AIDS leads to death, that there is no cure for AIDS at present (86%), and that the AIDS virus can be transmitted by sexual intercourse (83%) and from mother to infant (80%). Thirty percent of adults thought that condoms were very effective in preventing transmission of the AIDS virus, and 53% thought that this method is somewhat effective.

Eighty-three percent realized that having a monogamous relationship with a person who does not have AIDS is a very effective way to prevent getting the virus. This study reported that there were large differences by education in the proportion of adults who responded correctly to general AIDS knowledge questions, with the more highly educated individuals being more likely to provide correct answers. Adults 30-49 years of age responded more accurately, on the average, than individuals who were either younger or older, and white adults more often answered correctly than did black adults.

In this sample, 11% of the adults in the United States reported knowing or having known someone with AIDS or the AIDS virus (HIV seropositive). This percentage was higher for adults 18-49 years than for those age 50 years and older and more than twice as high for persons with more than 12 years of
school as for those with less education. Most of the individuals who had
known someone with AIDS or the AIDS virus stated that more than 6 months
had passed since they had seen that person (Fitti, 1989).

Defensive attitudes regarding HIV seropositive patients and persons
with AIDS appears common in the literature. Negative attitudes towards
homosexuals and AIDS have been reported in subjects who are older and less
well-educated (Bowman, 1979; Glenn & Weaver, 1979; Irwin & Thompson,
1975, 1977; Jensen, Gambles, & Olsen, 1988; Nyberg & Alston, 1976; Snyder &
Spreitzer, 1976; White, 1979), subjects who have negative attitudes towards
homosexuals and who have had little or no contact with homosexuals
(Bowman, 1979; Glassner & Owen, 1976; Hansen, 1982a; Millham, San
Miguel, & Kellogg, 1976; Serdahely & Ziemba, 1985; Weis & Dain, 1979),
subjects who reside in rural areas and small towns where negative attitudes are
the norm (Hansen, 1982a; Irwin & Thompson, 1977; Levitt & Klassen, 1974;
Nyberg & Alston, 1976; Stephan & McMullin, 1982; Turnbull & Brown, 1977;
Whitehead & Metzger, 1981), and subjects who express traditional, restrictive
attitudes about sex-roles (gender-typed) (Brown & Amoroso, 1975; Dunbar,
Brown, & Amoroso, 1973; Dunbar, Brown, & Vuorinen, 1973; Krulewitz &
Nash, 1980; Laner & Laner, 1979, 1980; MacDonald & Games, 1974;
MacDonald, Huggins, Young & Swanson, 1973; Millham & Weinberger, 1977;

A few studies have been conducted to measure student perceptions of
AIDS (e.g., Dorman & Rienzo, 1988; Douglas, Kalman, & Kalman, 1985;
Stanford, 1988; Strunin & Hingson, 1987). Geographical location appears to
play an important part, as the San Franciscan adolescents were more
knowledgeable and more concerned about AIDS than were students from other
regions. One study (DiClemente, Zorn, & Temoshok, 1986) was done with
adolescents in the San Francisco area and another (Price, Desmond, & Kukulka,
1985) with high school students in Ohio. This last report suggested that high
school students in Ohio did not possess a great deal of information about AIDS nor were many concerned about the risk of AIDS. This study included a relatively small sample size ($N=250$) and small geographical area reporting a low incidence of AIDS and AIDS as a low priority. The study done in San Francisco was a stark contrast to those reported by Price, et al., being comprised of a much larger sample size ($N=1326$) and geographical area reporting a high incidence of AIDS, suggesting that geographic proximity to a high-density AIDS epicenter provides a greater degree of saliency for what these students know about AIDS and the attitudes and beliefs they possess about AIDS. These studies, however, were published 21 months apart, providing the latter subjects with an advantage of more information exposure and more opportunity for learning. A separate study of parochial school adolescents in Memphis, Tennessee utilized a questionnaire which was very similar to the one used in the San Francisco area (Konetzny, Konetzny, & Pifer, 1987). This sample was limited to 100 seventh and eighth grade students and found misconceptions and misinformation about AIDS.

As discussed above, these three studies dealt primarily with knowledge and misconceptions as they related to AIDS. Some misconceptions may have been influenced by previously held attitudes of the subjects. This possibility was not explored within the context of these studies. However, the findings in these three studies indicated a need for the development and implementation of teaching modules which would be incorporated within the school curricula to overcome misconceptions about AIDS, specifically including school health education programs on AIDS and other sexually transmitted diseases.

It appears that only three studies have reported attitudes towards AIDS by a college or university population (Dorman & Rienzo, 1988; Gaines, Iglar, Michal, & Patton, 1988; McDermott, 1987). Strunin and Hingson (1987) found that high school-aged adolescents reported little worry about contacting AIDS (54% did not worry, 24% worried a little, 14% worried somewhat) whereas
Dorman and Rienzo (1988) found that there was a much greater degree of worry (70%) among college students.

Young adults in college were the focus of a study by McDermott (1987). While knowledge of respondents' AIDS-related information was high in this survey with more than one-third of the respondents scoring as unclear about the lethal potential of the disease and of opportunistic diseases associated with AIDS. In contrast to the results reported by McDermott (1987), Dorman and Rienzo (1988) reported that 88.6 percent of the 333 respondents in their study were knowledgeable about the lethal potential of AIDS.

The Gaines et al., (1988) study included 488 subjects who demonstrated a preponderance of misconceptions and negative attitudes towards persons with AIDS among both sexes. These subjects were part of two groups of students enrolled in personal health classes in the spring and fall of 1986. This sample was not randomly selected and consisted of university students residing in Eastern Tennessee.

This study found, in regard to relationships, that 43.5% of the subjects indicated they would not continue a relationship with someone they loved if he or she had AIDS. With respect to housing arrangements, 73.8% indicated that they would not share an apartment and 51.2% would not live in a dormitory with someone who had been exposed to AIDS. In expressions of morality, 33.7% of the subjects indicated that anal sex was against the laws of God, 14.1% said that anyone practicing anal sex deserves to get AIDS, and 27.5% viewed AIDS as God's ways of punishing homosexuals. It was also reported in this study that 63.3% of the subjects said that any health care provider diagnosed with AIDS should not be allowed to practice, and 47% felt those AIDS patients who were teachers and others dealing with children should be removed from the job. As can be seen, attitudes towards persons with HIV, or the diagnosis of AIDS, have been predominantly negative (e.g., Forstein, 1988; Royse, & Birge, 1987; Triplet & Sugarman, 1987). Moreover,
the negative attitudes towards chronically ill persons has been based on patient conditions which are illness producing, but not usually placing health care providers or students at risk for exposure to a generally fatal disease process containing great social stigma, such as AIDS.

**Attitudes towards Homosexuals and AIDS**

One important aspect of attitudes towards AIDS patients may be the attitudes that exist in society toward homosexuals since gay males are the largest identified group of AIDS patients to date. Research on attitudes toward homosexuals (inclusive of homophobia) and in particular, those who hold negative attitudes toward this group, has rapidly increased in the past decade. Attention has been focused on gay males who are seropositive and who may develop or have developed AIDS. A majority of the research on this topic has focused on the personality characteristics of those persons having negative personal attitudes towards homosexuals (Fleishman, 1984; Fort, Steiner, & Conrad, 1971; Lumby, 1976; Serdahely & Ziemba, 1985).

One particular study found that negative personal attitudes towards lesbian females and gay males did occur among health care professionals. In a large urban teaching hospital that treated many patients with AIDS, 128 health professionals (primarily nurses and physicians) completed questionnaires designed to measure attitudes about homosexuality. This study (Douglas, et al., 1985) reported that women respondents were more homophobic than men; respondents who had a friend or relative who was homosexual were less homophobic than those who did not; and according to the study, homophobia was higher "than desirable" in this sample of health professionals.

It has been shown that people who demonstrate negative attitudes towards homosexuals are likely to support the maintenance of traditional sex roles (MacDonald, 1974); are more likely to stereotype the sexes than those who hold positive attitudes (Dunbar, Brown, & Amoroso, 1973), and are more likely to favor preserving the double standard between men and women.
In addition, a person who has negative attitudes towards homosexuals is less likely to personally know a homosexual (Hansen, 1982a; Kite, 1983), may see lesbians and gay males as sick and dangerous (Steffensmeier & Steffensmeier, 1974), and may be status conscious, authoritarian, and sexually rigid (Smith, 1971). Irwin and Thompson (1975) reported that Protestants and Roman Catholics are less tolerant of homosexuals than are Jews, members of other religions, and nonaffiliates. Other studies suggest that an individual who holds negative attitudes towards homosexuals is likely to hold negative attitudes toward other minorities and underrepresented groups as well. For example, Minnigerode (1976) and Henley and Pincus (1978) reported a strong positive correlation between attitudes toward women and homosexuals. Henley and Pincus also reported that negative attitudes toward homosexuals are positively correlated with negatively correlated attitudes toward blacks.

Defensive attitudes also play a part in personal attitudes towards gay males and lesbian females. Of all the groups surveyed, very few subjects indicated an ease with those patients or persons who were homosexual, had been diagnosed with AIDS or were at-risk for AIDS (Bowman, 1979; Brown & Amoroso, 1975; Dunbar, Brown, & Amoroso, 1973; Dunbar, Brown, & Vuorinen, 1973; Glassner & Owen, 1976; Glenn & Weaver, 1979; Hansen, 1982a; Irwin & Thompson, 1977; Krulewitz & Nash, 1980; Laner & Laner, 1979, 1980; Levitt & Klassen, 1974; MacDonald & Games, 1974; MacDonald, Huggins, Young & Swanson, 1973; Mantell, Shulman, Belmont, & Spivak, 1989; Millham, San Miguel, & Kellogg, 1976; Nyberg & Alston, 1976; Snyder & Spreitzer, 1976; Stephan & McMullin, 1982; Turnbull & Brown, 1977; Weinberger & Millham, 1979; Weis & Dain, 1979; White, 1979; Whitehead & Metzger, 1981). In one particular study this unease with AIDS patients translated into behavior. This study recently reported that social workers provided services to only 40 percent of patients diagnosed with AIDS at a
hospital in New York City (Mantell, Shulman, Belmont, & Spivak, 1989).

The essential function of these defensive attitudes and resultant behaviors is implicit in the widely held belief that heterosexual men and women who are genuinely secure about their own gender identity and sexual orientation feel less threatened by homosexuality than do those who are insecure (Marmor, 1980, p. 19). Often it is assumed that feelings of personal threat result in strong negative attitudes towards the expression of homosexuality, as compared to feelings lacking a sense of threat which result in neutral or positive personal attitudes.

For some individuals, threatening information may consist of personal perceptions regarding homosexuality. Homosexuality has been characterized as unnatural, perverse, disgusting and sinful; as a danger to society and requiring negative social sanctions; and as an individual source of personal anxiety leading to avoidance of lesbian females and gay males. These personal and cultural attitudes have been described variously as homoerotophobia (Churchill, 1967), homosexophobia, which literally means the fear of homosexuality (Levitt & Klassen, 1974), and most popularly, homophobia (MacDonald, 1976; Morin & Garfinkle, 1978; Weinberg, 1972). Homophobia's primary component is an irrational, persistent fear or dread of homosexuals (Morin & Garfinkle, 1978).

Hudson and Ricketts (1980) differentiate between the terms homonegativity and homophobia. For these authors, homonegativity is a multidimensional set of responses involving both affective and cognitive reactions to issues of homosexuality at the legal, moral, personal and/or societal levels. Homophobia is more specific; representing the affective or emotional feelings of anger, anxiety, aversion, discomfort, disgust, and fear that heterosexuals may experience in dealing with lesbian females and gay males. Hudson and Ricketts further expand Weinberg's (1972) definition of homophobia to include not only close (or proximal) contact with lesbian
females and gay males, but distal (or distant) contact as well. The Hudson/Ricketts definition of homophobia is used throughout the remainder of this paper.

Hudson and Ricketts (1980) developed a questionnaire called the "Index of Homophobia" (IHP), although Smith (1971) appears to have been the first researcher to develop a homophobic scale. Lumby (1976) utilized a modified version of Smith's questionnaire, but the validity and reliability of both Smith and Lumby's instruments were not reported. Hudson and Ricketts, who included validity and reliability, describe their instrument (the IHP) as measuring only homophobia, one of the several dimensions of the larger classification of homonegativity.

Royse and Birge (1987) reported that among 161 medical, nursing, and paramedical students, homophobia was a better predictor of fear of AIDS than age, sex, marital status, or desired health career. These authors did not specify the instrument used to measure homophobia in their study.

As Royce and Birge (1987) report that homophobia is directly related to negative attitudes towards AIDS, the current study will utilize Hudson and Ricketts (1980) Index of Homophobia to measure homophobia among health care providers and students.

The Current Study

As the literature reports, several studies have looked at personal attitudes among members of specific demographic groups (the general public, health care providers, and college students), but a study has yet to be done which incorporates a comparison of attitudes between these groups. The U.S. Public Health Service has done annual studies including knowledge and attitudes towards AIDS by the general public. And the literature contains several studies of attitudes towards AIDS by health care providers, and by students. However, no particular study has yet investigated the differences in psychosocial attitudes between any of these groups described in the literature.
A comparative study between health care providers and students is worth investigating to ascertain particular differences in psychosocial attitudes towards AIDS and persons with AIDS. The current study examines a variety of variables that have been studied in the past, including age, sex, educational level, and income. Other studies have reported attitudes towards homosexuals and homosexuality and how subjects' negative attitudes were influenced by currently residing in rural areas, subjects' who support maintenance of traditional sex roles, subjects' sex, and subjects' femininity/masculinity as measured by the Short Form of the Bem Sex Role Inventory. In addition, information about subjects having known or having made personal contact with gay males or lesbian females as personal friends and related negative attitudes towards AIDS and PWA's have been described in previous studies.

Because the above variables have been shown to be important in previous research, the current study includes them in an attempt to determine if their influence is different for health care providers compared with students. In general, the current study is expected to replicate the previous findings reported in the literature that subjects with negative attitudes towards persons at-risk for or diagnosed with AIDS, have had a smaller percentage of personal contact with lesbian women or gay men; and that negative attitudes towards AIDS are a characteristic of subjects who are older and less well-educated, and who have resided in rural areas.

In addition to these particular variables, a select few psychosocial variables are added to the current study that have not been looked at in previous research paradigms. These variables are included because they measure psychosocial aspects of attitudes towards AIDS which contributes to the general knowledge of attitudes towards AIDS. These variables include negative personal attitudes towards AIDS and the persons diagnosed with this disease process, sex-role typing, coping styles, and the addition of the
categories of personal contact with a gay male or lesbian female co-worker and a patient/person with AIDS. The present study further investigates the relationship between self-reported sex-role characteristics, level of subjective anxiety, and attitudes toward homosexuality, and the way in which those attitudes have ultimately reflected in subjects attitudes toward HIV seropositive and/or AIDS diagnosed individuals.

The current study also examines the knowledge that people in southern California have about AIDS, and how this is affected by various psychosocial variables. Much of the available literature on attitudes towards persons with AIDS rests on the assumption that the subjects measured, primarily health care providers, and to a greater degree, students, are inadequately informed about the pathophysiology of Acquired Immune Deficiency Syndrome and therefore hold many incorrect assumptions (Gaines, et al., 1988; Katz, et al., 1987; Stanford, 1988). This lack of current information and inaccurate knowledge may also reflect, in part, in negative personal attitudes of prejudice and homophobia, as correct information may not be sufficient to overcome strong prejudice.

In summary, the purpose of the current study is to determine the difference in health care provider and student attitudes towards persons at risk for or diagnosed with AIDS and to examine some underlying psychosocial variables that may form the basis of these attitudes. Some of these variables are standard ones that have been examined in previous studies, while other variables (such as coping styles) have not been previously examined concerning their impact on personal attitudes towards AIDS. The following sections review the previous research on these new variables and will list the hypotheses related to the current study.

Knowledge about AIDS. Accurate knowledge about AIDS is crucial to individual personal beliefs, which is usually demonstrated by personal attitudes. Accurate knowledge is being assessed in this study through the use
of an inventory designed to measure AIDS knowledge, the Knowledge About Seroposivity - AIDS Inventory (KASAI) (Boyd-Flanagan, 1989). Specifically, it is expected that health care providers will score higher on the KASAI, being more knowledgeable in this area as a result of specialized pre-professional training and subjects with negative attitudes towards AIDS and persons with HIV seroposivity or AIDS will have less accurate information about this disease as demonstrated by their score on the KASAI. The amount of exposure to AIDS education, as demonstrated by accurate AIDS knowledge, will be directly related to amount of formal education, the degree of homophobia of individual subjects and personal contact with persons with AIDS. In addition, subjects' who have negative attitudes towards persons with AIDS will be more likely to have resided in their childhood in areas where negative attitudes are the norm (in rural areas and small towns). It is also expected that both health care providers and students will report that AIDS is a major health concern in the current study.

Homophobia. As discussed previously, homophobia may be a central attitude in predicting attitudes towards persons with AIDS. In the present study homophobia is examined in relation to differences among health care providers and students and sex-role differences. Specifically, it is expected that health care provider attitudes towards potentially and definitively diagnosed persons with AIDS will be more homophobic than student attitudes, due to frequent patient exposure and fear of fatal contagion. It is also expected that male subjects in both groups will be more homophobic than females and subjects in both groups who are more traditional in their sex-roles will be more homophobic. Finally, it is expected that the amount of exposure to AIDS education, as demonstrated by accurate AIDS knowledge, will be directly related to the degree of homophobia of individual subjects.

Gender differences and sex-roles. The literature clearly reflects a general tendency to focus on males regarding gender differences. However, several
studies have looked at sex differences in attitudes toward homosexuals. Results on this issue are unclear, with some studies finding that males hold more negative attitudes than females (e.g., Douglas et al., 1985; Nyberg & Alston, 1977; Price, 1982; Weis & Dain, 1979), some finding that the negativity of the attitude depends on the sex of the homosexual target (e.g., Karr, 1978; Millham, San Miguel, & Kellogg, 1976; Millham & Weinberger, 1977), and other studies finding no gender differences (e.g., Glenn & Weaver, 1979; MacDonald, 1974; Smith, 1971). The failure to find reliable sex differences may be attributable, in part, to authors' tendencies to not report specific information on sex differences even when they use both male and female subjects (e.g., Glenn & Weaver, 1979; Leitner & Cado, 1982; Smith, 1971).

Black and Stevenson (1984) utilized the Short Form of the Bem Sex Role Inventory and the Personal Attributes Questionnaire to measure sex-role category. They found no significant interactions between the sex of the referent and sex-role category, but did find masculine females and androgynous females (non-traditional sex-roles) more accepting in their attitudes toward
homosexuality (less homophobic). However, their study was similar to Weinberger and Millham's in that androgynous males were more negative (more homophobic) and undifferentiated males were less negative (less homophobic). Surprisingly, and unlike those of Weinberger and Millham, masculine males were less negative (less homophobic), than those with cross sex-typed characteristics. These conflicting studies reflect a complex relationship between sex-role characteristics and attitudes towards homosexuality.

Morin and Garfinkle (1978) suggest that a sex difference occurs only when the question deals with personal threat or anxiety as opposed to more general beliefs about homosexuals. The number of items used as a measure of attitude toward homosexuality is crucial to content validity. It is reasonable to expect that a longer questionnaire taps more dimensions of attitudes towards homosexuals than a one-item questionnaire, therefore increasing the likelihood of detecting a sex difference when one exists. The current study was designed to utilize a longer questionnaire in order to discover more dimensions of attitudes towards homosexuals and to enable detection of gender differences should they occur.

For example, Levitt and Klassen (1974), who do not report a gender difference, simply asked subjects how wrong they felt homosexuality was. Millham, San Miguel, and Kellogg (1976), who did find a sex difference, asked a variety of questions about the subjects' beliefs and attitudes toward homosexuality. In Kite's (1984) meta-analysis of attitudes towards lesbian females and gay males, the author found a small gender difference in attitudes towards homosexuals, with males having a more negative attitude than females towards homosexuals. Many studies have shown that persons unsupportive of equality among the sexes and who believe that males and females should maintain separate and traditional sex roles are more negative in their attitudes toward homosexuality (MacDonald & Games, 1974;
It is plausible that those persons who are non gender-typed in their personal characteristics would also be less accepting of homosexuality. Weinberger and Millham (1979) investigated attitudes toward homosexuality as influenced both by beliefs about equality and subjects' masculinity/femininity as assessed by the Bem Sex Role Inventory (BSRI). They found that those subjects having gender-typed sex roles (masculine males, feminine females) and androgynous individuals were more negative in their attitudes towards homosexuals than were subjects with non gender-typed sex-roles (masculine females, feminine males) and those who scored undifferentiated. Weinberger and Millham interpreted their findings in terms of a framework constructed on the premise that those who perceive themselves as deviant will react less negatively to other deviants than those who do not perceive themselves as deviant (Freedman & Doob, 1968). Weinberger and Millham (1979) suggested that androgynous persons, a category generally reported to exhibit more positive behavior, are "fence straddlers" who may choose to adopt majority attitudes to lessen their experience of deviance. Social learning theory regards persons who are deviant, and who hold a deviant social role are reinforced by being with similar others to appear less deviant. The psychodynamic perspective would see persons who are deviant as projecting their unacceptable Id's on others and consequently rejecting them. It is therefore expected that subjects' with negative attitudes towards potentially and definitively diagnosed persons with AIDS will be more likely to express gender-typed, restrictive attitudes about sex-roles to lessen their experience of deviance.

Coping styles. Due to the fact that HIV seroposivity and AIDS have been linked with an original exclusive group of male homosexuals in mass media
portrayals, personal attitudes of the non-HIV/AIDS diagnosed populace reflect this knowledge in psychosocially defensive and negative attitudes. Negative defensive attitudes and coping styles involving particular defenses would be expected in threatened populations (Lazarus & Folkman, 1984; Wills & Shiffman, 1985).

Attitudes appear to serve a defensive function when an individual perceives an analogy between persons who express themselves homosexually and his or her unconscious conflicts. According to Hoffman (1968), the conflicts specific to antihomosexual prejudice presumably involve a person's gender identity, sexual object choice, or both. Because contact with homosexual persons, persons with AIDS, or those infected with the AIDS virus (HIV) threatens to increase the awareness of negative thoughts which may have been repressed, this situation inevitably arouses anxiety in defensive individuals. Maslow (1962, p. 57) speculated that we "protect ourselves and our ideal image of ourselves by repression" by which "we avoid becoming conscious of unpleasant or dangerous truths" (p. 57). AIDS and the entire scenario it represents appears to be one of society's most pressing "dangerous truths" at this time in our society. The use of repression by subjects denying the AIDS scenario (recognition of personal risk of infection and illness, and resultant ostracism) is expected in the present study.

A particular coping style incorporating the use of the defense mechanism of repression is Daniel Weinberger's (Weinberger, Schwartz, & Davidson, 1979) repressive coping style. Weinberger identified and distinguished among low-anxious, high-anxious, and repressive styles as three general patterns of coping with threatening situations (Weinberger, et al., 1979). Individuals having a repressive coping style fail to recognize their own affective or emotional responses. Repressors actively engage in keeping themselves convinced that they are not prone to negative affect - they avoid disturbing cognitions. However, these firmly-held beliefs are contradicted by
objective assessments of behavior and physiology that indicate that repressors have high levels of anxiety (Schwartz, 1984; Suls & Fletcher, 1985). Weinberger (in press) and Weinberger and Schwartz (1982) have described individuals who use repressive coping styles as more likely to use a variety of strategies to avoid awareness of affects and feelings which are incompatible with their self-images.

Beginning in the late 1960's (e.g. Boor & Schill, 1967), an initial body of research evolved using the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) to discriminate between defensive and non-defensive individuals reporting low distress. Due to the development of confusing labels throughout the literature (such as "non-defensive repressors"), Weinberger, Schwartz and Davidson (1979) redefined repressers as those individuals who are low on a measure of trait anxiety but high on a measure of defensiveness such as the Marlowe-Crowne (MC) and on the short form of Taylor's Manifest Anxiety Scale (MAS). Truly low-anxious subjects are defined as those low in defensiveness as well as anxiety. High anxious subjects are defined as low on defensiveness and high on anxiety. Defensive High Anxious subjects are defined as those high in defensiveness as well as anxiety.

Crowne and Marlowe envisioned their scale as an aspect of personality differences and not as a measure of psychopathology (Crowne & Marlowe, 1960, p.350). Within four years, Crowne and Marlowe (1964) recognized that their scale was measuring individual differences rather than a response bias. The Marlowe-Crowne measures the tendency to perform socially desirable behaviors, hypothesized to be the result of "defensiveness and protection of self-esteem" (Crowne & Marlowe, 1964, p. 206). The Marlowe-Crowne does not measure the repressive coping style in isolation, but identifies this coping style in conjunction with a measure of anxiety (Evans, 1982).

In part, repressors have been operationally defined as individuals who claim little tendency to experience distress on self-report measures. It has been found that repressors generally report a lesser tendency to experience negative
affect than non-defensive, low-anxious subjects (Kahn & Schill, 1971; Weinberger, et al., 1979). Thus, people with very low scores on an anxiety measure (e.g. the Taylor Manifest Anxiety Scale or MAS) and relatively high Marlowe-Crowne scores are identified in the typology as repressors. Repressors see themselves as maintaining firm control over their negative affects (Weinberger, et al., 1979, p. 378).

In summary, repressors habitually report experiencing lower than normative levels of negative affect in contrast to their high scores on a measure such as anxiety. They also see maintaining these low levels of negative affect as central to their self-concept, and attend notably poorly to information to the contrary. Repressors are motivated to distance themselves from negative affect "across a diverse set of tasks" (Weinberger, in press, p. 37). According to the literature, repressors attempt to interpret threatening information in a way that negates its potential impact.

In the current study, coping styles, and in particular the repressive coping style are explored. Due to the fact that repressors appear to be motivated to avoid negative affect, and AIDS has been identified as producing negative affect, specifically, it is hypothesized that there will be a greater number of subjects who are repressive copers among health care providers and those subjects who are repressive copers will be more homophobic than subjects who do not utilize the repressive coping style.

**Summary.** In summary, this study examines the differences between health care providers and students and asks them various questions related to Acquired Immune Deficiency Syndrome. Their respective attitudes and answers were compared among and between groups. The current study will incorporate the following hypotheses:

1) Health care provider attitudes towards potentially and definitively diagnosed persons with AIDS will be more homophobic than student attitudes due to frequent patient exposure with unknown HIV status and
fear of fatal contagion.

2) In addition, it is expected that health care providers will score higher on the KASAI, being more knowledgeable in this area as a result of specialized pre- or post-professional training, and subjects with negative attitudes towards AIDS and persons who are HIV seropositive or definitively diagnosed with AIDS will have less accurate information about this disease as demonstrated by their score on the KASAI.

3) Negative attitudes towards AIDS will be a characteristic of subjects in both groups who are older and less-well educated.

4) The amount of exposure to AIDS education, as demonstrated by accurate AIDS knowledge, will be directly related to amount of formal education, the degree of homophobia of individual subjects, and personal contact with persons with AIDS (PWA's).

5) Subjects with negative attitudes towards potentially and definitively diagnosed persons with AIDS will be more likely to have resided in their childhood in areas where negative attitudes are the norm (in rural areas and small towns).

6) Subjects with negative attitudes towards persons practicing a homosexual lifestyle and HIV seropositive or diagnosed-with AIDS will be less likely to have had personal contact with lesbian women, gay men, and patients or persons with AIDS.

7) Male subjects in both groups will be more homophobic than females.

8) Subjects with negative attitudes towards potentially and definitively diagnosed persons with AIDS will be more likely to express gender-typed, restrictive attitudes about sex-roles and subjects in both groups who are gender-typed in their sex-roles will be more homophobic.

9) It is expected that there will be a greater number of subjects who are repressive copers among health care providers and those subjects who are repressive copers will be more homophobic than subjects who do not
utilize the repressive coping style.

10) It is also expected that subjects in the present study from both groups will report that AIDS is a major health concern.

Method

Subjects

Nonrandomly selected subjects identified themselves as either health care providers or students. There were 6 male and 46 female subjects identifying themselves as health care providers in the southern California area, along with 16 male and 117 female undergraduate and graduate students from the same geographical area who agreed to be participants.

Sampling occurred in various locations in the Southern California area, including three medical facility sites and three sites of community colleges and universities. Permission was obtained from Directors of health care facilities and Deans of educational settings when necessary or appropriate.

Equal numbers of questionnaires (N=175) were distributed to each group (health care providers and students). Health care providers completed 29.7 percent of the distributed questionnaires, while students completed 76.0 percent of the distributed questionnaires.

Questionnaire

Psychosocial attitudes towards persons with the potential for or the definitive diagnosis of AIDS was measured with paper and pencil instruments using the combination of six individual questionnaires in combination with a demographic assessment. These questionnaires included: The Attitudes Towards AIDS scale (Gaines, Iglar, Michal, & Patton, 1988); the Knowledge About Seroposivity - AIDS Inventory (KASAI; Boyd-Flanagan, 1989); the Short Form of the Bem Sex Role Inventory (s-BSRI; Bem, 1981); the Index of Homophobia (IHP; Hudson & Ricketts, 1980); the Marlowe-Crowne Scale of Social Desirability (MC or MCSDS; Crowne & Marlowe, 1960, 1964); and the
short form of the Taylor Manifest Anxiety Scale (MAS; Bendig, 1956). Subjects were also asked to provide demographic information. Each of these six measurement instruments is discussed more fully as follows.

1) **Attitudes Towards AIDS**. The Attitudes Towards AIDS scale (Gaines, Iglar, Michal, & Patton, 1988) was used as a measure of attitudes towards persons with AIDS. It was reported to have an internal consistency of .85. This scale asks each respondent to indicate on a five-point Likert-type scale how well each of 42 statements describes herself or himself. Thirty-three of the original forty-two items were selected to administer to both sample groups to provide a score of negative responses on an AIDS attitudes scale. The additional nine items which were not used were offensive or outdated. The experimenter chose to substitute the word 'patient' in place of the original word "victim" to decrease the social stigmatization associated with Acquired Immune Deficiency Syndrome. This instrument provides a score of degree of negative attitudes towards AIDS from low score (positive) to highest (negative). The thirty-three items used from the Attitudes Towards AIDS scale appears in Section C of Appendix C.

2) **Knowledge About Seroposivity - AIDS Inventory (KASAI)**. This instrument is a ten-item true-false-don't know inventory designed for this study to assess the level of knowledge about Acquired Immune Deficiency Syndrome. The split-half reliability of this scale is .6. The correct answers to the KASAI appears in Section B of Appendix C (Boyd-Flanagan, 1989).

3) **Bem Sex Role Inventory - Short Form (s-BSRI)**. The measure of sex-roles used for the current study was designed and revised by Bem (1974, 1981) as an instrument that identifies individuals on the basis of their self-concepts or self-ratings of personal attributes with regard to sex-roles. The BSRI, with a reliability of .90, asks each respondent to indicate on a seven-point Likert-type scale, how well 30 (of an original 60) attributes is descriptive of herself or himself. Ten of the attributes reflect a cultural
definition of femininity (e.g., affectionate, sensitive to the needs of others), ten reflect a cultural definition of masculinity (e.g., independent, assertive) and ten reflect neutral attributes (e.g., truthful, conceited) which serve as filler items. The categorization of the 30 attributes which constitute the s-BSRI appears in Section F in Appendix C. The degree of sex-role stereotyping in the respondent's self-concept was determined according to Bem's (1974; 1977; 1981) revision of her original scoring procedure. Each respondent receives both a femininity and a masculinity score. Those who score above the median of the sample on the sex-congruent scale and below the median on the sex-incongruent scale are defined as sex-typed. Those who score above the median on both scales are designated as androgynous. Those who score below the median on both scales (masculine and feminine) are designated as undifferentiated.

4) The Index of Homophobia (IHP-M). The instrument chosen to measure homophobia - the IHP-M (Hudson & Ricketts, 1980) is a 25-item summated category partition (short-form) scale designed to assess the degree of homophobia of individual subjects. This scale has a reported reliability of .88. The IHP asks each respondent to indicate on a five-point Likert-type scale, how well each of 25 statements reflects the attitudes of herself or himself. Hudson and Ricketts describe this instrument as measuring only homophobia, one of the several dimensions of the larger classification of homonegativity. However, of the 25 items included in the Index, the authors reported that five items failed to meet the criteria of their definition of homophobia. Five replacement items were suggested, and the authors reported that Towne (1979) showed that substitute items have excellent factorial validity and better congruency with the Hudson/Ricketts definition of homophobia. As suggested by Hudson and Ricketts, the IHP was altered in this study to delete the five faulty items and to include the suggested replacement items. In addition, the respondents copies of the Index of Homophobia (IHP-M) was entitled Index of
Attitudes Toward Homosexuals (IAH) in order to reduce the potential for "socially desirable" responding, according to Hudson and Ricketts original paper. However, a coefficient alpha (the same statistic Hudson and Ricketts used to calculate their IHP reliability) was found to be a .95 for IHP-M, with a standard error of measurement (SEM) of 4.56 by Serdahely and Ziemba (1984). The original IHP was reported to have a SEM of 4.75. Due to the high reliability (.901) and good validity of the IHP-M questionnaire, this modified instrument was used in the present study to measure respondents degree of homophobia.

This instrument provides a score of the degree of homophobia for each subject divided into four ordered categorical typologies. Half the typologies are non-homophobic, with the remaining half being homophobic, by respondents' scaled score. The four typologies are from low score to highest, High-grade non-homophobic, Low-grade non-homophobic, Low-grade homophobic, and High-grade homophobic. The IHP-M is found in Section D in Appendix C.

5) The Marlowe-Crowne Scale of Social Desirability (MC). This scale - the MC, or MCSDS (Crowne & Marlowe, 1960; Reynolds, 1982) - is a 30-item true-false questionnaire designed as a measure of social desirability which is being used to assess the use of defensive and repressive cognitive coping strategies. The internal consistency has been reported as .88 (KR-20).

6) Taylor Manifest Anxiety Scale (MAS). The short form of the MAS (Bendig, 1956; Buss, 1955; Hoyt & Magoon, 1954) is a questionnaire consisting of 20 true-false items designed to assess somatic and cognitive forms of anxiety, in particular, the degree of anxiety reflected by the respondent.

The last two scales, the MCSDS and the MAS, were combined into a previously utilized single questionnaire, known as the MC/TMAS. The MC/TMAS was developed by Weinberger, Schwartz, and Davidson (1979) to differentiate four coping styles: low anxious (low MAS - low Marlowe-Crowne), repressor (low MAS - high Marlowe-Crowne),
high anxious (high MAS-low Marlowe-Crowne), and
defensive high anxious (high MAS-high Marlowe-Crowne). These combined
scales may be found in Section E in Appendix C.

Procedure

The Attitudes Towards AIDS scale, the s-BSRI, the IHP-M, the KASAI, and the MC/TMAS were combined with a demographic
questionnaire and printed in a double-sided four-page format. Please see
Section A in Appendix C for the demographic questionnaire.

Each health care provider subject was approached by a single
experimenter and was asked to respond to a questionnaire for a "graduate
student thesis." Subjects were informed that approximately twenty
minutes of their time was necessary for completing the questionnaire. The
experimenter thanked those potential subjects who declined and proceeded
to the next potential subject in the health care settings. In the educational
settings, students were approached in undergraduate classes (e.g.,
Introductory Psychology, Psychology of Women, Motivation and Morale,
and Political Science). To complete each actual sampling, the experimenter
thanked her subject and told her or him that the study's purpose was to
determine the perceptions of health care providers or students (dependent
on the location) regarding those persons having the potential for or the
diagnosis of AIDS (debriefing). To insure genuine self-assessment on the
self-report portion of the questionnaire, rather than providing the
researcher with desired results, subjects were assured of absolute
anonymity when asked about their self-perceptions. Subjects did not
complete the questionnaires in the immediate presence of the
experimenter and were allowed to take their forms wherever they chose
with the single explicit instruction that they not discuss or show their
answers to anyone. This design maximized the contextual demands for
private self-evaluations. If subjects were responding to create a particular
social image, it would seem to be one that they maintain without reference to an identifiable audience. Under these circumstances, social role and self-concept become difficult to distinguish (Sarbin, 1954; Sarbin & Taft, 1952).

The experimenter answered any questions posed by the subjects, and a separate list was kept of those few subjects who requested copies of a final summary.

Results

Sample Characteristics

Table 1 presents the various demographic statistics for health care providers and students with respect to gender, age, sex, education, ethnic background, and income.

Not surprisingly, health care providers were significantly older than the students, $t(182) = 5.52$, $p < .001$, although no significant differences based on sex of subject were found, $X^2(1, N=184) = 0.03$, n.s. There were also significant differences based on educational level, $X^2(5, N=184) = 35.43$, $p < .001$. Both groups were highly educated, with 70% of the combined samples reporting junior college degrees through doctoral level training, but a significantly higher percentage (48%) of health care providers reported higher attained levels of education than did students (29%).

Health care providers also differed from students in terms of their ethnic background, $X^2(5, N=184) = 29.54$, $p < .001$. As Table 1 shows, the ethnic categories of the health care providers demonstrated a sampling of a variety of ethnic backgrounds within a limited sample size ($N=52$). The student sample, which was almost three times larger than the health care provider sample ($N = 133$), had a limited distribution among ethnic categories, as compared with the health provider sample. Health care providers consisted of significantly more non-whites (63.4%) than did students (22.6%).
Table 1  
Demographic Information for Health Care Providers and Students

<table>
<thead>
<tr>
<th></th>
<th>Health Providers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Female</td>
<td>88.5%</td>
<td>88%</td>
</tr>
<tr>
<td>% Male</td>
<td>11.5%</td>
<td>12%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>38.52 yrs.</td>
<td>29.28 yrs.</td>
</tr>
<tr>
<td>S.D.</td>
<td>10.96</td>
<td>9.15</td>
</tr>
<tr>
<td>Range</td>
<td>23-67</td>
<td>19-54</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Some High School (H.S.)</td>
<td>1.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>% H.S. Graduate/ G.E.D.</td>
<td>3.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>% Some College</td>
<td>15.4%</td>
<td>33.1%</td>
</tr>
<tr>
<td>% Junior College Graduate</td>
<td>21.2%</td>
<td>47.4%</td>
</tr>
<tr>
<td>% College Graduate</td>
<td>44.2%</td>
<td>17.3%</td>
</tr>
<tr>
<td>% Master's Degree</td>
<td>1.5%</td>
<td>11.5%</td>
</tr>
<tr>
<td>% Doctoral Degree</td>
<td>1.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Ethnic Background</td>
<td>Health Care Providers</td>
<td>Students</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------</td>
<td>----------</td>
</tr>
<tr>
<td>% American Indian / Alaskan Native</td>
<td>7.7%</td>
<td>1.5%</td>
</tr>
<tr>
<td>% Asian / Pacific Islander</td>
<td>15.4%</td>
<td>3.0%</td>
</tr>
<tr>
<td>% Black / African American</td>
<td>19.2%</td>
<td>6.8%</td>
</tr>
<tr>
<td>% Latina or Latino (Hispanic)</td>
<td>17.3%</td>
<td>6.0%</td>
</tr>
<tr>
<td>% White / Caucasian</td>
<td>36.5%</td>
<td>77.4%</td>
</tr>
<tr>
<td>% Other</td>
<td>3.8%</td>
<td>5.3%</td>
</tr>
</tbody>
</table>

**Income** (In Thousands of Dollars)

<table>
<thead>
<tr>
<th></th>
<th>Health Care Providers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>54.96</td>
<td>39.35</td>
</tr>
<tr>
<td>Median</td>
<td>45.00</td>
<td>35.00</td>
</tr>
<tr>
<td>S.D.</td>
<td>34.43</td>
<td>28.35</td>
</tr>
<tr>
<td>Range</td>
<td>13-200</td>
<td>0-160</td>
</tr>
</tbody>
</table>
Gross annual income (reported as thousands of dollars) was high for both sample groups. Household income for health providers ranged from 13 to 200 k per year with an average of 54.96 k annually. Household income for students ranged from 0 to 160 k per year with an average of 39.3 k annually. In addition, this difference between health care providers and students was significant, \( t (155) = 2.99, p < .01 \).

Health care providers and students were asked to identify their respective occupational categories. The positions held by those in the health care provider sample were as follows: 2% identified themselves as cardiac technicians, 10% as certified nursing assistants, 4% as licensed vocational nurses, 4% as licensed medical technologists, 2% as marriage, family, and child counselors, 4% as pharmacists, 54% registered nurses, 2% as respiratory care professionals, and 17% as 'other' health care professionals. Of the student sample, 87% identified themselves as undergraduate students, 11% as graduate students, with 2% identifying themselves as health care providers within the student sample.

In addition to the above demographic variables, Table 2 presents a comparison between health care providers and students on a variety of social variables including living arrangements, marital status, birth order, siblings, as well as childhood and adult locations of residency. Also included in this table is subjects' concern about AIDS. There were no significant differences between the two groups on any of these variables, although there were some interesting aspects of the data worth mentioning. First, a surprisingly high percentage of health care providers reported that they lived with their parents (19%) as compared with students (29%) who were expected to have a higher percentage in this category. Also, when asked about the length of their current relationship, the health care providers ranged from no current relationship to 40 years (\( \bar{x} = 7.5 \) years). Similarly, the students' responses ranged from no current relationship to 30 years (\( \bar{x} = 4.5 \) years). This
Table 2
Social Variables for Health Care Providers and Students

<table>
<thead>
<tr>
<th></th>
<th>Health Care Providers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living Arrangements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Live Alone</td>
<td>25.0%</td>
<td>7.7%</td>
</tr>
<tr>
<td>% Live with Lover</td>
<td>7.7%</td>
<td>4.5%</td>
</tr>
<tr>
<td>% Live with Roommate</td>
<td>5.8%</td>
<td>11.3%</td>
</tr>
<tr>
<td>% Live with Spouse</td>
<td>42.3%</td>
<td>42.1%</td>
</tr>
<tr>
<td>% Live with Parents</td>
<td>19.2%</td>
<td>29.3%</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Never Married</td>
<td>40.4%</td>
<td>48.1%</td>
</tr>
<tr>
<td>% Married</td>
<td>38.5%</td>
<td>41.3%</td>
</tr>
<tr>
<td>% Separated</td>
<td>3.8%</td>
<td>1.5%</td>
</tr>
<tr>
<td>% Divorced</td>
<td>9.6%</td>
<td>6.8%</td>
</tr>
<tr>
<td>% Remarried</td>
<td>5.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>% Widowed</td>
<td>1.9%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Birth Order</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Only Child</td>
<td>9.1%</td>
<td>4.9%</td>
</tr>
<tr>
<td>% Oldest</td>
<td>3.8%</td>
<td>34.3%</td>
</tr>
<tr>
<td>% Second Born</td>
<td>32.7%</td>
<td>20.3%</td>
</tr>
<tr>
<td>% Third Born</td>
<td>12.7%</td>
<td>11.2%</td>
</tr>
<tr>
<td>% Fourth Born</td>
<td>10.9%</td>
<td>7.7%</td>
</tr>
<tr>
<td>% Fifth Born</td>
<td>5.5%</td>
<td>3.5%</td>
</tr>
<tr>
<td>% Sixth Born</td>
<td>7.3%</td>
<td>1.4%</td>
</tr>
<tr>
<td>% Youngest</td>
<td>10.9%</td>
<td>16.8%</td>
</tr>
</tbody>
</table>
Table 2 (cont'd)

<table>
<thead>
<tr>
<th></th>
<th>Health Care Providers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>siblings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% No Siblings</td>
<td>7.7%</td>
<td>4.5%</td>
</tr>
<tr>
<td>% One Sibling</td>
<td>15.4%</td>
<td>22.6%</td>
</tr>
<tr>
<td>% Two Siblings</td>
<td>15.4%</td>
<td>21.1%</td>
</tr>
<tr>
<td>% Three Siblings</td>
<td>23.1%</td>
<td>19.5%</td>
</tr>
<tr>
<td>% Four Siblings</td>
<td>9.6%</td>
<td>11.3%</td>
</tr>
<tr>
<td>% &gt; Four Siblings</td>
<td>28.8%</td>
<td>21.1%</td>
</tr>
<tr>
<td><strong>childhood Location of Residency</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Metropolis, City</td>
<td>78.8%</td>
<td>72.9%</td>
</tr>
<tr>
<td>% Farm, Small Town</td>
<td>21.2%</td>
<td>27.1%</td>
</tr>
<tr>
<td><strong>adult Location of Residency</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Metropolis, City</td>
<td>96.2%</td>
<td>89.5%</td>
</tr>
<tr>
<td>% Farm, Small Town</td>
<td>3.8%</td>
<td>10.5%</td>
</tr>
<tr>
<td><strong>Concern About AIDS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Concerned about AIDS</td>
<td>98.0%</td>
<td>94.0%</td>
</tr>
</tbody>
</table>
demographic question was included to ascertain if it correlated with any of the three major dependent variables, which it did not. In regards to childhood and adult locations of residency, a large majority of both groups resided in urban areas and continued to do so in their current choice of residency. Finally, as expected in the tenth hypothesis, subjects in both sample groups did report that AIDS is a major health concern in the present study. Both healthcare providers and students indicated that AIDS was a major health concern, with greater than 90% of both groups reporting this concern.

The survey also measured the degree to which the respondents had contact with gay males and lesbian females, and patients or persons with AIDS. These results are presented in Table 3. As can be seen, a significantly higher percentage of health care providers reported having a gay male or female lesbian friend or relative than did students, $X^2 (1, N=184) = 4.40$, $p < .05$; a higher percentage of health care providers reported having worked with a gay male or lesbian female, than did students, $X^2 (1, N=184) = 21.98$ (23.55 before Yates correction), $p < .001$, and a significantly higher percentage of health care providers reported having personal contact with a patient/person with AIDS than did students, $X^2 (1, N=184) = 42.93$ (45.40 before Yates correction), $p < .001$. What is particularly interesting to note is that 61.5% of the health care providers indicated they had had personal contact with a patient or person with AIDS, while only 12.0% of the student sample reported having had personal contact with PWA's.

**AIDS Attitudes, Knowledge, and Homophobia**

There are three major dependent variables in the current study which have particular relevance to AIDS and issues surrounding AIDS. These are attitudes towards AIDS, knowledge about AIDS, and the degree of personal homophobia. Table 4 presents the mean scores for the Attitudes Towards AIDS scale, the Knowledge about Seroposivity-AIDS Inventory, and the Index of Homophobia-Modified. These are presented as a function of
Table 3
Personal Contact for Health Care Providers and Students

<table>
<thead>
<tr>
<th>Personal Contact</th>
<th>Health Care Providers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Who Have Had Homosexual Friend Or Relative</td>
<td>50.0%</td>
<td>30.8%</td>
</tr>
<tr>
<td>% Who Have Worked With Homosexual Co-Worker</td>
<td>86.5%</td>
<td>45.9%</td>
</tr>
<tr>
<td>% Who Have Known Patient/Person With AIDS</td>
<td>61.5%</td>
<td>12.0%</td>
</tr>
</tbody>
</table>
Table 4

**Attitudes Towards AIDS, AIDS Knowledge, and Homophobia Mean Scores in Relation to Select Demographic and Social Variables**

<table>
<thead>
<tr>
<th></th>
<th>Attitudes $\bar{x}_a$</th>
<th>Knowledge $\bar{x}_b$</th>
<th>Homophobia $\bar{x}_c$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Profession</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Care Providers</td>
<td>47.77</td>
<td>5.33</td>
<td>2.71</td>
</tr>
<tr>
<td>Students</td>
<td>43.91</td>
<td>5.65</td>
<td>2.35</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>44.86</td>
<td>5.62</td>
<td>2.45</td>
</tr>
<tr>
<td>Male</td>
<td>46.41</td>
<td>5.09</td>
<td>2.41</td>
</tr>
<tr>
<td><strong>Sex Roles</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feminine Females</td>
<td>41.70</td>
<td>5.70</td>
<td>2.13</td>
</tr>
<tr>
<td>Masculine Males</td>
<td>40.57</td>
<td>5.00</td>
<td>2.86</td>
</tr>
<tr>
<td>Masculine Females</td>
<td>45.26</td>
<td>5.91</td>
<td>2.70</td>
</tr>
<tr>
<td>Feminine Males</td>
<td>49.00</td>
<td>6.33</td>
<td>2.00</td>
</tr>
<tr>
<td>Androgynous Females</td>
<td>47.57</td>
<td>5.63</td>
<td>2.53</td>
</tr>
<tr>
<td>Androgynous Males</td>
<td>52.40</td>
<td>4.60</td>
<td>2.20</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some High School (H. S.)</td>
<td>49.00</td>
<td>3.00</td>
<td>2.00</td>
</tr>
<tr>
<td>H. S. Graduate / G. E. D.</td>
<td>45.00</td>
<td>4.67</td>
<td>2.33</td>
</tr>
<tr>
<td>Some College</td>
<td>43.96</td>
<td>5.48</td>
<td>2.44</td>
</tr>
<tr>
<td>Junior College Graduate</td>
<td>44.08</td>
<td>5.61</td>
<td>2.54</td>
</tr>
<tr>
<td>College Graduate</td>
<td>48.24</td>
<td>5.50</td>
<td>2.26</td>
</tr>
<tr>
<td>Master's Degree</td>
<td>43.63</td>
<td>6.38</td>
<td>2.75</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>33.00</td>
<td>7.00</td>
<td>3.00</td>
</tr>
<tr>
<td><strong>Childhood Location of Residency</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolis, City, Medium City, Suburbs</td>
<td>45.65</td>
<td>5.54</td>
<td>2.39</td>
</tr>
<tr>
<td>Farm, Reservation, Small Town, Village</td>
<td>43.28</td>
<td>5.62</td>
<td>2.62</td>
</tr>
</tbody>
</table>
Table 4 (cont'd)

<table>
<thead>
<tr>
<th>Ethnic Background</th>
<th>Attitudes $\bar{x}$</th>
<th>Knowledge $\bar{x}$</th>
<th>Homophobia $\bar{x}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaskan Native</td>
<td>35.33</td>
<td>5.17</td>
<td>2.67</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>52.67</td>
<td>4.58</td>
<td>2.42</td>
</tr>
<tr>
<td>Black or African American</td>
<td>44.44</td>
<td>4.89</td>
<td>2.28</td>
</tr>
<tr>
<td>Latina or Latino</td>
<td>48.06</td>
<td>5.00</td>
<td>2.65</td>
</tr>
<tr>
<td>White or Anglo-Saxon</td>
<td>44.26</td>
<td>5.90</td>
<td>2.41</td>
</tr>
<tr>
<td>Other</td>
<td>47.00</td>
<td>5.11</td>
<td>2.89</td>
</tr>
</tbody>
</table>

Homophobia

<table>
<thead>
<tr>
<th>Grade</th>
<th>Non-Homophobic</th>
<th>Homophobic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>51.36</td>
<td>5.05</td>
</tr>
<tr>
<td>High</td>
<td>46.11</td>
<td>5.18</td>
</tr>
</tbody>
</table>

Coping Styles

<table>
<thead>
<tr>
<th>Style</th>
<th>Attitudes $\bar{x}$</th>
<th>Knowledge $\bar{x}$</th>
<th>Homophobia $\bar{x}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Anxious</td>
<td>44.19</td>
<td>5.66</td>
<td>2.60</td>
</tr>
<tr>
<td>Repressive Coper</td>
<td>45.44</td>
<td>5.61</td>
<td>2.46</td>
</tr>
<tr>
<td>High Anxious</td>
<td>44.81</td>
<td>5.38</td>
<td>2.28</td>
</tr>
<tr>
<td>Defensive High Anxious</td>
<td>46.10</td>
<td>5.35</td>
<td>2.25</td>
</tr>
</tbody>
</table>

Note $a$ Scores range from 23 (Positive) to 115 (Negative)
Note $b$ Scores range from 0 (No Knowledge) to 10 (Very Knowledgeable)
Note $c$ Scores range from 1 (Low-Grade Non-Homophobic) to 4 (High-Grade Homophobic)
profession, gender, sex-roles, education, childhood location of residency and ethnic background, homophobia categories, and coping styles.

The Attitudes Towards AIDS (Gaines, et al. 1988) provides a measure of attitudes towards persons with AIDS based on 33 items. Some of these questions were presented by Gaines et al., (1988) and 33 of the original scale's 42 items were selected for the current study. These 33 items were all significantly correlated with degree of homophobia in this study (Pearson's r ranging from .17 to .29). To compare the current study's results with those measured by Gaines et al., (1988), the seven questions used by Gaines et al., were selected and the findings compared for both studies. Overall, the subjects in the current study had fewer subjects who strongly agreed with particular very negative statements about AIDS and persons with AIDS. As presented in Table 5, the percentages in the current study are much lower than in the study done by Gaines et al., (1988).

The second measure, the Knowledge About Seroposivity - AIDS Inventory (KASAI), provides a score reflecting the degree of accurate information and knowledge specific to AIDS for each subject. Contrary to expectation, the health care providers appeared to be slightly less knowledgeable about AIDS than the students; of the health care providers sampled, 49.1% of the sample did not pass the KASAI, with a passing score being 6 or greater on a 10-point scale. Of the student sample, 42.1% of the subjects' scored less than six, with 57.9% demonstrating a greater proficiency of accurate knowledge about AIDS. The mean scores for both groups substantiated these trends with students scoring as slightly more knowledgeable about AIDS, than health care providers.

The third major dependent variable, as alluded to above, is homophobia, which was measured using the Index of Homophobia-Modified (IHP-M). This instrument provides a score of the degree of homophobia for each subject divided into four ordered categorical typologies. Specifically, 1.9%
Table 5  
Comparison of Selected Questions from the Attitudes Towards AIDS Scale for Gaines et al., (1988) and the Current Study

<table>
<thead>
<tr>
<th>Items</th>
<th>Gaines et al., (1988) Study</th>
<th>% Who Strongly Agree</th>
<th>Current Study</th>
<th>% Who Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. I would not continue a relationship with someone I loved if he/she had AIDS.</td>
<td>43.5%</td>
<td>21.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Anal sex is against the laws of God.</td>
<td>33.7%</td>
<td>30.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Anyone practicing anal sex deserves to get AIDS.</td>
<td>14.1%</td>
<td>7.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Health personnel, such as physicians, dentists and nurses, with AIDS should not be allowed to practice.</td>
<td>63.3%</td>
<td>26.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. AIDS 'patients'(^1) who are teachers, and others who deal with children, should be removed from the job.</td>
<td>47.1%</td>
<td>13.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. AIDS is God's way of punishing homosexuals.</td>
<td>43.9%</td>
<td>8.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42. I would not live in a dormitory with someone suspected of having been exposed to AIDS.</td>
<td>51.2%</td>
<td>11.4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)original scale used the words "victims"
of the health care provider sample were High-grade non-homophbic and 
32.7% were Low-grade non-homophbic for a total of 34.6% as 
non-homophbic. Also, 57.7% were Low-grade homophbic and 7.7% 
were High-grade homophbic, for a total of 65.4% homophbic. Of the 
student sample, 15.8% were High-grade non-homophbic and 42.0% were 
Low-grade non-homophbic, for a total of 57.9% as non-homophbic. In 
this sample, 33.8% were Low-grade homophbic and 8.3% were 
High-grade homophbic, for a total of 42.1% as homophbic.

**Health Care Providers compared with Students**

There was a significant difference between health care providers and 
students on two of the three dependent measures examined in the current 
study. Table 4 shows that health care providers had more negative 
attitudes towards AIDS (x̄ = 47.8) than did students (x̄=43.9), t (182) = 2.40, 
p < .05. In contrast, there was no significant difference between health 
care providers and students in regards to their knowledge about AIDS, 
t (182) = 0.73, n.s., although health care providers had significantly higher 
scores of homophobia than did students, (x̄= 2.71 vs. 2.35, respectively) 
t (182) = 2.68, p < .01. This final finding verified the first hypothesis, that 
health care providers were more homophbic than students (which was 
probably due to frequent patient exposure with unknown HIV status and 
fear of fatal contagion) and did show a correlation that those subjects' with 
the more negative attitudes towards AIDS scored lower on the KASAI, 
demonstrating less accurate information about the disease process of AIDS, 
r (181) = -.23, p < .01. However, these findings did not verify the second 
hypothesis which expected health care providers to score as more 
knowledgeable about AIDS when compared with students.

Several statistical analyses were done to measure the effect of various 
independent variables by the three major dependent variables. For all 
these analyses, a two-way analysis of variance was done to ascertain if there
was an interaction between the variables listed in Table 4 and occupation (health care provider versus student). None of these variables, with the exception of part of one analysis (which will be addressed later), interacted with occupation, indicating that the effect of these additional variables were the same for the health care providers and the students. Therefore the next set of analyses looks at health care providers and students combined.

**Gender and Sex-Roles**

No significant differences were found between men and women on the three major dependent variables. This finding ($t(183) = 0.24$, n.s.) did not support the seventh hypothesis which expected male subjects in both groups to be significantly more homophobic than females. This failure to find significance may be attributable, in part, to the small numbers of males in both sample groups (see Table 1).

But more interesting than gender were sex-roles. These self-described sex-roles were measured by the Bem Sex Role Inventory. The Short Form of the Bem Sex Role Inventory (s-BSRI) provides masculinity and femininity scores for each subject. Table 6 presents the mean and median scores of the subjects' with regards to sex-roles. Results indicated that 35.1% of the combined samples were categorized as androgynous sex-typed, 16.7% as feminine sex-typed, 41.7% as masculine sex-typed, and 8.1% as undifferentiated sex-typed. Gender-typed sex-roles, which have been described as traditional in previous literature, included subjects who scored as feminine females or masculine males (17.3%). Non gender-typed sex-roles included subjects who scored as masculine females or feminine males (41.1%), androgynous females or androgynous males (35.1%), and undifferentiated females or undifferentiated males (8.1%).

An ANOVA was performed looking at negative attitudes towards AIDS across the six sex-role categories. The main effect was not significant,
Table 6
Mean and Median Scores of Health Care Providers and Students in Regards to Self-Described Sex-Role Typology of the s-BSRI

<table>
<thead>
<tr>
<th></th>
<th>Health Care Providers</th>
<th>Health Care Students</th>
<th>Combined Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Femininity Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.37</td>
<td>5.28</td>
<td>5.31</td>
</tr>
<tr>
<td>Median</td>
<td>5.40</td>
<td>5.40</td>
<td>5.40</td>
</tr>
<tr>
<td><strong>Masculinity Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.54</td>
<td>5.24</td>
<td>5.33</td>
</tr>
<tr>
<td>Median</td>
<td>5.60</td>
<td>5.40</td>
<td>5.50</td>
</tr>
<tr>
<td><strong>% In Each Category</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Traditional Sex-Roles</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feminine Females</td>
<td>3.9%</td>
<td>15.8%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Masculine Males</td>
<td>5.8%</td>
<td>4.5%</td>
<td>4.9%</td>
</tr>
<tr>
<td><strong>Non-Traditional Sex-Roles</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masculine Females</td>
<td>17.3%</td>
<td>44.4%</td>
<td>36.8%</td>
</tr>
<tr>
<td>Feminine Males</td>
<td>0%</td>
<td>6.0%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Androgynous Females</td>
<td>36.5%</td>
<td>30.1%</td>
<td>31.9%</td>
</tr>
<tr>
<td>Androgynous Males</td>
<td>1.9%</td>
<td>3.8%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Undifferentiated Females</td>
<td>5.8%</td>
<td>6.8%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Undifferentiated Males</td>
<td>3.8%</td>
<td>0.8%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>
However, planned comparisons showed that non-gender-typed subjects (masculine females, feminine males, androgynous females and males, and undifferentiated females and males) were significantly more negative in their attitudes towards AIDS than were gender-typed sex-role subjects (feminine females and masculine males), \( t(106) = 2.47, p < .05 \). This finding did not support the eighth hypothesis, which expected to find that subjects with negative attitudes towards persons with AIDS were more likely to express traditional, restrictive attitudes about sex-roles. In addition, the androgynous subjects were more negative in their attitudes than the masculine subjects, \( t(106) = 2.14, p < .05 \). No other contrasts were significant.

No significant differences were found for subjects with respect to knowledge about AIDS and sex-roles, \( F(5,106) = 0.83 \), n.s. and there was no main effect for homophobia and sex-roles, \( F(5,106) = 1.96 \), n.s. However, for this last variable, planned contrasts showed that masculine males and masculine females were significantly more homophobic than feminine females and feminine males, \( t(106) = 2.41, p < .05 \). These findings did not substantiate the eighth hypothesis which also included the premise that subjects in both groups, who are more traditional in their sex-roles, would be more homophobic. The critical factor suggested by these data is that sex-role type (primarily masculine) and non-traditional sex-role categories (masculine females, feminine males, androgynous and undifferentiated categories) are more negative and more homophobic in their scores.

**Education**

No significant differences were found for subjects with respect to attitudes towards AIDS and formal education, \( F(6,178) = 1.30 \), n.s.; knowledge about AIDS and formal education, \( F(6,178) = 1.08 \), n.s.; and homophobia and formal education, \( F(6,178) = 0.90 \), n.s. Although the educational variable was treated as a category variable in the ANOVA, it was also examined as a continuous variable to see if it correlated with any of the variables of attitudes.
toward AIDS, knowledge about AIDS, and degree of homophobia. These correlations may be seen in Table 7. The only significant effect was that, for the healthcare providers, higher levels of formal education were significantly correlated with a corresponding higher level of accurate knowledge about AIDS, \( r(50) = .36, p < .01 \). When education was treated as a continuous variable, it supported part of the second hypothesis (for only health care providers) that higher scores on the KASAI or accurate knowledge about AIDS is directly related to higher levels of attained formal education. However, it did not support the portion of the fourth hypothesis which expected to find that the degree of homophobia was directly related to amount of formal education.

**Childhood location of Residency**

No significant differences were found for subjects with respect to attitudes towards AIDS and childhood location of residency, \( t(183) = 1.66, \text{n.s.} \); knowledge about AIDS and childhood location of residency, \( t(183) = 0.29, \text{n.s.} \); and, homophobia and childhood location of residency, \( t(183) = 1.40, \text{n.s.} \). These findings did not support the fifth hypothesis which expected to find that subjects with negative attitudes towards persons with AIDS were more likely to have resided in their childhood where negative attitudes are the norm, in rural areas and small towns.

**Ethnicity**

There was a significant main effect on attitudes toward AIDS, \( F(5,179) = 3.24, p < .01 \). A Tukey's Honestly Significant Difference (HSD) test revealed that Asian or Pacific Islanders were significantly more negative in their attitudes toward AIDS than American Indians and Alaskan Natives (see Table 4).

Overall, there was a slight non-significant tendency for students to be more knowledgeable about AIDS than health care providers. However, there was a significant two-way interaction between occupation and ethnicity with regards to knowledge about AIDS. White health care providers were
Table 7
Pearson's r Correlations for Select Psychosocial Variables

<table>
<thead>
<tr>
<th></th>
<th>Attitudes&lt;sub&gt;a&lt;/sub&gt;</th>
<th>Knowledge&lt;sub&gt;b&lt;/sub&gt;</th>
<th>Homophobia&lt;sub&gt;c&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Care Providers</td>
<td>.18</td>
<td>-.07</td>
<td>.03</td>
</tr>
<tr>
<td>Students</td>
<td>-.0005</td>
<td>.25*</td>
<td>.20</td>
</tr>
<tr>
<td>Combined</td>
<td>.13</td>
<td>.07</td>
<td>.21*</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Care Providers</td>
<td>.05</td>
<td>.36**</td>
<td>.07</td>
</tr>
<tr>
<td>Students</td>
<td>-.01</td>
<td>-.06</td>
<td>-.11</td>
</tr>
<tr>
<td>Combined</td>
<td>.07</td>
<td>.11</td>
<td>.01</td>
</tr>
<tr>
<td><strong>Knowledge about AIDS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Care Providers</td>
<td>-.30</td>
<td>----</td>
<td>.49**</td>
</tr>
<tr>
<td>Students</td>
<td>-.16</td>
<td>----</td>
<td>.25*</td>
</tr>
<tr>
<td>Combined</td>
<td>-.23**</td>
<td>----</td>
<td>.28**</td>
</tr>
<tr>
<td><strong>Homophobia</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Care Providers</td>
<td>-.38**</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Students</td>
<td>-.36**</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Combined</td>
<td>-.30**</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>

Note: For the Health care providers, df = 50, for the students, df =129 and for the groups combined, df =181.

* p < .05
** p < .01
significantly more knowledgeable than the White (or Anglo-Saxon) students, but the non-White students were more knowledgeable than the non-White health care providers, $F (5,172) = 4.14, p < .01$.

There were no significant differences among ethnic groups with respect to degree of homophobia for health care providers and students, $F (5,179) = 1.09, \text{n.s.}$

**Homophobia**

Even though homophobia has been treated as a dependent variable in previous analyses, subjects can also be placed in the four categories of homophobia to ascertain any differences among subjects across these categories. There was a significant difference between subjects on the four levels of homophobia with regards to attitudes towards AIDS, $F (3,181) = 6.91, p < .001$. Contrary to the first hypothesis, planned contrasts showed that subjects who were not homophobic were more negative in their attitudes towards AIDS, $t (181) = 4.49, p < .01$.

Main effects were also significant for knowledge about AIDS across the four levels of homophobia, $F (3,181) = 5.20, p < .01$. Planned contrasts showed that the homophobic subjects were more knowledgeable about AIDS than the non-homophobic subjects, $t (181) = 3.74, p < .001$. These two findings substantiated the fifth hypothesis which expected to find a direct relationship between knowledge about AIDS and degree of homophobia for individual subjects. However, the direction of these effects were opposite to an anticipated result that less accurate knowledge about AIDS would be related to increasing degrees of personal homophobia.

**Coping Styles**

The Marlowe-Crowne/Taylor Manifest Anxiety scale (MC/TMAS) provided a score for each subject indicative of coping styles, comprised of four categories (Low Anxious, Repressors, High Anxious, and True High Anxious). In this study, Low Anxious were those subjects that scored low ($\leq 8$) on the
MAS, and low (≤ 17) on the MC. Repressors scored low on the MAS (≤ 8) and high (> 17) on the MC. The High Anxious scored high on the MAS (> 17) and low on the MC (≤ 17). The last style, the Defensive High Anxious, scored high (> 17) on the MAS and high (> 8) on the MC.

Coping styles found within the respective samples are as follows: of the health care providers sampled, 21.2% were Low Anxious, 59.6% were Repressive Copers, 3.8% were High Anxious, and 15.4% were Defensive High Anxious in their coping styles. Of the students sampled, 31.6% were Low Anxious, 36.8% were Repressive Copers, 22.6% were High Anxious, and 9.0% were Defensive High Anxious in their coping styles. These findings substantiate the ninth hypothesis which expected to find a greater number of subjects who were repressive copers among health care providers.

Health care providers scored significantly higher in Repressive and Defensive High Anxious coping styles than did students, who tended to score as Low Anxious and High Anxious, $X^2 (3, N=184) = 12.98, p < .01$. However, with regards to the three major dependent variables (attitudes toward AIDS, $F (3,181) = 0.25, n.s.$; knowledge about AIDS, $F (3,181) = 0.34, n.s.$; and homophobia, $F (3,181) = 1.54, n.s.$), no significant differences were found between the four categories of coping styles. This finding did not substantiate part of the ninth hypothesis which expected to find that subjects who were repressive copers were significantly more homophobic than subjects who did not use the repressive coping style.

**Personal Contact**

In addition to coping styles, the social variable of personal contact was explored. Specifically, this study examined whether personal contact with a homosexual friend or relative, with a homosexual co-worker, and personal contact with a patient or person with AIDS resulted in any significant differences between health care providers and students. Table 8 presents the effects of these variables with respect to attitudes toward AIDS, knowledge...
Table 8

Attitudes Towards AIDS, AIDS Knowledge, and Homophobia Mean Scores in relation to Social Variables of Personal Contact

<table>
<thead>
<tr>
<th>Personal Contact</th>
<th>Attitudes $\bar{x}_a$</th>
<th>Knowledge $\bar{x}_b$</th>
<th>Homophobia $\bar{x}_c$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>With Homosexual Friend or Relative</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>43.16</td>
<td>6.07</td>
<td>2.98</td>
</tr>
<tr>
<td>No</td>
<td>46.11</td>
<td>5.42</td>
<td>2.07</td>
</tr>
<tr>
<td><strong>With Homosexual Co-Worker</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>45.69</td>
<td>5.73</td>
<td>2.73</td>
</tr>
<tr>
<td>No</td>
<td>44.16</td>
<td>5.58</td>
<td>2.57</td>
</tr>
<tr>
<td><strong>With Patient or Person with AIDS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>45.98</td>
<td>6.10</td>
<td>2.81</td>
</tr>
<tr>
<td>No</td>
<td>44.72</td>
<td>5.37</td>
<td>2.32</td>
</tr>
</tbody>
</table>

Note $a$ Scores range from 23 (Positive) to 115 (Negative)
Note $b$ Scores range from 0 (No Knowledge) to 10 (Very Knowledgeable)
Note $c$ Scores range from 1 (Low-Grade Non-Homophobic) to 4 (High-Grade Homophobic)
about AIDS, and homophobia. As can be seen in Table 8, subjects who had a friend or relative were significantly more knowledgeable about AIDS, \( t (183) = 2.96, \ p < .01 \) and were significantly more homophobic, \( t (183) = 6.75, \ p < .001 \). However, there were no significant differences found for attitudes towards AIDS for subjects who had a friend or relative who was a lesbian female or gay male, \( t (183) = 1.94, \ p = .054 \).

No significant differences were found for subjects who had worked with a lesbian female or gay male with regards to attitudes towards AIDS (\( t (183) = 1.03, \text{ n.s.} \)), or knowledge about AIDS (\( t (183) = 0.82, \text{ n.s.} \)). However, those subjects who had worked with a lesbian female or gay male were significantly more homophobic than those subjects who had not, \( t (183) = 3.70, \ p < .001 \).

As would be expected, subjects who had personal contact with patients or persons with AIDS were significantly more knowledgeable about AIDS, \( t (183) = 2.77, \ p < .01 \), and were more homophobic, \( t (183) = 3.76, \ p < .001 \). There were no significant differences in their attitudes towards AIDS, \( t (183) = 0.75, \text{ n.s.} \). These findings substantiate a part of the fourth hypothesis which expected to find a direct relationship between accurate knowledge about AIDS and personal contact with persons with AIDS. However, these combined findings regarding personal contact and homophobia did not substantiate the sixth hypothesis which expected to find that subjects with negative attitudes towards persons practicing a homosexual lifestyle (and potentially at-risk for or diagnosed-with AIDS) were less likely to have had personal contact with lesbian women, gay men, and patients or persons with AIDS. A very significant reverse finding occurred in the current study.

**Additional Analyses**

Significant differences were found between health care providers and students for the variables of negative attitudes towards AIDS and
homophobia. However, Table 1 shows that there is a significant difference between these two groups on age; and Table 8 shows that age is correlated with negative attitudes toward AIDS and homophobia. Therefore the possibility exists that the difference between the two groups is mediated to some extent by age and not necessarily by occupation. For these reasons, an analysis of covariance was done comparing health care providers vs. students on these variables, with age as a covariate. This analysis produced marginally significant results, with a smaller effect between the two groups on attitudes toward AIDS ($F(1,181) = 3.14, p = .08$) and homophobia ($F(1,181) = 3.15, p = .08$). This indicates that age was a factor in the earlier significant difference, because the analysis of covariance yielded a weaker effect. However, age is not the singular driving factor, as some effect is still observable with age factored out. Analyses of covariance were also done with formal education as the covariate, but these did not produce any new findings.

There were also a number of continuous variables that were looked at in relation to the three major dependent variables. The correlations between these variables are presented in Table 8. These results indicate that with regard to the variables of age, education, attitudes towards AIDS and PWA’s, knowledge about AIDS, and homophobia, particular correlations were significant. Specifically, the psychosocial variable of homophobia was highly correlated with knowledge about AIDS for both the health care providers, and to a less degree, for the students. The analyses of variance confirmed this unexpected result that the more knowledgeable a person is about Acquired Immune Deficiency Syndrome, the more they score as being homophobic. There was also a significant correlation between degree of homophobia and subjects’ attitudes towards AIDS, for both the health care providers and the students.
Discussion

The purpose of this research was to examine attitudes towards persons or patients with HIV seropositivity or the diagnosis of Acquired Immune Deficiency Syndrome (AIDS) as a function of particular psychosocial attitudes, self reported sex-roles, and individual coping styles in two groups: health care providers and students. The information provided by doing these comparisons will add to the general knowledge of psychosocial attitudes towards AIDS, and in particular provide information about the attitudes held by health care providers and students. The majority of studies have been done on these two groups, but they have never been compared with each other. Students' attitudes towards AIDS have been looked at in the literature, as they are an available representative of the general population. Health care providers' attitudes towards AIDS have also been reported, because these attitudes are so salient to the services they provide to patients with AIDS.

In order to make these novel comparisons, the data from six separate instruments were statistically evaluated utilizing a number of analyses. Attitudes towards AIDS and the patients or persons diagnosed with AIDS, knowledge about AIDS, and degree of homophobia served as the three major dependent variables. The independent variables were occupation (health care providers or students), gender (female or male), sex roles (feminine female, masculine males, masculine females, feminine males, androgynous females and androgynous males), formal educational level (some high school, high school graduate or G.E.D., some college, junior college graduate, college graduate, master's degree, doctoral degree), childhood location of residency (metropolis, city, medium city, suburbs, or farm, reservation, small town, village), personal contact with a patient or person with AIDS (yes or no), ethnic background (American Indian or
Alaskan Native, Asian or Pacific Islander, Black or African American, Latina or Latino, White or Anglo-Saxon, Other), degree of Homophobia (Low-grade Non-Homophobic, High-grade Non-Homophobic, Low-grade Homophobic, High-grade Homophobic) and Coping styles (Low Anxious, Repressive Coper, High Anxious, Defensive High Anxious).

The discussion focuses first on the hypotheses presented for statistical evaluation, primarily comparing health care providers and students on a variety of psychosocial measures. Throughout, general conclusions from these discussions are offered discussing implications, comparisons of previous research and providing suggestions for future research. Finally, a summary is presented with implications for future research.

Health Care Providers compared with Students

Demographics. With regard to the differences between health care providers and students, the results confirmed that health care providers were significantly older than the students. It was hypothesized that rural versus urban residency would make a difference in psychosocial attitudes in the current study, but the differences were not significant. The fifth hypothesis which expected to find that subjects with negative attitudes towards AIDS were more likely to have resided during their childhood where negative attitudes have been reported to be the norm (in rural areas and small towns) was not substantiated, perhaps due to the fact that the majority of both sample groups reported residing in their childhood, and as adults, in metropolitan areas. Future research should include sample populations from rural areas to explore the differences, if any, in the negativity of personal attitudes based on residency.

As predicted with respect to attitudes towards AIDS, health care providers scored more negatively than did students. Due to the significant differences found between health care providers and students on negative attitudes toward AIDS and homophobia, an analysis of covariance (with
age as the covariate) revealed that age was a component part of the
difference between these two groups. However, an analysis of covariance,
with education as the covariate, did not change the previous results of
significant differences between health care providers and students.
Apparently, one of the contributing factors to health care providers more
negative attitudes and greater homophobia is their age difference when
compared with the student sample. As has been reported in the literature,
subjects who are older hold more negative attitudes towards homosexuals.
However, formal education was not a factor in these results.

In addition to age, the gross annual household income was high for
both sample groups, with health care providers being significantly higher
in their income than students. It was anticipated that health care providers
would report a higher income than students. However, the annual
income seemed somewhat high for students. The possibility exists that
this finding is a reflection of student part time or full-time employment, or
that the student subjects are reporting their family's total annual income. If
this last speculation is factual, then the questionnaire may have been
somewhat ambiguous in requesting annual household income (which
could include parents' income) without specifying the respondent's
singular contribution.

The diversity of the health care providers was much greater than
students in several ways in terms of ethnicity, income, and formal
education. The health care providers represented quite a range of
occupations, ranging from the high status occupation of physician all to the
way to the relatively low status occupation of cardiac technician and
Certified Nursing Assistant. There was a much broader range, in terms of
socioeconomic standing, relative to the student sample. From these data,
it is difficult to make general predictions due to this inherent diversity
within the health care provider sample.
Gender and sex-roles. What seems to be the singular most important finding with regards to gender and sex-role is that subjects who adhere in their characteristics to the masculine gender role (as measured by the s-BSRI) are more homophobic, whether they are male or female.

The initial part of hypothesis eight failed to confirm that male subjects in both groups with negative attitudes towards AIDS also expressed traditional, restrictive attitudes about sex-roles, as reported in the literature. The gender-typed female subjects did have negative attitudes towards AIDS, however gender-typed (masculine) males were actually less negative in their attitudes towards AIDS. Perhaps feminine females are more fearful of AIDS and persons with AIDS than are the other sex-role typologies. Future research should be done to determine the salience which AIDS has for feminine females in the Bem sex-role typology.

Hypothesis seven, predicting that male subjects overall would be more homophobic than females, was not substantiated in the current study. The very small number of male subjects in both sample groups may have obscured this common finding. This factor may be responsible, in part, for the current study failing to find significant results which have been previously reported in the literature (Nyberg & Alston, 1977; Price, 1982; Weis & Dain, 1979). Overall, a subject's sex (woman or man) was less of a factor than was self-reported gender-typed characteristics. The key factor in the determination of homophobia appears to be the masculine sex-role and not sex. The masculine sex-role is related to homophobia, whether it is held by males or females. Feminine sex-roles is related to non-homophobia whether it is held by males or females. The current study has determined that it is not a subject's sex, but their gender role characteristics that are crucial to predicting homophobia. Subjects who adhere in their characteristics to the masculine gender role, whether they are male or female, are more homophobic.
As expected in the second half of hypothesis eight, subjects in both sample groups who were masculine males in their self-reported sex-roles were more homophobic in the current study. This replicates the results reported by Weinberger and Millham (1979) who investigated attitudes toward homosexuality and subjects' masculinity/femininity as assessed by the Bem Sex-Role Inventory. The current study also found that those subjects scoring as masculine males, masculine females, and androgynous individuals were more negative in their attitudes towards homosexuals than were subjects scoring as feminine females, feminine males, and those who scored undifferentiated. The methods by which Bem (1981) measures gender, in particular all of the qualities which provide a higher score for the feminine gender role (nurturant, emotionality, tenderness), are apparently related to being more accepting of persons with AIDS. In contrast, all of the qualities which provide a higher score for the masculine gender role (objective, logical, emotionally controlled) may be related to being more judgmental of persons with AIDS. This may explain, in part, the findings that health care providers were more negative in their attitudes towards AIDS and more homophobic. Health care providers, who have a fairly masculine view of their appropriate role, are taught to render health care in a detached, objective, and "professional" manner.

Considering the level of homophobia reported by the entire sample, females were only slightly more homophobic than were males. However, in self-reported sex-role typology, masculine males were the most homophobic, then masculine females, followed by androgynous females, then androgynous males, feminine females, and least homophobic, as would be expected, were feminine males. The current study replicated Weinberger and Millham's (1979) and Black and Stevenson's (1984) finding that androgynous males were more negative (more homophobic) in their attitudes toward homosexuality. However, when compared with
Black and Stevenson's study, the current study did not find that masculine males were less negative (less homophobic) than those with cross sex-typed characteristics, and it did not find non-gender-typed sex-roles (masculine females and androgynous females) more accepting in their attitudes toward homosexuality (less homophobic).

Interestingly enough, the combined masculine gender roles scored as more homophobic, regardless of reported occupation (health care providers and students), although there were a very high percentage of masculine females in both groups. What was interesting to note was that masculine females were more homophobic than were feminine females.

The key factor in determining homophobia appears to be the masculine gender-role, and not gender itself. The masculine gender-role appears to be related to homophobia, whether it is held by males or females. Feminine sex-roles are related to non-homophobia whether they are held by males or females. From these results, homophobia appears to be significantly related to whether or not a subject's gender-role characteristics are more masculine or feminine, and is not related to traditional, restrictive attitudes about sex-roles as opposed to non-traditional sex-roles. The conflict between the current study and some past studies continues to reflect a complex relationship between sex-role characteristics and attitudes toward homosexuality, a relationship made even more complex in combination with Acquired Immune Deficiency Syndrome.

It should be pointed out that while the s-BSRI is one of the most widely used measure of sex-role stereotypes presently, it measures only one aspect of sex-role stereotypes. It is possible that measures of other sex-roles, such as specific behaviors, individual sexual preference, choice of dress, and occupational choice may show a more different relationship with attitudes toward AIDS and homosexuality.
Education and knowledge about AIDS. Overall, as anticipated, knowledge about AIDS did seem to be correlated with the level of educational attainment, although only for the health care providers. The least knowledge was demonstrated by those subjects reporting the least education, and the most knowledge was demonstrated by those attaining the highest level of formal education. However, educational level and knowledge about AIDS were not predictive of attitudes towards AIDS. Contrary to expectations, accurate knowledge about AIDS did not translate into more positive attitudes towards persons with AIDS for health care providers. Apparently, the stigma and the negative experiences occurring from interpersonal interaction, are stronger than the effect of knowledge on these patient encounters.

The second hypothesis, that health care providers should be more knowledgeable about AIDS as a result of specialized pre- or post-professional training, was also not substantiated. Contrary to expectations, there were no significant differences in knowledge between health care providers and students, but there was a slight trend in the opposite direction of the hypothesis. Students actually scored as slightly more knowledgeable about AIDS than health care providers. Either students are better informed about AIDS, or health care providers are less informed than was anticipated. No national standard exists as to what a health care provider should know about AIDS or what a student should know about AIDS. The current study provided a measure of knowledge of AIDS with a scoring criteria, but lacking national norms for comparison.

From this finding, it would seem that students appear to take some advantage of accurate information concerning AIDS, perhaps even more than do health care providers, for whom it would appear more salient. This may indicate that the available inservice educational offerings and continuing education seminars specific to Acquired Immune Deficiency
Syndrome was a relatively low priority for this sample of health care personnel. Subjects with negative attitudes towards AIDS and persons with AIDS, being predominantly health care providers in the current study, demonstrated a slightly lower mean score on the KASAI, indicating slightly less accurate information about this disease process, although the difference did not reach statistical significance.

At this time, there is quite a large amount of AIDS information being disseminated by means of mass media, in particular in college newspapers, in University class offerings, and in combination with media coverage on a frequent basis. This finding points to the likely possibility that students may in fact be more consumers of media about AIDS, and therefore have a much wider exposure to current accurate information about AIDS. Health care providers, on the other hand, may not be availing themselves of current media information. To the extent that training about AIDS is available in job related workshops, they may not be required to attend. The assumption that just because a subject is in a health care setting and should have access to timely and accurate information about AIDS, that they are therefore knowledgeable about AIDS, is put into some question by the current study.

**Ethnicity.** An unanticipated finding was that the health care providers exhibited a more diverse ethnic background than did the student population. This result indicates the need for future studies incorporating a larger sample of students from several more university settings, to provide greater ethnic diversity. The results attained in this study do, however, reflect the three educational settings sampled, where the majority of students appear to be female and not of a minority ethnic background.

Overall, there was a slight non-significant tendency for students to be more knowledgeable about AIDS than health care providers. However, a
significant two-way interaction between occupation and ethnicity was found. The White health care providers were significantly more knowledgeable than the White students, but the non-White students were more knowledgeable than the non-White health care providers. Overall, non-white subjects had the least knowledge about AIDS, with subjects in the category of Asian or Pacific Islander being the least knowledgeable.

In addition to being the least knowledgeable about this disease process, the ethnic category of Asian or Pacific Islanders in this study were also the most negative in their attitudes towards AIDS. These results could reflect a strong cultural component of social mores and private attitudes. Future research is imperative to discover and record particular determinants of attitudes and beliefs held by Asian and Pacific Islanders regarding AIDS. These results provide an interesting introduction into the possibility of future research which delves into an expanded ethnic consideration of psychosocial attitudes towards AIDS. Obviously, AIDS educational offerings must be sensitive to cross cultural considerations. California has one of the highest populations of Asian and Pacific Islander health care providers in the United States. Apparently, this is a group that the current study suggests are the most homophobic and the least knowledgeable about AIDS. Therefore, educational offerings on AIDS should be prepared with the special needs of Asian and Pacific Islanders considered.

Homophobia has not been previously discussed in the context of ethnic categories and future cross-cultural research is needed to discover psychosocial correlates regarding attitudes towards AIDS and attitudes towards homosexuality from a sociological perspective.

Homophobia. As predicted in the first hypothesis, health care providers were significantly more homophobic than were students. This difference was hypothesized, and was based on the assumption that health
care personnel have more personal contact with patients or persons with AIDS in combination with these subjects being older. The hypothesis was based on the belief that frequent exposure to patients who are HIV seropositive or definitively diagnosed with AIDS would heighten health care providers awareness of possible fatal contagion. This fear of the disease may then translate into fear of homosexuals, with gay males being the statistically largest group of those patients. The positive relationship between personal contact with lesbian females or gay males and homophobia was confirmed.

The current study found a positive correlation between knowledge about AIDS and homophobia. It appears that there is an undetermined relationship between having more accurate knowledge about AIDS and homophobia. Homophobia may be influencing subjects to seek out more information about AIDS; or, the more a subject knows about AIDS, the more homophobic they become. Further research is necessary to illustrate the causes of this correlation.

An unexpected finding of the current study was that subjects who were more knowledgeable about AIDS actually scored as more homophobic and were also less negative in their attitudes towards AIDS. Since these results are contrary to findings in the current literature, questionnaires were reviewed individually which produced the unexpected combination of high scores on the KASAI, categorization as homophobic on the IHP-M, and lower scores (indicating less negativity) on the Attitudes Towards AIDS scale. Several such questionnaires were identified and there was a tendency for these respondents to be older, health care providers who were predominantly registered nurses, and those health care providers with advanced educational degrees. Overall, the current study anticipated a positive finding, that subjects who were homophobic would also score as more negative in their attitudes towards AIDS. However, this was not
the case. This finding may be influenced by the greater percentage of personal contact reported by health care providers in dealing with patients or persons with AIDS, but more particularly by the possibility that the Attitudes Towards AIDS scale may be measuring multiple and overlapping factors and not only providing a unidimensional score of negative attitudes towards AIDS. Caution should be used in future applications.

Homophobia, as reported across both samples, had a significant effect on attitudes towards AIDS. When homophobia was looked at alone, across the four categories of homophobia, planned contrasts yielded some unexpected findings. Both categories of non-homophobics had more negative attitudes towards AIDS than did subjects scoring as homophobic. It would be expected that homophobics would be more negative in their attitudes towards AIDS, instead of the opposite found in the current study. This may be attributable to the nascent state of research in this area, as hostility towards lesbian females and gay males is motivated by a variety of factors in addition to simple fear (e.g. Hudson & Ricketts, 1980; MacDonald, 1976; Weinberg, 1972). For example, one person's negative attitudes may result from a need for acceptance by members of a valued social group, while a second person simply may be expressing negative social stereotypes, and a third person may hold similar attitudes primarily as a defense against unconscious conflicts. It appears from this study and others reported in the literature that attitudes toward lesbian females and gay males serve different functions for different individuals (Katz, 1960; Smith, 1973).

When comparing knowledge about AIDS with the four categories of homophobia, some surprising results occurred. Both categories of homophobics were more knowledgeable, as demonstrated by their mean scores on the KASAI, than were non-homophobics. It appears from these results that increased knowledge about AIDS is closely companioned by a higher degree of homophobia.
While the four categories of homophobia are not predictive of negative attitudes towards AIDS across the samples, it is interesting to note that the health care providers, who exhibited the greatest degree of homophobia, were also the ones most negative in their attitudes towards AIDS. This finding suggests that homophobia may be the basis of negative attitudes towards AIDS in the current study. Additionally, as has been shown in the current study, knowledge about AIDS and degree of homophobia are very different in the health care providers population, when compared with the student population. Health care professionals may perceive patients with AIDS as interpersonally difficult and personally threatening to deal with on a daily basis. As alluded to previously, health care providers do not usually receive professional training regarding their own social stereotypical perspectives, ideology, and belief systems. The current study emphasizes the need for health care providers to be prepared to deal with persons with AIDS, utilizing a repertoire of appropriate social skills in combination with accurate information about AIDS.

Future research should be directed toward providing a foundation for a theoretical model explaining the multiple origins of prejudice against lesbian females and gay males, in conjunction with the psychosocial and health challenge of Acquired Immune Deficiency Syndrome.

Coping styles. The ninth hypothesis dealt with coping styles. Specifically, it was expected that there would be a greater number of subjects who were repressive copers among health care providers and subjects who were repressive copers would be more homophobic than subjects who did not use the repressive coping style. When looking at psychosocial attitudes towards AIDS and persons with AIDS, coping styles might provide some insight as to how health care providers and students cope with a socially stigmatized, fatal disease process. As expected, there were more subjects who were repressive copers in both sample groups.
However, this majority did not translate into significant differences between coping styles on the three major dependent variables (Attitudes toward AIDS, Knowledge about AIDS, and Homophobia).

There is reason to be concerned about health care providers who score as Repressive copers and Defensive High Anxious copers. Since such copers have been reported to be prone to physical disease and to avoid seeking medical care (Cochrane, 1969; Weinberger, Schwartz, & Davidson, 1979), it is important that these subjects learn sufficient coping skills or change their vocational direction. Fear of fatal contagion with AIDS, places a person at risk for stress and resultant immune compromising processes, and therefore may heighten already existing fear and homophobia.

The results with regards to knowledge about AIDS were non-significant, but there was a trend that suggested that less subjective anxiety was consciously experienced as accurate knowledge of AIDS increased. The individual coping style appears to play some role in acquiring knowledge about AIDS. Subjects who are Repressors, High Anxious, and Defensive High Anxious in their coping styles apparently filter out this information, and therefore may score as less knowledgeable about AIDS. This may, in part, explain why the current study found the health care providers slightly less knowledgeable about AIDS than the students.

With regards to the effect of coping styles on negative attitudes toward homosexuality or homophobia, the results were not significant. The hypothesized relationship of coping styles with homophobia was based on the fact that Royce and Birge (1987) reported that homophobia was a better predictor of fear of AIDS than age, sex, marital status, or desired health career. It seemed plausible that the Defensive High Anxious, High Anxious, and Repressive coping styles, to a certain extent, would reflect that fear by ignoring the importance of AIDS. Repressors use a "There is
nothing to think about" approach which presents idealized self-reports, rather than realistic self-reports. Even when trying to retrieve specific types of emotional memories, repressors have been observed having notable difficulty. More globally, repressors cannot readily overcome the discrepancy between their self-perceptions and objective indices of behavior. This factor may be contributing to the non significance found in the current study. An excellent example is Jamner and Schwartz's (1985) finding that it was not until the ninth month of treatment that a repressive client began to show positive correlations between their subjective experience and their physiological responses (which were assessed on a daily basis). Future research should include a longitudinal study of psychosocial attitudes in further ascertaining the relationship between coping styles and degree of homophobia.

**Personal contact.** The results of the sixth hypothesis, that subjects' with negative attitudes towards persons who are HIV seropositive or definitively diagnosed with AIDS were less likely to have had personal contact with homosexuals and persons with AIDS, was not supported. In fact, the findings were significant in the opposite direction. Subjects with a friend or relative who was a female lesbian or gay male, a female lesbian or gay male co-worker, and a patient or person with AIDS, were all more likely to have negative attitudes towards AIDS.

In the current study, the discontinuous variable of personal contact with a lesbian female or gay male was significant in demonstrating a lower score of negative attitudes toward AIDS, a higher mean score of knowledge about AIDS, and the related, but surprising, result of increased homophobia. In addition, personal contact with a lesbian female or gay male co-worker was not significant in demonstrating a lower mean score of negative attitudes towards AIDS or a higher mean score of knowledge about AIDS. However, those subjects who had worked with a lesbian
female or gay male were significantly more homophobic. As was anticipated, personal contact with a patient or person with AIDS was significant in showing subjects as more knowledgeable about AIDS and more homophobic.

The horror of the AIDS disease process may have raised these subjects level of anxiety and increased their homophobia. The connection between fear and homophobia has been made in the literature (Royse & Birge, 1987). In addition to fear, these negative attitudes might also be the result of disgust in having personal contact with a person who may be homosexual, who has a sexually transmitted disease, or who is physically very ill and therefore not attractive. These attitudes may also be the result of feelings of personal vulnerability, categorization within a select stigmatized group, and erroneously, fear of transmission by means of casual contact. The general revulsion and personal terror that is engendered in dealing with the AIDS patient population may result in more negative attitudes. Interaction with particular patients does not necessarily reduce stigma, as was the case on the part of oncology nurses dealing with cancer patients (Cobb, 1956; Dunkel-Schetter & Wortman, 1982; Stahly & Blackman, 1985).

Negative attitudes towards persons with AIDS may also be attributable to the "just world" phenomenon (Lerner & Simmons, 1966). Social psychologists have found that this phenomenon exemplifies the belief that people generally receive what they deserve or that good things happen to good people and bad things happen to bad people. Consequently, when something bad, like AIDS or cancer (Stahly, 1988), happens to someone, these people blame the patient by finding fault with their behavior or their character, to reassure themselves that they will escape that patient's fate. The need to distance oneself from patients with AIDS is commensurate with the finding that as the threat increases, the social distance correspondingly increases. This may explain, in part, the current study's
finding that the more knowledgeable a subject is about AIDS, the more homophobic that subject becomes. This finding appears to be an important one, since it is not consistent with previous research and it needs to be replicated to rule out any possible extraneous variables or artifacts in the current study. Indeed, if this is a true finding, this may explain some of the experiences of patients diagnosed with AIDS reporting so much difficulty with the health care system in procuring and maintaining minimal health care, as a result of those negative attitudes.

Personal contact appears to be crucially important to subjects' amount of negativity directed towards patients or persons with AIDS. Personal contact with a patient or person with AIDS resulted in slightly higher, negative attitudes towards AIDS. This finding may, in fact, be supportive of previously discussed research in which social stigma, demonstrated by health care provider's towards cancer patients, increases with exposure to those cancer patients. While the current study did not look at services, per se, it is the author's belief that optimal health care services can not be provided by personnel who hold negative attitudes towards patients or persons with AIDS. As long as health care providers hold these negative psychosocial attitudes towards people with AIDS (inclusive of fear, homophobia, stigmatization, incorrect stereotypes, and physical repulsion), it is not possible for these patients to receive the level of health care they require, regardless of the technical proficiency of health care providers. It appears that AIDS patients' do indeed seem to be bearing the brunt of negative social stigma, less than adequate health care delivery, and societal isolation.

Subjects who reported having contact with a person with AIDS were more knowledgeable about AIDS than subjects who had not had personal contact. Personal contact with a person with AIDS may result in increased personal vulnerability and, through the course of knowing or caring for
persons with AIDS, certain information is evidently learned. However, personal contact with a patient or person with AIDS appears to also result in greater homophobia. Due to the fact that personal contact was asked as a "Yes" or "No" question, the possibility exists that the degree of homophobia and personal contact may be artifacts of discontinuous measurements of contact. However, if this finding is substantial, it supports the "just world" hypothesis in which people, including health care providers and students, blame persons with AIDS by finding fault with their behavior or their character, to reassure themselves that they will escape the same fate. Since the majority of AIDS patients are homosexual males, this defensive action appears to be expressed by more negative attitudes towards homosexuals when personal contact has been made with patients or persons with AIDS. Future research utilizing personal contact as a continuous variable would be an important consideration.

There exists a need for education to be available for health care providers to lessen the social stigma of dealing with AIDS patients, to decrease the fear of being assigned a patient definitively diagnosed with AIDS, and to decrease the "burnout" associated with high-stress patient populations, inclusive of and focused on AIDS.

As expected in the final hypothesis, subjects in both sample groups did report that AIDS is a major health concern in the present study. Both health care providers and students indicated that AIDS was a major health concern, with more than 90% of both groups reporting this concern. Most persons are now aware of the AIDS "scenario," and it is imperative that accurate information and education about AIDS be available to those interested persons to curtail the spread of this pandemic.

Due to the misinformation and strong personal feelings surrounding the AIDS "scenario", it is vitally important to be able to rely on valid instruments measuring psychosocial attitudes towards AIDS and the people
diagnosed with this disease process. This important consideration raises
the point that the scale used in measuring negative attitudes towards AIDS,
the Attitudes Towards AIDS scale (Gaines et al., 1988), may not be an
accurate measure of negative attitudes towards AIDS. Although the scale
yields a unidimensional score it may, in fact, be measuring multiple and
overlapping factors. This scale may be tapping into other aspects of
psychosocial attitudes which have not been identified or reported at this
time, due to the newness of this particular scale. This scale has not been
used previously in combination with other instruments, and may explain,
in part, the unexpected findings regarding homophobic subjects' scoring as
concurrently less negative in their attitudes towards AIDS. Caution should
be used in future applications of this scale in combination with other
psychosocial instruments.

Summary and Implications for Future Research

This study attempted to assess the knowledge and attitudes on
AIDS-related issues, as well as coping styles, between health care providers
and university students. This is a legitimate focus due to the psychological
discomfort in dealing with personal vulnerability, belief in susceptibility,
social stigmatization (reflected by negative attitudes towards AIDS and
persons with AIDS), and the high incidence of cases of AIDS. As the AIDS
pandemic runs its course through the human population, each member of
society need to deal with these aspects, and most especially those who
provide services to AIDS patients, such as health care providers.

It is time for students to receive accurate AIDS information, as they
are young, their ideology is in the process of forming, and education is a
part of their maturation (through which process accurate information
about AIDS can be made readily available). Health care providers are
important, obviously, because they are rendering health care to this
particular patient population. Both groups are not exempt from personal
concerns about AIDS, and university students are particularly at risk because of the high incidence rates of sexually transmitted diseases within this age group, as the Centers for Disease Control reports that 21% of the cases of AIDS are in the 20-29 year age cohort (CDC, 1989).

Health care providers are also at risk for the physiological transmission of AIDS, and more frequently, the psychological sequelae of dealing with AIDS patients. AIDS patient care and AIDS prevention represent new professional activities for health care providers. Because the majority of AIDS patients are gay males or bisexuals, constructive responses to this crisis in health care will require health care professionals to closely examine their own attitudes, knowledge, and social skills in rendering optimal patient care on a daily basis. This will require a re-examination and possible re-structuring of knowledge, attitudes and beliefs which are now inappropriate. Pre-professional training and post-professional inservice educational offerings and continuing education seminars are mandated by this medical emergency, which will impact on every life. According to the Surgeon General, C. Everett Koop, at this point in time one in five families are impacted by AIDS through relatives or friends, (Koop, 1989).

To date, these topics have received very little attention in the health care arena. The current study did find that health care providers were no more knowledgeable about Acquired Immune Deficiency Syndrome than college students, in spite of the particular saliency of such knowledge to their professional responsibilities. This finding emphasizes the need for pre-professional and post-professional education. It is necessary that both health care providers and students receive current, accurate information about AIDS to prevent the dissemination of misinformation, misconceptions, and to reduce negative attitudes towards persons with AIDS. Therefore, achieving an understanding of psychosocial attitudes
and coping styles specific to AIDS through psychosocial research is crucial. Providing accurate educational information regarding negative and harmful beliefs will enable constructive and healthy change in personal attitudes of both health care providers and students.

Cultural differences which reflect divergent attitudes, beliefs, values, and behaviors should mandate a variety of approaches and target populations, to ensure intelligent and caring responses to AIDS patients, regardless of individual differences. No one educational program, discussion group, or attitude examination exercise will suffice. Therefore, it is critical that psychosocial research be done. Future research should be directed towards contributing to a theoretical model explaining the multiple origins of select psychosocial attitudes towards those persons who are HIV seropositive or definitively diagnosed with AIDS, in conjunction with the psychological and biomedical challenge of Acquired Immune Deficiency Syndrome.
APPENDIX A

Dear Volunteer,

Thank you for agreeing to consider participating in this research study, investigating health care providers' response to patients diagnosed with AIDS. This study is being conducted to obtain information which will assist health care providers in patient interactions.

The study you are about to participate in is voluntary and you will retain your anonymity. Please do not put your name on the questionnaire. You are free to stop participating at any time during this research study. It is hoped that you will be able to provide complete and vital information regarding your candid personal perspectives of these chronically ill patients.

Thank you for your time and the information you will provide.
Dear Volunteer,

Thank you for agreeing to consider participating in this research study, investigating students' response to persons diagnosed with AIDS. This study is being conducted to obtain information which will assist men and women in understanding attitudes towards persons with AIDS.

The study you are about to participate in is voluntary and you will retain your anonymity. Please do not put your name on the questionnaire. You are free to stop participating at any time during this research study. It is hoped that you will be able to provide complete and vital information regarding your candid personal perspectives of these chronically ill persons.

Thank you for your time and the information you will provide.
APPENDIX C

Dear Volunteer,

We are asking for your help in a research project currently being conducted about how some people view chronic disease states, in particular acquired immunodeficiency syndrome (AIDS). Research in this area is important because there is sparse completed information about honest, personal reactions to AIDS.

Completion of this questionnaire takes approximately twenty minutes. Please be assured that when the questionnaires are prepared for statistical analysis, they are identified by number only. The cover sheet of this questionnaire is removed and retained separately for our records and is never used to identify questionnaires.

This information may assist AIDS patients and their families, and health-care providers in facilitating the adjustment process. If you would like information regarding the results of this study, please print your name and address on the label provided. You will be mailed a brief summary of the main findings upon completion of the study.

Thank you for your help!
Sincerely,

Sandra L. Boyd-Flanagan, R.N., M.I.C.N., C.C.R.N.
Master's Candidate, Department of Psychology

Geraldine Butts Stahly, Ph.D.
Assistant Professor, Department of Psychology
California State University, San Bernardino
5500 State University Parkway
San Bernardino, CA. 92407
QUESTIONNAIRE

This questionnaire is designed to gather information about feelings and perceptions about AIDS. Some of the questions may require sharing thoughts and feelings which are highly personal. Please think carefully about each question before answering and try to answer each one as candidly as you can.

SECTION A  Background Information (Please fill in the correct answer and check all that apply)

1. My sex is: ______ Female    ______ Male

2. My age is: ______

3. The highest level of education that I have attained is:
   ___ Some high school    ___ College Graduate (B.A./B.S.)
   ___ High School graduate/ G.E.D. ___ Masters Degree (M.A./M.S./ M.B.A.)
   ___ Some college        ___ Doctoral Degree (Ph.D./M.D./J.D.)
   ___ Junior college graduate (A.A./ A.S.)

4. My occupation is: (check more than one if applicable)
   A) _____ Student Please specify: ___ Undergraduate
      ___ Graduate
      ___ Post Professional Degree Objective
   B) _____ Health Care Professional (Please specify)
      ___ L.C.S.W. ___ M.S.W. ___ L.V.N. ___ R.N. ___ R.R.T.
      ___ R.P.T. ___ O.T. ___ S.T. ___ D.O. ___ M.D. ___ Ph.D.
      ___ Other
   C) _____ Other Professional (Please specify)
      ___ Lawyer ___ Professor ___ Business Professional
      ___ Teacher ___ Proprietor, Manager, Administrator, Official
      ___ Clerical ___ Sales (including real estate & insurance)
      ___ Foremen & Craftsmen (electricians, machinists, carpenters)
      ___ Operatives (vehicle operators) ___ Service Workers (cooks,
                                                                 bartenders, maids, housekeepers) ___ Laborers
      ___ Not Employed
5. My relationship status is: ___ Live alone ___ Live with lover
   ___ Live with roommate ___ Live with spouse ___ Live with Family
   ___ Single Parent ___ Other
6. My current marital status is: ___ Single ___ Never Married
   ___ Married ___ Separated ___ Divorced
   ___ Divorced & Remarried ___ Widowed
8. My current relationship has lasted: (Please state number of months / years)
   ______ Months ______ Years ___No Current Relationship
9. My birth order is: ___ Oldest ___ Born Second ___ Born Third
   ___ Born Fourth ___ Born Fifth ___ Born Sixth ___ Youngest
   ___ Only Child
10. The number of brothers and sisters (include step-brothers & step-sisters) I
    have is: ___ None ___ One ___ Two ___ Three ___ Four
         ___ More than Four
11. My annual family income (current household) is:
    __________________________
12. My father's highest completed level of education is:
   ______ Grade School ______ High School ______ Some College
   ______ Technical School ______ College Degree ______ Master's Degree
   ______ Doctoral Degree
13. My father's occupation was/is:
   ______ Manual worker / Manual Laborer (e.g., farm worker, gardener)
   ______ Semi-skilled / Skilled Labor (e.g., cook, bartender)
   ______ Foremen & Craftsmen (e.g., electricians, machinist)
   ______ Sales (including real estate & insurance)
   ______ Clerical
   ______ Proprietors & Managers
   ______ Health Professional (Doctors, Professors, Scientists)
   ______ Other Professional (Teachers, Accountants, Clergy, Editors,
       Lawyers, Architects, Engineers)
14. My mother's highest completed level of education is:

- Grade School
- High School
- Some College
- Technical School
- College Degree
- Master's Degree
- Doctoral Degree

15. My mother's occupation was/is:

- Housewife
- Manual worker / Manual Laborer (e.g., farm worker, gardener)
- Semi-skilled / Skilled Labor (e.g., cook, bartender)
- Foremen & Craftsmen (e.g., electricians, machinist)
- Sales (including real estate & insurance)
- Clerical
- Proprietors & Managers
- Health Professional (Doctors, Professors, Scientists)
- Other Professional (Teachers, Accountants, Clergy, Editors, Lawyers, Architects, Engineers)

16. In my childhood, the location I lived the longest was:

- Metropolis, City, Medium City, Suburbs
- Farm, Reservation, Small Town, Village

17. As an adult, the location I have lived the longest is:

- Metropolis, City, Medium City, Suburbs
- Farm, Reservation, Small Town, Village

Please answer the next three questions with Yes or No.

18. I have a close friend or relative who identifies their sexual lifestyle as gay or lesbian: _______

19. I have worked with a gay male or lesbian: _______

20. I have had personal contact with a person/persons with AIDS: _______
You do not have to respond to Question 21, however, the information asked would be appropriate and necessary for this research.

21. My ethnic group is:  ____ American Indian/Alaskan Native
    ____ Asian/Pacific Islander  ____ Black/African American
    ____ Hispanic  ____ White  ____ Other
    (please specify other) _____________________________________________

SECTION B Familiarity with Acquired Immune Deficiency Syndrome

(Please answer each item as carefully and accurately as you can by checking off the appropriate blank using True, False or Don't Know)

1. AIDS is a contagious disease, which is usually fatal.  ____ True  ____ False
   ____ Don't Know

2. I believe I am personally vulnerable to this virus in a patient-care setting.
   ____ True  ____ False  ____ Don't Know

3. AIDS can be transmitted by drinking from a glass which has been drunk from by a person with AIDS (PWA).  ____ True  ____ False  ____ Don't Know

4. The virus which is responsible for becoming seropositive to the AIDS antibody is HIV III.
   ____ True  ____ False  ____ Don't Know

5. The HIV virus is present in all body fluids.  ____ True  ____ False  ____ Don't Know

6. I am at risk for becoming seropositive (the presence of antibodies to the AIDS virus present in the bloodstream) if I come into contact with the oral/nasal secretions of a person with AIDS (PWA).  ____ True  ____ False  ____ Don't Know

7. A person who is seropositive may be infected but not ill.  ____ True
   ____ False  ____ Don't Know
8. As of 1989, there is no cure for or vaccine against the virus which causes AIDS.  
   X True  ___ False  ___ Don't Know

9. The HIV is not a retrovirus.  ___ True  X False  ___ Don't Know

10. One of the fastest growing categories of persons with AIDS (PWA's) is heterosexual women.  X True  ___ False  ___ Don't Know

SECTION C  Attitudes Towards Others

For each of the following statements, please indicate whether you:

1 2 3 4 5
Strongly Disagree Are Agree Strongly
Disagree Uncertain Agree

There are no right or wrong answers - what you honestly decide is the right answer for you.

____ 1. People who have multiple sexual partners are more likely to have AIDS.

____ 2. All people who have AIDS are homosexuals.

____ 3. I would not continue a relationship with someone I loved if he/she had AIDS.

____ 4. Anal sex is against the laws of God.

____ 5. Having sex with persons who are intravenous drug users increases the risk of contacting AIDS.

____ 6. People who have AIDS are immoral.

____ 7. Prostitutes may be a source of contracting AIDS.

____ 8. Pregnant women who have AIDS can transmit it to the fetus.

____ 9. The increase in AIDS in the U.S. will lead to more conservative sexual behavior.

____ 10. AIDS is more frequent in urban areas.

____ 11. I would disown a family member who had AIDS.

____ 12. It is dangerous for hospital workers to care for AIDS patients.
13. It is hazardous to use the same toilet facilities as those used by AIDS patients.
14. The government should be putting more money into research to develop a vaccine against AIDS.
15. AIDS is a major health problem in our society.
16. We should not waste tax money on people with AIDS.
17. All people with AIDS die.
18. All gay males are carriers of AIDS.
19. Casual contact with persons who might be at risk to develop AIDS does not place others at risk of getting the illness.
20. The transmission of AIDS requires the exchange of body fluids, such as the exchange that occurs in intimate sexual relationships or an exposure to the blood from infected persons.
21. Anyone practicing anal sex deserves to get AIDS.
22. All persons who have been exposed to AIDS will get the disease.
23. Health personnel, such as physicians, dentists, and nurses, with AIDS should not be allowed to practice.
24. AIDS can be transmitted through tears.
25. AIDS can be transmitted through contact with saliva (I.E. kissing).
26. AIDS patients who are teachers, and others who deal with children, should be removed from the job.
27. AIDS can be transmitted through breast feeding.
28. If a parent gets AIDS, the children should be removed from the home.
29. Condoms can help prevent AIDS.
30. AIDS is God's way of punishing homosexuals.
31. Students who have been exposed to AIDS should be dismissed from college.
32. Students exposed to AIDS should be excluded from eating places on campus.
33. I would not live in a dormitory with someone suspected of having been exposed to AIDS.

SECTION D  Index of Attitudes Towards Homosexuals

For each of the following statements, please indicate whether you:

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<td>Are Neutral</td>
<td>Agree</td>
<td>Strongly Agree</td>
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There are no right or wrong answers - what you honestly decide is the right answer for you.

1. I would feel comfortable working with a male homosexual.
2. I would enjoy attending social functions at which homosexuals were present.
3. I would feel uncomfortable if I learned that my neighbor was homosexual.
4. If a member of my sex made a sexual advance toward me I would feel angry.
5. I would feel comfortable knowing that I was attractive to members of my sex.
6. I would feel uncomfortable being seen in a gay bar.
7. I would feel comfortable if a member of my sex made an advance toward me.
8. I would be comfortable if I found myself attracted to a member of my sex.
9. I would feel disappointed if I learned that my child was homosexual.
10. I would feel nervous being in a group of homosexuals.
11. I would feel comfortable knowing that my clergyman was homosexual.
12. I would be upset if I learned that my brother or sister was homosexual.
13. I would feel that I had failed as a parent if I learned that my child was gay.
14. If I saw two men holding hands in public I would feel disgusted.
15. If a member of my sex made an advance toward me I would be offended.
16. I would feel comfortable if I learned that my daughter's teacher was a lesbian.
17. I would feel uncomfortable if I learned that my spouse or partner was attracted to members of his or her sex.
18. I would feel at ease talking with a homosexual person at a party.
19. I would feel uncomfortable if I learned that my boss was homosexual.
20. It would not bother me to walk through a predominantly gay section of town.
21. It would disturb me to find out that my doctor was homosexual.
22. I would feel comfortable if I learned that my best friend of my sex was homosexual.
23. If a member of my sex made an advance toward me I would feel flattered.
24. I would feel uncomfortable knowing that my son's male teacher was homosexual.
25. I would feel comfortable working closely with a female homosexual.
SECTION E Personal Attitudes

Please read each statement and decide whether you feel in general that it is mostly true as applied to you or mostly false. Answer "True" to positively stated questions if they are true as often or more often than stated. For example, answer "True" to "Occasionally, I play poker" if you play occasionally or more often.

1. I find it is hard to keep my mind on a task or job.
2. I am sometimes irritated by people who ask favors of me.
3. I am happy most of the time.
4. Before voting, I thoroughly investigate the qualifications of all candidates.
5. I believe I am no more nervous than most others.
6. I sometimes think when people have a misfortune they only got what they deserved.
7. I am more sensitive than most other people.
8. I like to gossip at times.
9. On occasion I have had doubts on my ability to succeed in life.
10. There have been occasions when I took advantage of someone.
11. I am a high-strung person.
12. I have never intensely disliked anyone.
13. I cannot keep my mind on one thing.
14. I never make a long trip without checking the safety of my car.
15. I have periods of such great restlessness that I cannot sit long in a chair.
16. I am always courteous, even to people who are disagreeable.
17. On a few occasions, I have given up doing something because I thought too little of my ability.
18. I am always careful about my manner of dress.
Please read each statement and decide whether you feel in general that it is mostly true as applied to you or mostly false. Answer "True" to positively stated questions if they are true as often or more often than stated. For example, answer "True" to "Occasionally, I play poker" if you play occasionally or more often.

19. At times I think I am no good at all.
20. I have never felt that I was punished without cause.
21. When I don't know something, I don't at all mind admitting it.
22. I am usually calm and not easily upset.
23. I never resent being asked to return a favor.
24. I am not usually self-conscious.
25. I sometimes try to get even, rather than forgive and forget.
26. If I could get into a movie without paying and be sure I was not seen, I would probably do it.
27. I work under a great deal of pressure.
28. I have never deliberately said something that hurt someone's feelings.
29. I can remember "playing sick" to get out of something.
30. I am inclined to take things hard.
31. I sometimes feel resentful when I don't get my way.
32. Life is a strain for me much of the time.
33. No matter who I'm talking to, I'm always a good listener.
34. I certainly feel useless at times.
35. I always try to practice what I preach.
36. There have been times when I was quite jealous of the good fortunes of others.
37. I sometimes feel that I am about to go to pieces.
38. I have never been irked when people expressed ideas very different from my own.
Please read each statement and decide whether you feel in general that it is mostly true as applied to you or mostly false. Answer "True" to positively stated questions if they are true as often or more often than stated. For example, answer "True" to "Occasionally, I play poker" if you play occasionally or more often.

39. My table manners at home are as good as when I eat out in a restaurant.
40. There have been occasions when I felt like smashing things.
41. I have sometimes felt that difficulties were piling up so high that I could not overcome them.
42. I never hesitate to go out of my way to help someone in trouble.
43. It is sometimes hard for me to go on with my work if I am not encouraged.
44. At times I have really insisted on having things my own way.
45. I feel anxiety about something or someone almost all the time.
46. I'm always willing to admit it when I make a mistake.
47. There have been times when I felt like rebelling against people in authority even though I knew they were right.
48. I frequently find myself worrying about something.
49. I have almost never felt the urge to tell someone off.
50. I shrink from facing a crisis or difficulty.
51. I don't find it particularly difficult to get along with loud-mouthed, obnoxious people.
52. I am certainly lacking in self-confidence.
53. I would never think of letting someone else be punished for my wrong doings.
SECTION F  Attitudes Towards Self

Below you will find listed a number of personality characteristics. We would like you to use those characteristics to describe yourself, that is, we would like you to indicate, on a scale from 1 to 7, how true of you each of these characteristics is. Please do not leave any characteristic unmarked.

Example: sly

Write a 1 if it is never or almost never true that you are sly.
Write a 2 if it is usually not true that you are sly.
Write a 3 if it is sometimes but infrequently true that you are sly.
Write a 4 if it is occasionally true that you are sly.
Write a 5 if it is often true that you are sly.
Write a 6 if it is usually true that you are sly.
Write a 7 if it is always or almost always true that you are sly.

Thus, if you feel it is sometimes but infrequently true that you are "sly," never or almost never true that you are "malicious," always or almost always true that you are "irresponsible," and often true that you are "carefree," then you would rate these characteristics as follows:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sly</td>
<td>3</td>
</tr>
<tr>
<td>Malicious</td>
<td>1</td>
</tr>
<tr>
<td>Irresponsible</td>
<td>7</td>
</tr>
<tr>
<td>Carefree</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Never or</td>
<td>Usually</td>
</tr>
<tr>
<td>almost</td>
<td>not</td>
</tr>
<tr>
<td>never</td>
<td>true</td>
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<table>
<thead>
<tr>
<th></th>
<th>3</th>
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<tbody>
<tr>
<td>Defend my own beliefs</td>
<td></td>
</tr>
<tr>
<td>Independent</td>
<td></td>
</tr>
<tr>
<td>Have leadership abilities</td>
<td></td>
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<tr>
<td>Compassionate</td>
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<tr>
<td>Willing to take a stand</td>
<td></td>
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<tr>
<td>Willing to take risks</td>
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<tr>
<td>Assertive</td>
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<tr>
<td>Strong Personality</td>
<td></td>
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<tr>
<td>Eager to soothe hurt feelings</td>
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<tr>
<td>Sensitive to the needs of others</td>
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<tr>
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<th>7</th>
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<tbody>
<tr>
<td>Adaptable</td>
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<tr>
<td>Tender</td>
<td></td>
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<tr>
<td>Love Children</td>
<td></td>
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<tr>
<td>Aggressive</td>
<td></td>
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<tr>
<td>Conventional</td>
<td></td>
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<td>Affectionate</td>
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<td>Conscientious</td>
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<td>Understanding</td>
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<td>Truthful</td>
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<tr>
<td>Sympathetic</td>
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<th>8</th>
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<tbody>
<tr>
<td>Dominant</td>
<td></td>
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<tr>
<td>Conceited</td>
<td></td>
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<td>Tactful</td>
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<td>Gentle</td>
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<td>Warm</td>
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<td>Moody</td>
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<td>Reliable</td>
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<td>Jealous</td>
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<td>Secretive</td>
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<tr>
<td>Forceful</td>
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REFERENCES


