Nursing students' AIDS knowledge, attitudes, social norms, and intentions to care for AIDS patients

Martin Medvejer
University of Nevada, Las Vegas

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NURSING STUDENTS' AIDS KNOWLEDGE, ATTITUDES, SOCIAL NORMS, AND INTENTIONS TO CARE FOR AIDS PATIENTS

by

Martin Medvejer

Bachelor of Science
Brooklyn College
1977

Associate of Arts in Nursing
University of Nevada, Las Vegas
1983

Bachelor of Science
University of Nevada, Las Vegas
1987

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

Master of Science

in

Nursing

Department of Nursing
University of Nevada, Las Vegas
May 1998

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The Thesis prepared by

Martin Medvejer

Entitled

NURSING STUDENTS' AIDS KNOWLEDGE, ATTITUDES, SOCIAL NORMS, AND INTENDIONS TO CARE FOR AIDS PATIENTS

is approved in partial fulfillment of the requirements for the degree of

Master of Science

Mary Keilman
Examination Committee Member

Susan Kovaleski
Examination Committee Member

Jane Brown
Graduate College Faculty Representative

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ABSTRACT

Nursing Students' AIDS Knowledge, Attitudes, Social Norms, and Intentions to Care for AIDS Patients

by

Martin Medvejer

Dr. Margaret Louis, Examination Committee Chair
Associate Professor of Nursing
University of Nevada, Las Vegas

In this study, a descriptive correlational design was used to examine relationships between nursing students' AIDS knowledge, attitudes, and subjective norms, with intention to care for AIDS patients using Ajzen-Fishbein's Theory of Reasoned Action. Two questionnaires were distributed to a convenience sample of 243 nursing students. The first questionnaire Beliefs About Caring for Persons who are HIV Positive developed by Laschinger and Goldenberg (1993) tested for attitudes and subjective norms as predictors of intended care with AIDS patients based on Ajzen-Fishbein's Theory of Reasoned Action and a second questionnaire AIDS/HIV Knowledge developed by Tessaro (1995) tested for nursing students knowledge on AIDS. The difference between nursing students' level of AIDS knowledge was analyzed with their attitudes, subjective...
norms, and intentions to care for AIDS patients. In addition, behavioral beliefs and normative beliefs were compared between nursing students who intended to care for AIDS patients and those who did not intend to care for AIDS patients. Results supported the Ajzen-Fishbein's Theory of Reasoned Action that attitudes and subjective norms were major determinants of intentions. There were no significant differences in nursing students attitudes, subjective norms and intentions with their AIDS knowledge scores. Nursing students who intended to care for AIDS patients differed significantly in their beliefs that they and their other patients were less at risk for contracting the virus and they were less likely to be shunned by their family and friends than nursing students who did not intend to care for AIDS patients. Significant differences were also found on six of the seven normative belief items between nursing students who intend to care with AIDS patients and those who did not. Findings indicate that educational programs should focus on teaching strategies that address the affective domains of learning.
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CHAPTER I

INTRODUCTION

According to the Centers for Disease Control (1997), there were 591,775 cases of acquired immunodeficiency syndrome (AIDS) in the United States. The city where this study was conducted had 2,621 diagnosed cases of AIDS as of June 1997 (Centers for Disease Control and Prevention, 1997). Due to the number of AIDS cases, it is certain that many nurses will be assigned to care for patients or clients who are infected with the human immunodeficiency virus (HIV). Nurses need to be knowledgeable in the care of HIV infected patients to provide safe, competent care and to protect themselves from HIV exposure.

To provide effective practice nurses also need to have positive attitudes towards patients with HIV/AIDS and a willingness to care for them. It has been found that nurses' attitudes towards patients with AIDS are influenced by the manner in which patients acquired the immunodeficiency virus (Cole & Slocumb, 1993; Forrester & Murphy, 1992). Nurses were less sympathetic towards homosexuals than patients who acquired HIV through blood transfusions (Alexander & Fitzpatrick, 1991). Nurses admit that the way the HIV virus was transmitted was "troublesome to them" (Van Wissen & Woodman, 1994). This is problematic because professional ethics require nurses treat all...
patients, no matter how they contracted an illness or injury, in a nonjudgmental, compassionate, and supportive manner.

In addition, a survey of 346 subscribers to the magazine Nursing found that 7% of nurses indicated they had refused care to AIDS patients (Brennan, 1988). Dworkin, Albrecht, and Cooksey (1991) found that only 8% of the 378 nurses questioned were willing to work on an AIDS unit. Health care workers, including nurses, believed that health care workers have the right to refuse care to AIDS patients (Currey, Johnson, & Ogden, 1990). It is apparent from these studies that there are many nurses who have reservations about caring for AIDS patients.

Studies have been conducted with nursing students and nurses about their intentions to care for AIDS patients. Nurses who were fearful of contracting HIV infection while caring for AIDS patients or had more negative attitudes toward intravenous drug users or homosexuals were more likely to avoid caring for AIDS patients (Jemmott, Freleicher, & Jemmott, 1992). Nurses who perceived their significant others as being supportive of them working with AIDS patients had stronger intentions to work with AIDS patients (Sherman, 1996; Tessaro & Highriter, 1994). Nursing students also had stronger intentions to avoid caring for AIDS patients if they had less AIDS knowledge, feared acquiring AIDS at work, or had negative attitudes towards intravenous drug users (Jemmott, Jemmott, & Cruz-Collins, 1992). However, Melby, Boore, and Murray (1992) found that AIDS knowledge was not predictive of nurses' intention to care for AIDS patients.

Most studies have found a positive relationship between nurses and nursing
students' level of AIDS knowledge and their attitude towards AIDS patients (Armstrong-Esther & Hewitt, 1990; Brown, Calder, & Rae, 1990; Oermann & Gignac, 1991), while Robbins, Cooper, and Bender (1992) found no relationship between nursing students' level of AIDS knowledge with their attitudes towards AIDS patients. The contradictory results of nurses' AIDS knowledge and their attitudes indicate a need to further study the relationship between AIDS knowledge and attitudes. Based on the number of nurses who indicate they avoid caring for AIDS patients and the increasing numbers of persons with HIV, the determinants of nursing students' intentions to care for AIDS patients need further exploration.

Statement of the Problem

It has been observed that nurses who have indicated they are not willing to care for AIDS patients and who are assigned to care for these patients are less apt to spend the time needed to provide the care and emotional support AIDS patients require. Nurse administrators reported nurses provided nursing care quickly and limited their interaction with AIDS patients to limit their exposure to the disease (Nagelkerk, 1994). Baylor and McDaniel (1996) suggested that nurses with negative attitudes toward caring for AIDS patients would have difficulty establishing therapeutic relationships with AIDS patients, and this would have a negative effect on the quality of care these patients receive. Studies have shown a relationship between nurses' attitudes about AIDS and their perceived social influences (social norms) with their intentions to care for AIDS patients (Laschinger & Goldenberg, 1993; Tessaro & Highriter, 1994). Since nurses' attitudes and
willingness to care for AIDS patients have an affect on the quality of care patients receive. A tool is needed to identify the determinants and ascertain the relationship of those determinants of nurses' intentions to care for AIDS patients. The Ajzen-Fishbein Model (1980) which contains the concepts of attitudes and social norms, is a tool that can be utilized to identify the determinants of nurses' intentions to care for AIDS patients and to predict those intentions.

Purpose of the Study

The purpose of this study was to investigate nursing students' AIDS knowledge, attitudes, subjective norms, and intention to care for patients with AIDS through application of the Theory of Reasoned Action (Ajzen & Fishbein, 1980). Nursing students' attitudes, subjective norms, and intention to care for AIDS patients were compared between nursing students who scored above the third quartile with those who scored below the first quartile of the AIDS knowledge test. In addition, nursing students' behavioral beliefs and normative beliefs about caring for AIDS patients were analyzed comparing nursing students who intend to care for AIDS patients with those who do not.
CHAPTER II

CRITICAL REVIEW OF RELEVANT LITERATURE

Introduction

This review of literature consists of a summary of studies which have examined nurses' and nursing students' knowledge, attitudes, concerns about AIDS, and willingness to care for AIDS patients. Other key pieces of literature reflecting influential factors affecting attitudes towards AIDS and intention to care for AIDS patients, including the effects of education and AIDS knowledge are also reviewed. The Laschinger and Goldenberg's (1993) study, which was the basis for this study, is discussed in detail.

AIDS Knowledge

The reported level of AIDS knowledge among registered nurses varied from study to study. Many studies indicated that nurses had a high degree of AIDS knowledge based on their scores on AIDS knowledge questionnaires (Barrett, 1992; Damrosch, Abbey, Warner, & Guy, 1990). Barrett used a 12 item knowledge questionnaire to test for AIDS knowledge among 74 operating room nurses from 10 randomly selected acute care Veterans Affair Medical Centers. Content validity of the questionnaire was not reported by the researcher. The majority of the nurses answered 9 of the 12 AIDS knowledge questions correctly. Operating room nurses with fewer years of experience scored...
It was posited by the researcher that more recently hired operating room nurses may have received newer information about AIDS during their orientation program. Damrosch et al. compared AIDS knowledge between 42 teaching hospital critical care nurses and 48 community hospital critical care nurses using 16 multiple-choice and true-false type knowledge items. The AIDS knowledge questionnaire was adapted from a questionnaire by Dawson and Thornberry (1987), and items were reviewed for content validity by nursing faculty who teach about AIDS. More than 90% of the nurses correctly answered 12 of the 16 items of the knowledge questionnaire. The mean score on the AIDS knowledge test was almost identical for both groups of nurses.

In contrast, other studies indicated that nurses perceived their AIDS knowledge as inadequate (Plant & Foster, 1993), or they scored low on AIDS knowledge measures (Melby et al., 1992). Plant and Foster used a 10 true-false item questionnaire to study 600 nurses from Scotland. Content validity of the questionnaire was not reported by the researchers. The overall mean AIDS knowledge score for the nurses was 5.3 out of a possible score of 10. Nurses with higher seniority scored significantly higher on the AIDS knowledge test. Melby et al. used a modified 54 item AIDS knowledge instrument developed by Morton and McManus (1986) to study AIDS knowledge among 479 nurses from Northern Ireland. The AIDS knowledge items consisted of general knowledge of HIV: conditions and complications associated with HIV; body fluids from which HIV has been isolated; HIV terminology; and risk groups. Content validity of the knowledge instrument was not reported by the researchers. The average score of correct answers was
46% for the nurses. Community nurses scored significantly higher in the AIDS knowledge test than hospital nurses. Rae, Brown, and Calder (1992) surveyed 332 registered nurses in one hospital in Canada. A 35 item questionnaire developed by Scherer and Haughey (1989) was used to test for the nurses' knowledge on AIDS. Content validity of the questionnaire was not reported by the researchers. The mean score on the 35 questions was 24.96. The nurses' average scores for knowledge on the mode of transmission and knowledge of treatment were 82% and 78% respectively. However, the average scores for epidemiology and pathophysiology portion of the questionnaire were only 58% and 66% respectively. Nurses who had cared for AIDS patients had significantly higher AIDS knowledge score than nurses who had not cared for AIDS patients.

To study AIDS knowledge among 147 nursing students, Oermann and Gignac (1991) used a 70 item modified version of the AIDS Knowledge and Attitudes Assess Test developed by Lawrence and Lawrence (1989). Content validity was established by the developers of the test but details were not reported in the article. The results of the study indicated that although AIDS knowledge scores increased as nursing students progressed through the nursing program, they remained low on the disease typology and the application of facts to technical practice components of the knowledge test.

Byrne and Murphy (1993) studied AIDS knowledge of 39 freshman and 105 senior nursing students. The instrument used to test the students' AIDS knowledge consisted of 32 true or false questions developed by Goodwin and Rosecoe (1988). Content validity of the instrument was not reported by the researchers. The results
indicated that although senior nursing students had higher AIDS knowledge scores than freshman nursing students, both group scored at a medium level of AIDS knowledge. Items of the knowledge test that nursing students scored low were prevalence rates, means of transmission, individuals at high risk for contracting the disease and early symptoms of the disease.

Jemmott, Jemmott, et al. (1992) used a 20 item true-false scale to test for AIDS knowledge among 153 sophomore and senior nursing students. The AIDS knowledge items were drawn from the National Health Interview Survey of AIDS Knowledge and Attitudes. Content validity of the questionnaire was not reported by the researchers. Over 90% of the nursing students correctly answered 13 of the 20 items. Senior nursing students scored significantly higher on the AIDS knowledge test than sophomore nursing students as a result of an AIDS content being incorporated into the nursing curriculum in the junior year.

Williams (1995) used a 60 item standardized AIDS knowledge test. Caring for Persons with AIDS, to study 21 undergraduate and graduate nursing students in one state university. The AIDS test was developed by the National League for Nursing and consisted of 21 knowledge questions and 39 application questions. All items were multiple choice. The mean score for the nursing students was 40.89.

The nurses' and nursing students' sources of acquiring AIDS related knowledge were identified as in-service, part of the school's curriculum, government, journals, television, radio, magazines, newspapers, and friends (Armstrong-Esther & Hewitt, 1990; Bond, Rhodes, Philips, Setters, Foy, & Bond, 1990; Laschinger & Goldenberg, 1993; Rae...
et al., 1992). These sources of information suggest a very divergent depth, breath, and accuracy of content. Steele and Melby (1995) found hospice nurses tend to make more use of the available resources for information on AIDS than community or hospital nurses. Rae et al. found that when employers provided in-services on AIDS, only 60% of the nurses attended the in-service. These studies did not investigate the effectiveness of acquiring AIDS knowledge from the various sources. However, Rae et al. found that nurses whose employers provided opportunity to learn about AIDS had higher knowledge scores and more positive attitudes towards caring for AIDS patients. Dols and Bradley-Magnuson (1996) found that nurses who updated their AIDS knowledge more frequently than other nurses, were more willing to care for AIDS patients. The researchers indicated that a high level of interest in AIDS may result in nurses willing to care for AIDS patients.

Summary

It is apparent from the literature that there were conflicting results regarding the level of AIDS knowledge among nurses and nursing students. Studies that used an AIDS knowledge questionnaire with a greater number of items, which covered a broader spectrum of AIDS knowledge, and that measured more specific AIDS knowledge items resulted in lower AIDS knowledge scores. The studies that used basic AIDS knowledge items resulted in higher AIDS knowledge scores for nurses and nursing students.
Attitudes and Concerns about HIV Care

Fear of Contracting AIDS

Van Wissen and Siebers (1993) surveyed 286 nurses from one randomly selected hospital in New Zealand regarding their concerns about AIDS. Only 14% of the nurses were concerned about contracting AIDS in the workplace. Alexander and Fitzpatrick's (1991) survey of 136 registered nurses from one Midwestern teaching and research hospital found 46% of the nurses agreed to the statement "I am/would be fearful of contracting AIDS when caring for individuals with AIDS". In the same study, regarding nurses' concerns, 31% of the nurses agreed to the statement "The major concerns I have/would have about caring for patients with AIDS are "Will I get AIDS and will I die?". Among the 236 critical care nurses surveyed, using a 3 point Likert Scale to respond to 18 statements, 59% agreed with the statement "I am/would be fearful of contracting AIDS from patients" (Scherer, Haughey, Wu, & Kuhn, 1992). Baylor and McDaniel (1996) examined 138 registered nurses randomly selected from registered nurses licensed by the Health Professions Bureau in one Midwestern state regarding their attitudes toward caring for AIDS patients. Over 40% of the nurses agreed to the statement that a major concern they would have in caring for AIDS patients was fear of contracting the virus and dying. In a more recent study, Dols and Bradley-Magnuson (1996) found only 19% of 116 randomly selected registered nurses in Pima County, Arizona, agreed or strongly agreed with the statement that they were fearful of contracting HIV/AIDS in the routine care of an infected patient.
Glad, Tan, and Erlen (1995) investigated the relationship among nurses' homophobia, fear of AIDS, and occupational risk for contracting AIDS. In a pilot study, 24 staff nurses were randomly chosen to participate in the study. Three instruments were used in this study: Fear of AIDS scale, Index of Homophobia, and Perception of Occupational Based Risk of Contracting HIV, which measures nurses' perception of contracting HIV in the workplace. Higher scores on these instruments indicated a more positive attitude. On the Fear of AIDS scale the mean score for the sample was 46.3 (SD=5.9), with a range of 35-61. On the Index of Homophobia, the mean score was 22.5 (SD=6), with a range of 9-33. On the Perception of Occupational Based Risk, 33% of the nurses perceived their risk of contracting HIV in the workplace as extremely high. Nurses who perceived themselves to be at low risk of contracting AIDS had a less fear of AIDS.

With regard to AIDS attitudes and concerns among nursing students, Byrne and Murphy (1993) studied 39 freshman and 105 senior undergraduate nursing students. They found nursing student seniors had statistically lower fear of AIDS scores and homophobia scores than the nursing student freshmen.

**Mandatory Testing for HIV**

Studies have indicated that nurses support mandatory HIV testing for all patients admitted to hospitals. Hunt, Waddel, and Robathan (1990) found 45% of 238 nurses in a pediatric teaching hospital in Australia favored all patients admitted to hospitals be tested for HIV. It was posited by the researchers that nurses' support for mandatory HIV testing
may have been influenced by a phobia of AIDS which was shown to have a positive relationship with nurses' beliefs that all people admitted to hospitals be tested for HIV. Among a survey of 1015 stratified randomly selected perioperative registered nurses from AORN membership, 57% supported mandatory HIV testing for all patients (Reeder, Hamblet, Killen, King, & Uruburu, 1994). It was proposed that the high rate of operating room nurses who supported mandatory HIV testing of people admitted to a hospital may be due to these nurses' higher perception of risk in acquiring HIV from their patients. Forty-four percent of these perioperative nurses responded that they had a moderate to high risk of contracting HIV while caring for HIV infected patients. Perioperative nurses who provided direct nursing care were more likely to avoid caring for AIDS patients or had avoided caring for AIDS patients than did nurses who have not provided direct patient care.

Refusal to Care for HIV Positive Patients

Many nurses indicated that they should have the right to refuse to care for HIV positive patients (Plant & Foster, 1993; Van Wissen & Woodman, 1994). Plant and Foster surveyed 600 nurses and found that 25% indicated they had a right to refuse to treat HIV positive patients. Van Wissen and Woodman, in a qualitative study of 29 nurses (registered nurses and midwives) from a public hospital in New Zealand, found that most of these nurses stated they had the right to choose whether they would or would not care for AIDS patients. In contrast, Damrosch et al. (1990) found that while 79% of 48 community hospital nurses and 67% of 42 teaching hospital nurses believed it was
unethical to refuse to treat a patient, if given a choice, they would refuse to give care to AIDS patient. Among 378 nurses surveyed, Dworkin et al. (1991) found 77% of the nurses believed they had an obligation to care for all patients assigned them.

**Isolation of HIV Positive Patients**

Many nurses believed that HIV positive patients should only be cared for in a specialty unit or isolated from other patients in the hospital. Dworkin et al. (1991) found 64% of the 378 nurses believed that AIDS patients should be on a specialty unit. Hunt et al. (1990) surveyed 391 hospital employed health professionals and found that 46% of the nurses believed AIDS patients should be isolated from other patients. Whereas Akinsanya and Rouse (1992) found only 23% of 717 hospital nurses from 11 randomly selected health districts in England believed that AIDS patients should be isolated from other patients. These studies proposed that nurses who believed in isolating AIDS patients from other hospital patients were afraid of contracting HIV rather than believing that specialty care as benefiting the AIDS patients.

**Nurses' Attitudes Based on Means of Acquiring HIV**

With regard to how the patients acquired HIV, it was found perioperative nurses had less positive attitudes towards intravenous drug users than homosexuals (Reeder et al., 1994). Forrester and Murphy (1992) used six vignettes to study 360 nurses' attitudes towards three independent variables: medical diagnosis, sexual orientation, and intravenous drug use history. The researchers found that nurses had more negative attitudes toward patients who were intravenous drug users than non-intravenous drug
users. However, no differences were found regarding the patients' sexual orientation, although the nurses had more negative attitudes towards patients with AIDS in general than patients with leukemia. The researchers proposed that nurses' attitudes toward homosexuality may have become more positive over time due to the increase of homosexual patients nurses may be encountering at work.

Confidence about Providing Care for AIDS Patients

Bond, et al. (1990) surveyed 3797 nurses (community nurses, health visitors, school nurses, midwives, and psychiatric nurses) from 64 health authorities in England. The researchers reported that a significant lower proportion of nurses felt confident about providing care to AIDS patients compared to other patients. Nurses who had experience with caring for AIDS patients or had received in-service education were significantly more confident in providing care to AIDS patients. In a qualitative study of 29 nurses at hospital within a New Zealand regional health authority, Van Wissen and Woodman (1994) found that the majority of nurses felt uncomfortable caring for AIDS patients. It was proposed that this was due to the nurses' lack of experience in working with AIDS patients or lack of knowledge on AIDS.

Caring for AIDS Patients and Relationships with Significant Others

Several studies examined nurses' and nursing students' concerns regarding what effect their caring for AIDS patients would have on their relationship with their significant others. Alexander and Fitzpatrick (1991) found 19% of 136 registered nurses working in a teaching and research hospital believed caring for AIDS patients would have
an effect on their relationship with their significant other, and 31% of the nurses worried about putting their family, friends, and colleagues at risk of contracting AIDS. Scherer et al. (1992) found 32% of 236 critical care nurses believed that caring for AIDS patients would put their family, friends, and colleagues at risk of contracting AIDS. Van Wissen and Siebers (1993) found that among 286 nursing staff in a New Zealand hospital 31% reported that their family and friends were apprehensive about their work with relation to AIDS. In contrast, a study by Dols and Bradley-Magnuson (1996) reported only 6% of 116 registered nurses indicated concerns regarding putting their family and friends at risk of contracting AIDS. Among nursing students, Byrne and Murphy (1993) found 69% of 39 nursing students freshmen and 81% of 105 nursing students seniors indicated that a significant other had expressed concern over their choice of nursing because of AIDS.

**Summary**

These studies suggested that nurses supported mandatory HIV testing for all patients admitted to hospitals. There were contradictory results among the studies with regard to whether nurses should have the right to refuse to care for AIDS patients and whether AIDS patients should be separated from other patients in hospitals or treated in a specialty unit. Nurses had more negative attitudes toward AIDS patients who were intravenous drug users than other AIDS patients who contracted the disease through other means. Most of the studies indicated that nurses were fearful of contracting AIDS while caring for AIDS patients. Studies had conflicting results with regard to attitudes about putting their family and friends at risk of contracting AIDS. Few studies in the literature
using nursing students investigated nursing students' attitudes on AIDS; rather they focused on the effect of AIDS knowledge on AIDS attitudes. This is discussed in the next section.

Relationships between AIDS Knowledge and Attitudes

Brown et al. (1990) investigated if increased knowledge about AIDS would change nursing students' attitudes towards people with AIDS. In a pretest-post-test design, 319 nursing students from one baccalaureate nursing program in Canada attended a day long AIDS workshop. The content of the workshop included a presentation of the pathophysiology of AIDS, opportunistic infections, infection control, and the psychosocial aspects of AIDS. The participants' knowledge and attitudes were tested prior to the workshop and two and half weeks after the workshop. The post-test indicated a significant increase in knowledge about AIDS and a more positive attitude toward caring for patients with AIDS. The researchers posited that more positive attitudes toward caring for AIDS patients may be related to the gain in AIDS knowledge.

Armstrong-Esther and Hewitt (1990) investigated the effect of an AIDS education on AIDS knowledge and attitudes towards AIDS and AIDS patients with 60 registered nurses in a baccalaureate nursing program at a university in Canada. The nursing students were enrolled in an epidemiology class that focused on AIDS and AIDS patient care. The teaching methods used in the course were not indicated by the researchers. In a pretest-post test design, nursing students were tested on AIDS knowledge and attitudes towards AIDS and AIDS patients at the beginning of the course and the end of the course.
The knowledge scores of these registered nurses increased after completing the class on AIDS and AIDS care. Concerns about caring for patients with AIDS decreased and attitudes favoring total isolation of AIDS patients decreased significantly. Nurses' attitudes regarding their right to refuse to care for AIDS patients became significantly more positive. It was also found, however, that nurses still wanted to know the HIV status of their patients.

Mueller, Cerny, Amundson, and Waldron (1992) examined the attitudes of 110 undergraduate nursing students at one university after they studied the AIDS education content within the nursing curriculum. Some of topics included in the AIDS related content consisted of mode of transmission, immunology, nursing care, universal precautions, epidemiology and prevention. Instruments used to measure AIDS attitudes were AIDS-Phobia, Heterosexual Attitudes Toward Homosexuality, Homophobia Scale and behavioral intentions. The nursing students were tested at the beginning of their first academic year and again at the beginning of the second academic year, after they would have completed the AIDS related content. Study of the AIDS content produced no significant change in attitudes of these undergraduate nursing students. The AIDS content was not a specific course on AIDS, instead the AIDS topics were infused throughout the nursing curriculum. The researchers posited the lack of significant change in the nursing students' attitudes was because although the curriculum covered topics on AIDS, it did not address nursing students' feelings, attitudes, beliefs or behavioral intentions. Another reason for the lack of significant change in the nursing students' attitudes postulated by this researcher is that the nursing students only had one year of
nursing classes that were infused with AIDS related content. This may not have been enough information on AIDS to change nursing students' attitudes.

Williams (1995) examined the effect of an HIV/AIDS elective on 21 nursing students' knowledge and comfort levels in providing care to AIDS patients. The nursing students were enrolled in a nursing program in a state university and the sample consisted of sophomores, juniors, seniors, and graduate students. The elective course was taught over a 10 week term and focused on current issues and challenges of providing care to AIDS patients. The course's format included lectures and group discussions. The Nursing Care Comfort Scale was used to measure nursing students' comfort level in providing basic nursing care and the National League for Nursing Caring for Persons with AIDS test to measure AIDS knowledge. Nursing students completed the questionnaire at the beginning of the first class of the elective and at the conclusion of the 10 week course. The result indicated a statistically significant increase in AIDS knowledge and comfort levels among the nursing students after taking the course. The researcher did not indicate whether the increased comfort levels in providing care to AIDS patients of the nursing students were related to their increased AIDS knowledge.

Williams, Benedict, and Pearson (1992) examined the effect of a one-day workshop about AIDS on the degree of comfort of 93 baccalaureate level nursing students in providing care to AIDS patients. The content of the workshop included topics in socio-demographic distribution of AIDS, factors to reduce the risk of acquiring HIV infection, nursing care of AIDS patients, and current investigational treatments and issues. The Nursing Care Comfort Scale was used to measure nursing students' comfort
levels in providing basic care to AIDS patients. The content validity of the instrument was established by having five nursing instructors review the statements to determine their inclusiveness as basic nursing procedures. The nursing students were tested on the day of the seminar and again within one week after the seminar. No significant change was found in nursing students' indicated degree of comfort in providing care to AIDS patients after they participated in the workshop. The researcher posited several reasons for the lack of significant increase in comfort levels among the nursing students. The sample consisted of 50% married nursing students and the significant others of nursing students may have been concerned about their risk of contracting HIV. Nursing students may not have had contact with AIDS patients due to the low incidence of HIV in the community. Although this study used the same instrument to measure nursing students' comfort levels in providing care to AIDS patients as Williams' (1995) study, the results were conflicting. This may be explained by the fact that in this study the students participated in a one day workshop as opposed to a ten week class on AIDS as in Williams' (1995) study.

Oermann and Gignac (1991) investigated 147 nursing students by the number of years in a nursing program at a university in Canada about their knowledge and attitudes about AIDS. For the sample as a whole, subjects with more knowledge about AIDS had more positive attitudes towards people with AIDS. However, attitudes were low for all years in the nursing program and did not vary significantly between the number of years in the nursing program.

Robbins, et al. (1992) examined the relationship between knowledge, attitudes,
and degree of contact with groups of people who may be considered to be at greater risk of becoming HIV positive for three groups of people (nurses, psychology students and design students). Questionnaires consisting of a knowledge scale, attitude scale and degree of contact with groups of people who are at high risk of becoming HIV were distributed to the subjects. The sample consisted of 112 nurses from a military hospital, 63 undergraduate psychology students, and 28 post-graduate design students. The results indicated that there was no relationship between knowledge and attitudes for any of the three groups. For the design and psychology students, there was a positive relationship between attitudes and contact. The researchers explained the lack of relationship between attitude and contact among the nurses was due to the fact they worked in a military hospital and were less likely to have contact with people who were openly homosexual.

Summary

The results of these studies indicated that nursing students enrolled in classes or workshops that focused specifically on AIDS or AIDS patient care increased nursing students' level of AIDS knowledge and positive attitudes towards AIDS and AIDS patients. These classes and workshops allowed nursing students to express and explore their feelings, beliefs and attitudes during discussion periods. For the studies that did not have significant positive changes in nursing students' attitudes towards AIDS patients or comfort in providing care to AIDS patients, the researchers posited that it may have been due to low degree of contact with AIDS patients or a large percentage of the participants being married.
Intentions to Care for AIDS Patients

Jemmott, Freleicher, et al. (1992) investigated the determinants of intention to provide care to AIDS patients using 496 nurses from the New Jersey State Nurses Association. The instruments used in the study were developed by the researchers to measure avoidance intentions, perceived occupational risk, attitudes towards homosexuals and intravenous drug users, and AIDS knowledge. The results indicated that nurses who perceived greater occupational risk, those who expressed more negative attitudes toward homosexuals and intravenous drug users, had higher avoidance intention scores. Also, nurses with higher AIDS knowledge scores had lower avoidance intention scores.

In a similar study using the same instruments, Jemmott, Jemmott, et al. (1992) investigated the determinants of intentions to provide care to AIDS patients using 153 nursing students at a university in New Jersey. The results were the same as for the nurses in the previous study. Nursing students who perceived greater occupational risk, expressed more negative attitudes towards homosexuals and intravenous drug users, and those with lower AIDS knowledge scores had greater avoidance intention scores.

Tessaro and Highriter (1994), investigated the intentions to care for AIDS patients of 311 public health nurses in North Carolina. The researchers found that nurses who personally knew someone with AIDS, had a close friend or relative who was homosexual, and previously cared for a person with AIDS had significantly higher intention to care for AIDS patients scores. Also, nurses with higher positive AIDS attitude scores and indicated less concern from friends and family about their working with AIDS patients.
had significantly higher scores on intention to care for AIDS patients.

Sherman (1996) examined the intentions to care for AIDS patients among 220 female registered nurses from New York City. The instruments used in the study were the Willingness to Care for AIDS Patients Instrument, the Spiritual Orientation Inventory, Personal Resource Questionnaire-85 to measure perceived social support, and the Templer Death Anxiety Scale. For the Willingness to Care for AIDS Patients Instrument, content validity was established by a panel of AIDS educators and clinicians. Content validity for The Spiritual Orientation Inventory instrument was established by five experts in psychology and spirituality. Content validity was not reported by the researcher on the Personal Resource Questionnaire-85 and the Templer Death Anxiety Scale. The results indicated a statistically significant positive correlation between spirituality and nurses' willingness to care for AIDS patients, and between perceived social support and nurses' willingness to care for AIDS patients. A statistically significant negative correlation was reported between death anxiety and nurses' willingness to care for AIDS patients.

Goldenberg and Laschinger (1991) utilized the Theory of Reasoned Action to study nursing students attitudes and normative beliefs (nursing students' beliefs of what important others think they should or should not do) as predictors of intention to care for AIDS patients. The purpose of their study was to test the applicability of the Theory of Reasoned Action in predicting nursing students intentions to care for AIDS patients and to investigate the effect of a two hour class on AIDS on the students' attitudes, subjective norms, and intentions. Forty-six second year baccalaureate nursing students from Canada were given the questionnaire Beliefs About Caring for AIDS Patients developed by the
researchers based on the guidelines of Ajzen and Fishbein (1980) two months prior to the AIDS lecture and again immediately following the AIDS lecture. Although Ajzen and Fishbein (1980) indicated developing a questionnaire on behavioral and normative beliefs by eliciting beliefs from a representative sample of the population, the researchers developed their questionnaire based on the review of the literature on nurses' concerns about caring for AIDS patients. Goldenberg and Laschinger (1991) found a significant correlation between attitudes and subjective norm and nursing students' intention to care for AIDS patients. Multiple correlations between the two components of the model accounted for 15.2% of the variance in intention to care for AIDS patients. A post-test was conducted on the same nursing students after they received a two-hour lecture and discussion on AIDS. The post-test scores on the attitudes and subjective norms scales increased significantly. Intention to care for AIDS patients' scores also increased after the lecture, but not at a statistically significant level.

One of the limitations the researchers identified was the small sample used in the study. Another limitation identified by this researcher was that the attendance by the nursing students at a two-hour lecture on AIDS was not indicative of AIDS knowledge. Another weakness in this study was that the outcome evaluation of the attitudinal component of the tool does not reflect the guidelines as established by Fishbein and Ajzen. The nursing students did not evaluate the outcome of their behavior, rather they were asked to measure their beliefs of the likelihood of those outcomes occurring, which were not a direct application of the guidelines of the theory.

In two subsequent studies examining intentions to care for AIDS patients among
practicing nurses (Laschinger & Goldenberg, 1993) and community health nurses (Laschinger, Goldenberg, & Bello, 1995), the researchers used a modified questionnaire of the one used with Goldenberg and Laschinger's (1991) study using baccalaureate nursing students. The modified questionnaire, Beliefs About Caring for Persons who are HIV Positive included nurses' evaluation of the outcome of their behavior and reflected nurses' concerns about caring for AIDS patients found in the literature. Laschinger and Goldenberg (1993) examined 141 practicing nurses intentions to care for AIDS patients. A questionnaire including both direct and indirect measures of attitude and subjective norms was developed by the researchers based on the guidelines of Ajzen and Fishbein (1980). The direct measures of attitude and subjective norms were designed to examine empirical relationships between behavioral and normative beliefs (indirect measures) with attitudes and subjective norms (direct measures). This was done to determine if the belief items in the indirect measures were salient for the respondents and could be generalized to their attitudes and subjective norms regarding intentions to care for AIDS patients. Results indicated a significant positive relationship between the direct measures of attitude and subjective norms with the indirect measures of attitude and subjective norms. Attitude and subjective norms accounted for 19% of the variance in intention. A stepwise regression analysis indicated that attitude was the primary predictor of intention to care for AIDS patients. Next, the researchers divided the subjects into two groups based on whether they intended or did not intend to care for AIDS patients. Behavioral and normative belief items were compared between the two groups. Nurses who did not intend to care for AIDS patients scored significantly higher on their beliefs that caring for
AIDS patients would put themselves, their family and their other patients at risk for contracting the AIDS virus. In addition nurses who did not intend to care for AIDS patients perceived greater effects of their caring for AIDS patients would have on their relationships with their spouses or partners. The two groups agreed that caring for AIDS patients did not affect relationships with coworkers and future job opportunities. With regard to subjective norms, nurses who intended to care for AIDS patients had significant higher perceived normative expectations of family and close friends than the nurses who did not intend to care for AIDS patients.

In a similar study, using the same questionnaire, Laschinger, Goldenberg, and Bello (1995) examined 145 community health nurses intentions to care for AIDS patients. The results of this study were similar to the previous study. The indirect measures of attitudes and subjective norms were significantly correlated with the direct measures of attitudes and subjective norms. The indirect attitude and subjective norms accounted for 19% of the variance of intention for community health nurses to care for AIDS patients. A stepwise regression analysis indicated that attitude was the primary predictor of intention to care for AIDS patients. When respondents were divided into intenders and non-intenders, the intenders had significant lower scores on their behavioral beliefs about the amount of risk to themselves, to their families, and to other patients. Intenders perceived their caring for AIDS patients would have less effect on their relationships with their family and friends than non-intenders, however the difference was not significant. With regard to subjective norms, intenders had higher perceived normative expectations from their family and close friends than nonintenders.
Summary

The results of the studies regarding intentions to care for AIDS patients, indicated that for nurses and nursing students who had less AIDS knowledge, who perceived greater occupational risk of contracting AIDS while caring for AIDS patients, and had more negative attitudes towards homosexuals and intravenous drug users, also had stronger intentions to avoid caring for AIDS patients. Nurses who knew someone with AIDS, who had a friend or family member who was homosexual, and who previously cared for AIDS patients, had stronger intentions to care for AIDS patients. Increased spirituality and perceived social support were positively correlated with intentions to care for AIDS patients, while death anxiety was negatively correlated with intentions to care for AIDS patients. Also attitudes and subjective norms were correlated with intentions to care for AIDS patients.

The present study was a follow-up of Laschinger and Goldenberg's (1993) study using nursing students as a sample instead of practicing nurses. This study included nursing students' level of AIDS knowledge as measured by an AIDS knowledge test as a variable to examine nursing students' determinants of attitude and subjective norms, and their intentions to care for AIDS patients.

Demographic Characteristics Influential to Intention to Care for AIDS Patients

Gender

Plant and Foster's (1993) survey of 600 nurses in Scotland found 35% of the 506
female nurses and 50% of the 94 male nurses were concerned about contracting AIDS at work. The researchers also found male nurses were more likely to report they should have the right to refuse to care for AIDS patients who were homosexual and/or bisexual men, intravenous drug users, and prostitutes.

Age

Alexander and Fitzpatrick (1991) found older nurses scored significantly higher for positive attitudes towards caring for AIDS patients than younger nurses. Also, Glad, et al. (1995) found older nurses to be less fearful of AIDS.

Marital Status and Number of Dependents

Dworkin et al. (1991) found a significant negative relationship between nurses' intention to work on an AIDS unit and worry about spreading HIV infection to their family. A significant negative relationship was found by Laschinger and Goldenberg (1993) between the number of children nurses had and their intention to care for HIV positive patients. Nurses with several children were less likely to care for AIDS patients than nurses with no children.

Education Level and AIDS Information

Jemmott, Freleicher, et al. (1992) found nurses with more nursing education had significant lower scores for intention to avoid AIDS patient care. Also nursing students who received AIDS content information in their nursing curriculum had significant lower scores for intention to avoid AIDS patient care (Jemmott, Jemmott, et al. 1992).
Knowing Someone with AIDS or Experience in Caring for Someone with AIDS

Tessaro and Highriter (1994) found among public health nurses who personally knew someone or cared for someone with HIV or AIDS had significant stronger intentions to care for AIDS patients. Laschinger et al. (1995) found a positive significant relationship between community health nurses intention to care for AIDS patients and having previously cared for AIDS patients.

Religious Affiliation

Melby et al. (1992) found significant differences between Protestant and Catholic nurses' attitudes regarding specific categories of AIDS patients. Protestant nurses presented more negative attitudes towards prostitutes and homosexuals.

Summary

Several demographic characteristics have been shown to influence nurses' attitudes and intentions to care for AIDS patients. These studies have indicated a relationship between nurses' age, gender, education, and religious affiliations with their attitudes toward AIDS and AIDS patients. Nurses who knew someone with AIDS, previously taken care of someone with AIDS, and received AIDS information, had higher scores for intention to care for AIDS patients. Nurses' marital status, number of dependent children, and nursing education also had a relationship with their intention to care for AIDS patients.
Summary of Literature Review

The literature reviewed supported the position that there were relationships between nurses' and nursing students' attitudes about AIDS and caring for patients with AIDS. The studies investigated nursing students and nurses intention or willingness to care for AIDS patients and examined variables that might be related to intention to care for AIDS patients. The variables examined were AIDS knowledge, AIDS attitudes and concerns, and intentions to care for AIDS patients. Most of these studies showed nurses and nursing students who had greater level of knowledge about AIDS also had more positive attitudes towards AIDS. Lower AIDS knowledge scores and greater fear of contagion were related to lower intention to care for AIDS patients scores. Nurses and nursing students who had more negative attitudes towards intravenous drug users and/or homosexuals had stronger intentions to avoid caring for AIDS patients. Nurses who perceived their family or friends as being supportive of their work had greater intentions to care for AIDS patients. Few studies have used a theoretical framework to examine the relationships between AIDS knowledge, attitudes, and subjective norms with intention to care for AIDS patients. This study examined the relationship of AIDS knowledge, attitudes, subjective norms, and intention to care for AIDS patients among nursing students based on the Theory of Reasoned Action.
CHAPTER III

FRAME OF REFERENCE

Theoretical Framework

The Theory of Reasoned Action, introduced in 1967 by Fishbein, predicts behavior by assuming that people are rational beings whose behaviors are under volitional control. An intention to perform a behavior is the immediate determinant of action. Furthermore, intention is a function of two determinants, the attitude toward the behavior or the individual's positive or negative feelings towards performing the behavior, and the individual's perception of how his/her important others think he or she should or should not perform the behavior (social norm).

The attitudinal component of the theory consists of the set of behavioral beliefs that a behavior leads to either positive or negative outcomes and the confidence that the behavior will lead to those outcomes (belief strengths). An individual may have a large number of beliefs on a given object, however only a small number of beliefs are determinants of the individual's attitude. These beliefs are referred to as salient beliefs.

To determine a person's attitude regarding performing a specific behavior, the person's outcome evaluations must be measured first. Outcome evaluations are the assessment, whether positive or negative, a person places on the outcomes of the
behavior. These outcome evaluations are measured on a bipolar scale. To illustrate this point, the following example has three outcomes of the behavior 'working with cancer patients'. A person is asked to evaluate each outcome on a bipolar scale as to whether the outcome is good or bad.

Working with cancer patients is depressing

\begin{center}
\begin{tabular}{cccccccc}
good & : & : & : & : & : & \textbf{X} & : & bad \\
\hline
extremely & quite & slightly & neither & slightly & quite & extremely \\
(+3) & (+2) & (+1) & (0) & (-1) & (-2) & (-3) \\
\end{tabular}
\end{center}

Working with cancer patients is rewarding

\begin{center}
\begin{tabular}{cccccccc}
good & : & : & : & \textbf{X} & : & neither & : & : & : & bad \\
\hline
extremely & quite & slightly & neither & slightly & quite & extremely \\
(+3) & (+2) & (+1) & (0) & (-1) & (-2) & (-3) \\
\end{tabular}
\end{center}

Working with cancer patients increases the likelihood of getting cancer

\begin{center}
\begin{tabular}{cccccccc}
good & : & : & : & : & : & \textbf{X} & : & bad \\
\hline
extremely & quite & slightly & neither & slightly & quite & extremely \\
(+3) & (+2) & (+1) & (0) & (-1) & (-2) & (-3) \\
\end{tabular}
\end{center}

After evaluating the outcomes of the behavior, the beliefs strengths are measured. Belief strengths are a measure of the person's confidence of the probability that the behavior will lead to that particular outcome. The following example provides an illustration of measuring belief strengths with regards to caring for cancer patients.
Working with cancer patients will make me feel depressed

likely extremely quite slightly neither slightly quite extremely unlikely
(+3) (+2) (+1) (0) (-1) (-2) (-3)

Working with cancer patients will be rewarding to me

likely X extremely quite slightly neither slightly quite extremely unlikely
(+3) (+2) (+1) (0) (-1) (-2) (-3)

Working with cancer patients will increase my likelihood of getting cancer

likely extremely quite slightly neither slightly quite extremely unlikely
(+3) (+2) (+1) (0) (-1) (-2) (-3)

A person's attitude can be predicted by multiplying each of the outcome evaluations with the corresponding belief strength and then summing up the products for the total belief. From the previous illustration, a person's evaluation of the outcome to the statement 'working with cancer patients is depressing is indicated by an X marked by the word 'quite' bad which is given a value of -2. This is multiplied by the belief strength to the statement 'working with cancer patients will make me feel depressed', which is indicated by an X marked by 'slightly' unlikely and is given a value of -1. The product is +2. Doing the same procedure with the other two statements, the products of +3 and +9 are resultant. Adding the products ( (+2) + (+3) +(+9)) produces the total attitude score of +14. The possible scores for each statement are -9 through +9. For all three statements combined the possible scores are -27 through +27. A score of +14 indicates a positive attitude regarding caring for cancer patients.
The determinants of subjective norm consists of normative beliefs and the motivation to comply with important others' expectations. Normative beliefs are what the person thinks his or her important others think he or she should do regarding performing a specific behavior. Motivation to comply is the strength of the person's willingness to comply with each of the person's important others' expectations.

The subjective norm can be predicted in the same manner as the attitudinal component of the theory. Each normative belief is measured on a bipolar scale and each motivation to comply is measured on a unipolar scale. Multiplying the person's normative beliefs by the corresponding motivation to comply with these referents and then summing the products provides the subjective norm score.

Intention and/or behavior are the relative weighing of behavioral attitudes and subjective norms. This relative weight will be different for each individual and for each behavior. Figure 1 summarizes the theory of reasoned action. Working backwards, intention is the immediate determinant of behavior. Intention is a function of the relative weights of attitudes and subjective norms. The determinants of attitude consist of the person's beliefs that performing a behavior will lead to a given outcome and the evaluation of that outcome. The determinants of the subjective norm are the person's beliefs of the expectations of important others to perform the behavior and the motivation to comply with these important others' expectations.

Because it is not possible to identify all of the person's salient beliefs on a given behavior, empirical relationships between a set of beliefs and attitude must first be met. This is also true for the relation between normative beliefs and subjective norms. In
Figure 1. Factors determining a person's behavior.

Note: Arrows indicate the direction of influence.

addition, it is not possible to predict a person's intentions by knowing his/her attitude
toward a behavior, if his/her intention is mediated by subjective norms. It is necessary to
first demonstrate empirical relationships between measures of attitudes and subjective
norms with measures of intention.

For this study the nursing students' attitudes regarding caring for AIDS patients
were determined by their beliefs about the evaluation of the outcomes of caring for AIDS
patients and their belief strengths that the likelihood of those outcomes occurring by
performing those behaviors. Nursing students' subjective norms were a function of what
they thought important people in their lives think they should do regarding caring for
AIDS patients and the student nurses' motivation to comply with those people who are
important to them. Nursing students intentions to care for AIDS patients were a function
of their attitudes toward caring for AIDS patients and their subjective norms. See
figure 2.

Figure 3 illustrates the relationship between the variable of nursing students' level
of AIDS knowledge and their intentions to care for AIDS patients. AIDS knowledge may
have an influence on the two determinants of attitudes, the two determinants of subjective
norms, and the relative importance of attitudes and subjective norms component of the
theory of reasoned action. With regard to the determinants of nursing students attitudes,
nursing students with higher levels of AIDS knowledge may evaluate the outcomes of
their caring for AIDS patients differently than nursing students with lower levels of AIDS
knowledge. Even if the nursing students with varying degrees of AIDS knowledge did
not evaluate the outcomes of their behaviors differently, their belief strengths that their
Nursing students' evaluation of the outcomes of caring for AIDS patients and their beliefs of the likelihood of those outcomes occurring

Nursing students' beliefs of their important others' expectations regarding caring for AIDS patients and their motivations to comply with those expectations

Nursing students' attitudes toward caring for AIDS patients

Relative importance of nursing students' attitudes and subjective norms

Nursing students' subjective norms

Nursing students' intentions to care for AIDS patients

Figure 2. The Ajzen-Fishbein model adapted for the present study.
Figure 3. Possible explanations for relationships between nursing student’s level of AIDS knowledge and intentions to care for AIDS patients.
behavior will lead to those outcomes may be evaluated differently.

With regard to the determinants of subjective norms, nursing students' level of AIDS knowledge may have an influence on their beliefs about their important others' expectations regarding their caring for AIDS patients. The level of nursing students' AIDS knowledge may also influence their motivation to comply with their important others. Again, even if nursing students with varying degrees of AIDS knowledge did not evaluate their beliefs of their referent group's expectations regarding their caring for AIDS patients differently, their motivations to comply with those referent groups may be different.

Nursing students' level of AIDS knowledge may affect the relative weights nursing students place on attitudes and subjective norms. If nursing students with higher levels of AIDS knowledge had positive attitudes toward caring for AIDS patients, but their intentions were determined by their subjective norms, which was negative for caring for AIDS patients, they would less likely intend to care for AIDS patients.

The level of AIDS knowledge may also influence the set of salient beliefs nursing students hold regarding caring for AIDS patients. Nursing students with higher levels of AIDS knowledge may hold different salient beliefs regarding their intentions to care for AIDS patients. AIDS knowledge may also influence the set of referents nursing students may have regarding their intentions to care for AIDS patients. For example, nursing students with higher level of AIDS knowledge may include nursing instructors and nursing staff as part of their referent group, while nursing students with lower level of AIDS knowledge might not.
Relevant Theoretical Literature

Numerous studies in the health field have utilized Ajzen and Fishbein's (1980) Theory of Reasoned Action to predict health promoting behaviors. The results of many studies have supported the Theory of Reasoned Action that behavior is predicted by intention which is a function of attitudes and subjective norms.

Lierman, Young, Kasprzyk and Benoliel (1990) used the Theory of Reasoned Action to predict intention of breast self-exams among 93 older women. Although all the components of the model were significantly correlated with intention to perform breast self-exams, attitude was correlated most strongly with intentions. Attitude and social norms combined accounted for 32% of the variance on intention. When the sample was divided into two groups based on their previous 6 months performance scores of breast self-examination, there was a significant difference between the two groups on all the model's component. The more frequent breast self-exam performers had more positive attitudes toward breast self-exams and were more influenced by social norms.

The Theory of Reasoned Action has also been used for predicting safe sex behaviors among gay men (Cochran, Mays, Ciarletta, Caruso, & Mallon, 1992; Fishbein, Chan, O'Reilly, Schnell, Wood, Beeker, Cohn, 1992). Cochran et al. examined the relationships among beliefs, attitudes, subjective norms, behavioral intentions, and sexual behavior of 297 gay men. Behavioral beliefs significantly predicted gay men's attitudes towards practicing safer sex and normative beliefs predicted the subjective norm. Attitudes toward safer sex and subjective norms predicted intentions to practice safer sex.
In addition intention positively predicted risk reduction behaviors among the subjects.

Fishbein et al. (1992) examined the intentions of 314 gay or bisexual men from Seattle, Denver and Albany to perform 15 specific sexual behaviors representing different degrees of risk of contracting AIDS. Attitude was more important than subjective norms in predicting intention. The researchers hypothesized that there would be difference between the men from the three cities with regard to whether attitude or subjective norms played more of an important role in determining their behavior. Due to the lack of community cohesiveness of gay men in Albany, the attitudinal component of the theory played a more important role in determining their sexual behavior than normative considerations.

Jemmott and Jemmott (1991) examined the intentions of 103 sexually active unmarried black women undergraduates at an inner-city university in New Jersey on condom use. A questionnaire elicited information for attitudes toward using condoms, subjective norms or social influences for using condoms, and AIDS knowledge. Results of the study indicated that intentions to use condoms were determined by the women's attitudes and subjective norms. Attitudes towards using condoms played a greater role in predicting intentions to use condoms. Women who scored above the mean on the AIDS knowledge test indicated a stronger relation of attitudes to intentions and a weaker relation of subjective norms to intentions.

The results of these studies supported the Ajzen and Fishbein (1980) Theory of Reasoned Action to predict health promoting behaviors. Both attitudes and subjective
norms predicted health promoting behaviors although in varying degree. This was consistent with the theory.

Propositions for this Study

1. Most behaviors of social relevance are under volitional control and are thus predictable from intention (Ajzen & Fishbein, 1980).

2. A change in intention will produce a change in behavior (Ajzen & Fishbein, 1980).

Research Questions

1. What is the relationship between nursing students' AIDS knowledge, attitudes, subjective norms and intention to care for AIDS patients?

2. Is there a difference between AIDS knowledge of the nursing students and their attitudes, subjective norms, and intention to care for AIDS patients?

3. What is the difference between nursing students who intend to care for AIDS patients and those that do not intend to care for AIDS patients with regard to their behavior beliefs and normative beliefs?

Conceptual Definitions

Beliefs - refers to a person's subjective probability judgements concerning some discriminable object, value, concept or attribute. Beliefs represent the information one has about an object (Fishbein & Ajzen, 1975).

Outcome evaluation - a person's positive or negative consequences associated
with a given behavior (Ajzen & Fishbein, 1980).

Belief strengths - refers to a person's belief of the probability that a behavior will lead to a particular outcome (Ajzen & Fishbein, 1980).

Attitudes - refers to a person's favorable or unfavorable evaluation of an object (Ajzen & Fishbein, 1980).

Normative beliefs - a person's belief what important others think he or she should or should not perform the behavior. These beliefs underlay the person's subjective norm (Ajzen & Fishbein, 1980).

Motivation to comply - a person's general tendency to accept the directives of a given reference group or individual (Fishbein & Ajzen, 1975).

Subjective norm - a person's belief that important others expectations to perform or not perform a specific behavior and the person's motivation to comply with those expectations (Ajzen & Fishbein, 1980).

Intention - is the immediate determinant of behavior. It is the function of attitude towards the behavior and the subjective norm (Ajzen & Fishbein, 1980).

Behavior - the observable acts of the subject. Behavior is determined by the person's intention to perform the behavior (Fishbein & Ajzen, 1975).

AIDS knowledge - the range of information or understanding regarding clinical nursing management, prevention, and education of AIDS.

Nursing students - students enrolled in a university or community college nursing program.
Operational Definitions

Belief strengths - nursing students' responses on the belief strength content of the Beliefs About Caring for Persons who are HIV Positive questionnaire using a 7 point Likert Scale (likely - unlikely). The belief content of the questionnaire measures the nursing students' beliefs about the likelihood of the consequences of performing a specific behavior will lead to a particular outcome.

Outcome evaluation - nursing students' responses on the outcome evaluation items of the Beliefs About Caring for Persons who are HIV Positive questionnaire using a 7 point Likert Scale (good - bad). The outcome evaluation content of the questionnaire measures the nursing students' evaluation of the expected outcome of performing a specific behavior.

Attitude - multiplying the evaluation of each of the behavior's consequences score by the strength of the belief that performing the behavior will lead to that consequence score and then summing the products for the total set of beliefs (Ajzen & Fishbein, 1980).

Normative beliefs - nursing students' responses on the normative beliefs content of the Beliefs About Caring for Persons who are HIV Positive questionnaire using a 7 point Likert Scale (likely - unlikely).

Motivation to comply - nursing students' responses on the motivation to comply content of the Beliefs About Caring for Persons who are HIV Positive questionnaire using a 7 point Likert Scale (likely - unlikely).

Subjective norm - multiplying the normative beliefs score by the corresponding
motivation to comply score and then summing the products for the total set of beliefs (Ajzen & Fishbein, 1980).

Intention - nursing students' response to the statement 'I intend to care for any person who is HIV positive to whom I am assigned', on the Beliefs About Caring for Persons who are HIV Positive questionnaire using a 7 point Likert Scale (likely - unlikely).

AIDS knowledge - nursing students score on AIDS/HIV Knowledge test developed by Tessaro (1995).

Nursing students - students enrolled in a university or community college nursing program.

Table 1 lists how the variables were measured for the present study.

Demographic Variables

Demographic characteristics of the sample were collected and analyzed to provide a picture of the sample. The demographic variables were also correlated with nursing students' AIDS knowledge scores, attitudes, subjective norms, and intentions to care for AIDS patients. The following demographic information were collected: (See Table 2 for rationale).

1. Gender
2. Age of subjects
3. Marital status
4. Number of dependents
5. Ages of dependents

6. University or community college student

7. Number of semesters in the nursing program

8. Have taken a course that included specific information on AIDS

9. The number of AIDS patients cared for in the past

10. Religious affiliation

11. Personally know someone with AIDS or have died from AIDS

12. Student status (nursing student or registered nurse earning a baccalaureate degree)
Table 1

**Methods for Measuring the Variables of the Study**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AIDS Knowledge</td>
<td>Score on the Caring for Persons with HIV/AIDS test</td>
</tr>
<tr>
<td>2. Belief Strengths</td>
<td>8 items on a 7 point Likert Scale on the Beliefs About Caring for Persons who are HIV Positive questionnaire</td>
</tr>
<tr>
<td>3. Outcome Evaluations</td>
<td>8 items on a 7 point Likert Scale on the Beliefs About Caring for Persons who are HIV Positive questionnaire</td>
</tr>
<tr>
<td>4. Normative Beliefs</td>
<td>7 items on a 7 point Likert Scale on the Beliefs About Caring for Persons who are HIV Positive questionnaire</td>
</tr>
<tr>
<td>5. Motivation to Comply</td>
<td>7 items on a 7 point Likert Scale on the Beliefs About Caring for Persons who are HIV Positive questionnaire</td>
</tr>
<tr>
<td>6. Attitudes Towards Caring for AIDS Patients</td>
<td>Product of Outcome Evaluations and Belief Strengths</td>
</tr>
<tr>
<td>7. Subjective Norm</td>
<td>Product of Normative Beliefs and Motivation to Comply</td>
</tr>
<tr>
<td>8. Intentions to Care for AIDS Patients</td>
<td>1 Item on 7 point Likert Scale on the Beliefs About Caring for Persons who are HIV Positive questionnaire</td>
</tr>
<tr>
<td>9. Relative Importance of Attitude and Subjective Norm</td>
<td>Stepwise Regression of Attitude and Subjective Norm</td>
</tr>
</tbody>
</table>
Table 2

Rationale for Demographic Variables for this Study

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>1. Male nurses had more negative attitudes toward AIDS patients who were drug users, prostitutes, homosexual and bisexual.</td>
</tr>
<tr>
<td>2. Age of Subjects</td>
<td>2. Older nurses had more positive attitudes about caring for AIDS patients and were less fearful of contracting AIDS at work.</td>
</tr>
<tr>
<td>3. Marital Status</td>
<td>3. Nursing students spouses' concerns about caring for AIDS patients may influence nursing students intentions to care for AIDS patients.</td>
</tr>
<tr>
<td>4. Number of Dependents</td>
<td>4. Nurses were concerned about spreading HIV infection to their family.</td>
</tr>
<tr>
<td>5. Ages of Dependents</td>
<td>5. Nursing students with young children may be more concerned about caring for AIDS patients than nursing students with older children.</td>
</tr>
<tr>
<td>6. University or Community College Student</td>
<td>6. Nurses with more nursing education had higher scores for intention to care for AIDS patients. Also this study is collecting information from subjects from two different schools.</td>
</tr>
<tr>
<td>7. Number of semesters in Nursing Program</td>
<td>7. Nurses with more nursing education had higher scores for intention to care for AIDS patients.</td>
</tr>
<tr>
<td>8. Have taken Course with AIDS Information</td>
<td>8. Nursing students who received AIDS information in their nursing curriculum had higher scores for intention to care for AIDS patients.</td>
</tr>
<tr>
<td>9. Have Taken Care of AIDS Patients</td>
<td>9. Nurses who have taken care of AIDS patients had more positive attitudes towards AIDS patients and intentions to care for AIDS patients.</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10. Religious Affiliation</td>
<td>10. Differences were found between nurses' religious affiliations and their attitudes towards AIDS patients.</td>
</tr>
<tr>
<td>11. Personally Know Someone with AIDS or Someone who Died from AIDS</td>
<td>11. Nurses who knew someone with AIDS had higher scores for intention to care for AIDS patients.</td>
</tr>
<tr>
<td>12. Student Status</td>
<td>12. Some nursing students are registered nurses returning for their baccalaureate degree.</td>
</tr>
</tbody>
</table>
CHAPTER IV

METHODS AND PROCEDURES

This section discusses the research design, identifies the sample, and the sampling method that was utilized in the present study. The research design was consistent with the theoretical framework and the primary purpose of the study, which was to examine relationships between the variables. The sample size was determined by the size and accessibility of the target population, the number of variables to be examined, the stringency of the significant level, and the data analysis technique used in the present study.

Research Design

This study used a descriptive correlation design. Data were collected using questionnaires to sample for nursing students' attitudes, subjective norms, AIDS knowledge and their intentions to care for AIDS patients. Variables were not manipulated, and no change or treatment was introduced to the subjects. The study described the relationship between nursing students' AIDS knowledge, attitudes and subjective norms and their respective abilities to predict intentions to care for AIDS patients. The level of AIDS knowledge among nursing students was analyzed in relation to attitudes, normative beliefs and intention to care for AIDS patients and the effect on
attitudes and normative beliefs as predictors of intention. In addition, nursing students who intend to care for AIDS patients were compared with those who do not intend to care for AIDS patients to determine differences between the two groups in their individual behavioral and normative belief items.

Sample

The sample consisted of nursing students enrolled in either a nursing baccalaureate program at a university or in an associate degree program at a community college. There is one university and one community college that offer nursing programs in the city in which this study was conducted. There were approximately 160 nursing students enrolled in the baccalaureate nursing program at the university and approximately 170 nursing students enrolled in the associate program.

Sampling Method

Convenience sampling was utilized by approaching nursing students in their classrooms inviting them to participate in the study. Those students who wished to participate in the study were given a packet containing a cover letter, a demographic data sheet and two questionnaires. The first questionnaire consisted of 36 items designed to measure theoretical constructs of the Ajzen-Fishbein model as developed by Laschinger and Goldenberg (1993). This questionnaire took approximately 20 minutes to complete. The second questionnaire, measuring the nursing students' knowledge about AIDS, consisted of 28 questions developed by Tessaro (1995) and took approximately 20 minutes to complete.
Setting

Nursing students from both a university and a community college in the southwest were surveyed. Permission was asked of the students' instructors to use the latter part of a scheduled class time to allow the students to complete the questionnaires. This allowed students to stay after class to finish completing the questionnaires if extra time was needed.

Measurement Methods

Two questionnaires were distributed to the nursing students. The first questionnaire, Beliefs About Caring for Persons who are HIV Positive, was developed by Laschinger and Goldenberg (1993) to test for attitudes and subjective norms as predictors of intended care behaviors with AIDS patients. It was based on Ajzen-Fishbein Theory of Reasoned Action (see Appendix A). They used the questionnaire to test for intended care behavior with AIDS patients among practicing nurses and in Laschinger, Goldenberg, and Bello's (1995) study using community health nurses. The second questionnaire, AIDS/HIV Knowledge test, was developed by Tessaro (1995) to measure knowledge about AIDS among nursing students (see Appendix A).

Beliefs About Caring for Persons who are HIV Positive. This questionnaire, as developed by Goldenberg and Laschinger (1993), used a 7 point Likert Scale. Both indirect and direct measures of attitudes and subjective norms were included in the instrument. The indirect measures of the questionnaire consisted of two subscales to measure nursing students attitudes and two subscales to measure their subjective norms.
The attitude component of the questionnaire consisted of eight questions dealing with nursing students' specific behavioral beliefs regarding caring for AIDS patients and eight questions dealing with their corresponding outcome evaluations. The subjective norm component of the questionnaire consisted of seven questions dealing with nursing students normative beliefs and seven questions dealing with their motivation to comply. There was one question to measure nursing students intention to care for AIDS patients. The direct measure of the attitude scale consisted of 4 items measuring general beliefs about caring for AIDS patients. The direct measure of subjective norm consisted of one item.

The indirect measures of the questionnaire had alpha reliability coefficients for the specific behavioral beliefs, the outcome evaluation and the composite attitude subscale of .80, .82, and .87 respectively (Laschinger & Goldenberg, 1993; Laschinger et al., 1995). The alpha reliability coefficients for the normative beliefs, motivation to comply, and the composite subjective norm subscale were .75, .73, and .70 respectively (Laschinger & Goldenberg). The alpha reliability coefficient for the direct measure of attitude was .81 (Laschinger & Goldenberg). The alpha reliability coefficient for subjective norms was not applicable because it was only one item. Content validity of the questionnaire was established by an extensive review of the literature identifying nurses' behavioral beliefs and important others as having an influence on nurses' concerns about caring for AIDS patients (Laschinger & Goldenberg; Laschinger et al.). For the present study, content-related validity was supported by using a preexisting questionnaire that was based on the review of the literature on nurses' concerns about caring for AIDS patients. The test for
homogeneity of the subconcept scales items was calculated using the Cronbach's alpha for the present study.

**AIDS/HIV Knowledge Test.** This tool developed by Tessaro (1995) was used to test nursing students knowledge about AIDS. The test consisted of 29 questions on HIV transmission (seven questions), epidemiology (six questions), natural history of the disease (seven questions), prevention (five questions), and policy and testing (four questions). The test had multiple choice and true/false questions. For the present study one question was eliminated because it was believed by AIDS specialists that the question was no longer relevant. It was expected that this test would be difficult enough to show a variance in the scores.

Tessaro (1995) used the AIDS/HIV Knowledge Test with 311 public health nurses. The mean score was 20.5, SD = 3.12, and range 5-28. Content validity was determined by expert review. Reliability was not determined because the researcher considered the test an index and not a scale. The level of AIDS knowledge was considered along the continuum of 0-29. For the present study the Cronbach's alpha procedure was calculated to assess reliability for this study sample. Content validity was supported with review of the test by AIDS specialist physician and nurses.

**Procedure**

Nursing faculty from the university and community college were asked for permission to use their class time to obtain participants for the present study. Participants completed both questionnaires during the class time or immediately after the class period.
Components of the data collection packet were randomized to reduce clued responses. All potential nursing student participants were given the same instructions by the same researcher to maintain consistency in obtaining data.

Questionnaires with missing data were evaluated to see if analysis could be performed with the missing data. Data were coded in a code book and checked for accuracy by another person knowledgeable in coding. Data were entered into a computer and again checked for accuracy by another person. Three sets of data were made on computer disks and the original data forms were kept in a locked drawer.

**Ethical Considerations**

Approval was obtained from the thesis committee, Department of Nursing UNLV Human Rights Review Committee, University of Nevada Las Vegas Human Subjects Review Board, and Community College of Southern Nevada.

A cover letter was attached to each packet of questionnaires discussing the following (see appendix B for cover letter):

1. A statement identifying this researcher and his affiliation with the University of Nevada, Las Vegas;
2. An invitation to participate in the study as part of a research project;
3. An explanation of the purpose of the research, a description of the procedure to be followed, and the expected length of time to complete the questionnaires;
4. A description of benefits and risks to the subjects;
5. A statement describing maintenance of the subject's anonymity;
6. The names, addresses, and phone numbers of the people to contact for answers to questions about the study and for questions about the rights of research subjects;

7. An assurance that participation in the study was voluntary.

Completion of the questionnaires indicated a consent to participate in the study.

The subjects were instructed that their participation or refusal to participate in the study would in no way affect the grade in their course.

**Sample Analyses**

Descriptive statistics were performed for all the demographic data. Grouped frequency distributions were tabulated on the questions relating to the ages of the respondents and to the number of AIDS patients cared for in the past. Correlational analyses were performed to examine associations of selected demographic variables with the major variables of the study.

**Analyses in Relation to Research Questions**

As proposed by Ajzen and Fishbein (1980) empirical relationships between the direct and indirect measures of attitudes, and direct and indirect measures of subjective norm were established prior to analyzing the research questions. This relationship ensured that the specific behavioral and normative beliefs in the indirect measures used in the questionnaire were encompassing the salient beliefs held by the nursing students and could be generalized to their attitudes and subjective norms regarding intention to care for AIDS patients. Correlational analyses were performed on the direct measures of attitudes and subjective with the indirect measures of attitudes and subjective norms.
respectively.

Research Question #1: What is the relationship between nursing students' AIDS knowledge, attitudes and subjective norms to intention to care for AIDS patients?

The attitude score was computed by multiplying each of the eight outcome evaluation items by their corresponding belief strengths, then summing the products. The subjective norm score was computed in a similar manner for the seven normative belief items and the corresponding motivation to comply items. The range for the attitude scores was -72 to +72 and the range for the subjective norm scores was -147 to +147. These computations were based on Ajzen-Fishbein's Theory of Reasoned Action (Ajzen & Fishbein, 1980). According to the theory, attitudes can be predicted by multiplying the evaluation of each of the outcome evaluation with the strength of the belief that performing the behavior will lead to that consequence and then summing up the products of the total set of beliefs. The strength of each belief was measured using a bipolar scale. Subjective norms, according to the theory, can be predicted by multiplying the normative beliefs (+3 to -3) by the corresponding motivations to comply (1 to 7) and then summing up the products. In doing so, the important referents are given greater weight when multiplied by motivation to comply. Intention was measured by the responses to the statement "I intend to care for any AIDS patients to whom I am assigned" using a 7-point Likert Scale (extremely likely to extremely unlikely). The level of measurement for this questionnaire was at the ordinal level because it used a Likert-Scale.

Correlational analyses were used to determine the relationships between intentions to care for AIDS patients and AIDS knowledge, attitudes, and subjective norms. A
multiple regression was used to determine how much variance could be accounted for by AIDS knowledge, attitudes subscale and subjective norms subscale to intention to care for AIDS patients.

Research Question #2: Is there a difference between AIDS knowledge of the nursing students and their attitudes, subjective norms, and intention to care for AIDS patients?

Each subject was credited with one point for each correct answer on the AIDS/HIV Knowledge test. Possible scores were 0 to 28. The level of measurement was interval looking.

To test for difference between nursing students' level of AIDS knowledge with their attitudes, subjective norms, and intentions to care for AIDS patients, a t-test was used to compare nursing students who scored below the first quartile with those who scored above the third quartile on the AIDS/HIV Knowledge test. Nursing students scores in the mid quartiles were disregarded in order to ensure a greater variance of AIDS knowledge scores between the two groups.

Research Question #3: What is the difference between nursing students who intend to care for AIDS patients and those that do not intend to care for AIDS patients with regard to their behavioral and normative beliefs?

Subjects' responses to the question "I intend to care for any person who is HIV positive to whom I am assigned" were divided into two groups based on whether or not they intended to care for HIV patients. A t-test was used to compare the nursing students'
responses on the summed weighted scores for the behavioral beliefs and the normative beliefs of the Beliefs About Caring for Persons who are HIV Positive questionnaire.
CHAPTER V

RESULTS

This chapter presents results describing the sample of this study. Analyses related to the research questions and correlational analyses of selected demographic characteristics with the major variables of the study are presented.

Demographics of the Sample

The sample for this study consisted of 243 nursing students enrolled in either a community college or a university nursing program in the southwestern United States. At the community college 170 nursing students were invited to participate in the study. Of these 170 nursing students, 151 nursing students returned the questionnaire. At the university 164 nursing students were invited to participate in the study. Of these 164 nursing students, 118 nursing students returned the questionnaire. Of the 269 returned questionnaires, 26 questionnaires were partially completed and deemed unusable. This left a total sample of 243 nursing students for the study, giving a response rate of 73%. The selected characteristics of the sample are presented in Tables 3-5.
Table 3

Description of Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of Nursing Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 243</td>
<td></td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;26</td>
<td>72</td>
<td>29.6</td>
</tr>
<tr>
<td>26-35</td>
<td>109</td>
<td>44.9</td>
</tr>
<tr>
<td>36-45</td>
<td>43</td>
<td>17.7</td>
</tr>
<tr>
<td>46-55</td>
<td>15</td>
<td>6.2</td>
</tr>
<tr>
<td>&gt;55</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>214</td>
<td>88.1</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>11.9</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>74</td>
<td>30.5</td>
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<tr>
<td>Married</td>
<td>134</td>
<td>55.1</td>
</tr>
<tr>
<td>Separated</td>
<td>5</td>
<td>2.1</td>
</tr>
<tr>
<td>Divorced</td>
<td>27</td>
<td>11.1</td>
</tr>
<tr>
<td>Widowed</td>
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<td>1.2</td>
</tr>
<tr>
<td><strong>Number of Children</strong></td>
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<td></td>
</tr>
<tr>
<td>0</td>
<td>111</td>
<td>45.7</td>
</tr>
<tr>
<td>1</td>
<td>44</td>
<td>18.1</td>
</tr>
<tr>
<td>2</td>
<td>48</td>
<td>19.8</td>
</tr>
<tr>
<td>3</td>
<td>26</td>
<td>10.7</td>
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<tr>
<td>4</td>
<td>12</td>
<td>4.9</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protestant</td>
<td>88</td>
<td>36.3</td>
</tr>
<tr>
<td>Catholic</td>
<td>62</td>
<td>25.5</td>
</tr>
<tr>
<td>LDS</td>
<td>28</td>
<td>11.5</td>
</tr>
<tr>
<td>Jewish</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>No Affiliation</td>
<td>44</td>
<td>18.1</td>
</tr>
<tr>
<td>Other</td>
<td>19</td>
<td>7.8</td>
</tr>
</tbody>
</table>

1 Mean 31.1 years; Median 30.0 years; S.D. = 8.1
Table 4

**Education of Sample**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of Nursing Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>School</em></td>
<td>N = 243</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>112</td>
<td>46.1</td>
</tr>
<tr>
<td>College</td>
<td>131</td>
<td>53.9</td>
</tr>
<tr>
<td><em>Semester in Nursing School</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>67</td>
<td>27.6</td>
</tr>
<tr>
<td>2</td>
<td>23</td>
<td>9.5</td>
</tr>
<tr>
<td>3</td>
<td>53</td>
<td>21.8</td>
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<tr>
<td>4</td>
<td>69</td>
<td>28.4</td>
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<tr>
<td>5</td>
<td>29</td>
<td>11.9</td>
</tr>
<tr>
<td>&gt;5</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td><em>Student Status</em></td>
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<td></td>
</tr>
<tr>
<td>Nursing Students</td>
<td>238</td>
<td>97.9</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>4</td>
<td>1.7</td>
</tr>
<tr>
<td>Graduate Student(^1)</td>
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<td>0.4</td>
</tr>
<tr>
<td><em>Had Taken a Course on AIDS</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>124</td>
<td>51.0</td>
</tr>
<tr>
<td>No</td>
<td>119</td>
<td>49.0</td>
</tr>
</tbody>
</table>

\(^1\) One graduate nursing student was enrolled in a nursing undergraduate course as a prerequisite for the nursing graduate program.
Table 5

Sample's Association with Persons with AIDS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of Nursing Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 243</td>
<td></td>
</tr>
<tr>
<td>Number of AIDS Patients Cared for in the Past</td>
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<td></td>
</tr>
<tr>
<td>0</td>
<td>136</td>
<td>56.0</td>
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<tr>
<td>1-5</td>
<td>77</td>
<td>31.6</td>
</tr>
<tr>
<td>6-10</td>
<td>14</td>
<td>5.7</td>
</tr>
<tr>
<td>&gt;10</td>
<td>16</td>
<td>6.7</td>
</tr>
<tr>
<td>Know Someone with AIDS HIV or Died of AIDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>114</td>
<td>46.9</td>
</tr>
<tr>
<td>No</td>
<td>129</td>
<td>53.1</td>
</tr>
</tbody>
</table>
Instruments

AIDS/HIV Knowledge Test

Scores for the AIDS/HIV Knowledge Test had a possible range of 0-28. The range of scores for this sample was 6-28. The mean was 17.4 and the standard deviation was 2.9. The Cronbach's Alpha reliability score was .36. Although the reliability for the AIDS Knowledge Test was low, it needs to be kept in mind the test was developed as an index and not as a scale. Eighty-two nursing students (33.7%) scored below the first quartile and 83 (34.2%) scored above the third quartile. Based on this instrument, the results indicated a wide variability of knowledge of AIDS/HIV for this sample.

Beliefs About Caring for Persons who are HIV Positive

Intention was measured by the participants' responses to the statement "I intend to care for any AIDS patients to whom I am assigned" using a 7-point Likert Scale (extremely unlikely to extremely likely). Possible range of scores for intention was -3 to +3. The range of scores for this sample was -2 to +3. The mean was 2.42 and the standard deviation was 0.95. The skewness of the data was -2.069 which indicated that this sample was willing to care for AIDS patients to whom they were assigned.

Specific behavioral beliefs were measured by the nursing students' responses to eight items eliciting their beliefs of the likelihood of certain consequences occurring by performing those behaviors. The possible range of scores for the sum of the eight specific belief items was -24 to +24. A high score indicated a respondent's belief that there was a high likelihood of the consequences occurring by performing a specific behavior. The
range of scores for this sample was -24 to +13. The mean was -12.8 and the standard deviation was 8.68. The Cronbach's Alpha reliability was .82.

Outcome evaluations were measured by the nursing students' responses to eight items eliciting their evaluation of the consequences associated with a given behavior. The possible range of scores for the eight outcome evaluation items was -24 to +24. A high score indicated a more positive evaluation of the consequences associated with the given behavior. The range of scores for this sample was -24 to +2. The mean was -14.70 and the standard deviation was 8.17. The Cronbach's Alpha reliability was .93.

The attitude scores were computed by multiplying each of the eight outcome evaluation items by their corresponding belief strengths, then summing the products. For example if a participant responded to the behavioral belief statement "I believe that caring for persons who are HIV positive will put me at risk for contracting the virus" with 'quite unlikely', a value of -2 was given. If the participant responded to the corresponding outcome evaluation statement "Caring for persons who are HIV positive will put myself at risk for contracting the virus" with 'extremely bad', a value of -3 was given. Multiplying the value for the belief strength item with the value for the corresponding outcome evaluation item results in a score of +6, which would indicate a positive attitude. This example illustrated that although the participant responded with a negative evaluation to the outcome of the behavior, however the participant believed that the likelihood of that outcome occurring was 'quite unlikely', the attitude of the participant would be positive. For this study the possible range of scores for attitude was -72 to +72. A high score indicated a greater positive attitude nursing students had towards caring for
AIDS patients. The range of scores for this sample was -36 to +72. The mean was 26.10 and the standard deviation was 25.39. The Cronbach's Alpha reliability score was .88. The scores indicated a somewhat positive attitude towards caring for AIDS patients for this sample.

Normative beliefs were measured by nursing students' responses to seven items eliciting their beliefs of whether other people think they should perform the behavior. The possible range of scores for normative beliefs was -21 to +21. A high score indicated a greater belief by nursing students that important others think they should care for AIDS patients. The range of scores for this sample was -21 to +21. The mean was 9.06 and the standard deviation was 7.75. The Cronbach's Alpha reliability score was .76.

Motivation to comply was measured by nursing students' response to seven items eliciting their opinions whether they would do what their important others think they should do. The possible range of scores for motivation to comply was 7 to 49. A high score indicated a greater motivation of the nursing students to do what important others think they should do. The range of scores for this sample was 7 to 49. The mean was 30.95 and the standard deviation was 7.25. The Cronbach's Alpha reliability score was .75.

The subjective norm scores were computed by multiplying each of the seven normative beliefs by the corresponding motivation to comply, then summing the products. The same procedure was used as with computing the attitude scores. The possible range of scores for the subjective norm was -147 to +147. The range of scores for this sample was -105 to +136. The mean was 39.96 and the standard deviation was
36.55. The Cronbach's Alpha reliability score was .73.

The means, standard deviations, range of scores, and the Cronbach's Alpha reliability estimates for the major variables are presented in Table 6.

**Results in Relation to Research Questions**

To ensure that the specific behavioral and normative beliefs in the indirect measures used in the questionnaire were encompassing the salient beliefs held by the nursing students, the direct measures of attitude and subjective norms were correlated with the indirect measures of attitude and subjective norms respectively. The Pearson Product Moment Correlation Coefficient was calculated for the indirect attitudes score with the direct attitude scores; and the indirect subjective norms with the direct subjective norms. The results were $r = .348$, $p < .01$ for the measures of attitude and $r = .574$, $p < .01$ for the measures of subjective norm. These results indicated that the specific behavioral and normative beliefs used in the questionnaire comprised of the salient beliefs held by the nursing students regarding caring for AIDS patients at a statistically significant level.

**Research Question #1:** What is the relationship between nursing students' AIDS knowledge, attitudes and subjective norms to intention to care for AIDS patients?

The Pearson Product Moment Coefficient was calculated between intentions to care for AIDS patients with AIDS knowledge, attitudes, and subjective norms. The results were $r = .111$, $p > .05$ for AIDS knowledge; $r = .267$, $p < .01$ for attitudes; and $r = .385$, $p < .01$ for subjective norms. Having established a relationship between
Table 6

Means, Standard Deviations, Score Ranges, Cronbach's Alpha Reliability Estimates and Skewness for Major Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Possible Score Range</th>
<th>Samples' Score Range</th>
<th>Cronbach's Alpha</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS Knowledge Score</td>
<td>17.37</td>
<td>2.90</td>
<td>0 to 28</td>
<td>6 to 28</td>
<td>.36</td>
<td>-0.368</td>
</tr>
<tr>
<td>Intention</td>
<td>2.42</td>
<td>0.95</td>
<td>-3 to +3</td>
<td>-2 to +3</td>
<td>N/A</td>
<td>-2.069</td>
</tr>
<tr>
<td>Specific Behavioral Beliefs</td>
<td>-12.85</td>
<td>8.68</td>
<td>-24 to -24</td>
<td>-24 to +13</td>
<td>.82</td>
<td>0.775</td>
</tr>
<tr>
<td>Outcome Evaluations</td>
<td>-14.66</td>
<td>8.17</td>
<td>-24 to -24</td>
<td>-24 to -2</td>
<td>.93</td>
<td>0.382</td>
</tr>
<tr>
<td>Normative Beliefs</td>
<td>9.07</td>
<td>7.75</td>
<td>-21 to -21</td>
<td>-21 to -21</td>
<td>.76</td>
<td>-0.371</td>
</tr>
<tr>
<td>Motivation to Comply</td>
<td>30.95</td>
<td>7.25</td>
<td>7 to 49</td>
<td>7 to 49</td>
<td>.75</td>
<td>-0.597</td>
</tr>
<tr>
<td>Subjective Norms (direct)</td>
<td>0.83</td>
<td>1.88</td>
<td>-3 to +3</td>
<td>-3 to +3</td>
<td>N/A</td>
<td>-0.954</td>
</tr>
<tr>
<td>Attitude (direct)</td>
<td>3.76</td>
<td>4.66</td>
<td>-12 to +12</td>
<td>-7 to +12</td>
<td>.78</td>
<td>-0.069</td>
</tr>
<tr>
<td>Attitude (indirect)</td>
<td>26.10</td>
<td>25.39</td>
<td>-72 to +72</td>
<td>-36 to +72</td>
<td>.88</td>
<td>0.187</td>
</tr>
<tr>
<td>Subjective Norms (indirect)</td>
<td>39.96</td>
<td>36.55</td>
<td>-147 to +147</td>
<td>-105 to 136</td>
<td>.73</td>
<td>-0.230</td>
</tr>
</tbody>
</table>
 intention with attitudes and subjective norms a stepwise regression analysis was performed using these variables following the procedures used in the research articles in which this study was based. Attitudes and subjective norm scores simultaneously accounted for 17.1% of the variance in intention \((R = .41, F = 24.8, p < .001)\). Scores on the AIDS knowledge test were not included in the regression analysis because no correlation was found between intention and AIDS knowledge.

Research Question #2: Is there a difference between AIDS knowledge of nursing students and their attitudes, subjective norms, and intentions to care for AIDS patients? To test the differences between nursing students' level of AIDS knowledge with their attitudes, subjective norms, and intentions to care for AIDS patients, a t-test was used to compare nursing students who scored below the first quartile with those who scored above the third quartile on the AIDS/HIV Knowledge Test. Eighty-two nursing students scored below the first quartile and 83 nursing students scored above the third quartile on the AIDS/HIV Knowledge Test. The mean score and standard deviation of the nursing students who scored below the first quartile were 14.28 and 1.99 respectively. The mean score and standard deviation of the nursing students who scored above the third quartile were 20.28 and 1.57 respectively. There were no significant differences between the two groups with regard to intention \((t = 1.63, p = 0.10)\), attitude \((t = 0.75, p = 0.46)\), or subjective norms \((t = 1.28, p = 0.20)\).

Research Question #3: What is the difference between nursing students who intend to care for AIDS patients and those that do not intend to care for AIDS patients with regard to their behavioral and normative beliefs?
There were only six nursing students who responded that they did not intend to care for HIV positive patients to whom they were assigned. In order to get a larger number of non-intenders, nursing students responses were divided between those who responded with +2 or +3 (quite or extremely likely) with those who responded with +1 to -3 (slightly likely through extremely unlikely) to care for HIV positive patients. This resulted in 218 nursing students in the 'intenders' group and 25 nursing students in the 'non-intenders' group. It is acknowledged that including participants who responded with 'slightly likely' to care for HIV patients in the non-intenders' group contaminates the data. However, it is believed that the participants may have rated their intentions to care for AIDS patients higher than their actual feelings because this researcher was introduced to the participants by their instructors as a nurse who works with AIDS patients. Also, it was believed that differences would be found between participants who responded with quite to extremely likely to care for HIV positive patients and those participants who responded with slightly likely. Using the statistical computer program Minitab which adjusted for the number of participants in each of the two groups, t-tests were performed to compare the differences between the individual behavioral beliefs and normative beliefs for the two groups (see Table 7).

Regarding specific behavioral beliefs, the two groups differed significantly in their beliefs about the amount of risk to themselves and to their patients. Nursing students who intend to care for HIV positive patients believed they and their other patients were less at risk of contracting the virus, and they were less likely to be shunned by their family and friends than the nursing students who did not intend to care for HIV.
Table 7

Comparisons of Behavioral and Normative Beliefs of Intenders and Nonintenders about Caring for HIV Positive Patients

<table>
<thead>
<tr>
<th>Beliefs</th>
<th>Intenders</th>
<th>Nonintenders</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td></td>
<td>N = 218</td>
<td>N = 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Behavioral Beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Put self at risk</td>
<td>0.06</td>
<td>1.77</td>
<td>0.92</td>
<td>1.66</td>
</tr>
<tr>
<td>Shunned by family</td>
<td>-2.33</td>
<td>1.26</td>
<td>-1.44</td>
<td>1.92</td>
</tr>
<tr>
<td>Shunned by friends</td>
<td>-2.33</td>
<td>1.26</td>
<td>-1.28</td>
<td>1.88</td>
</tr>
<tr>
<td>Shunned by classmates</td>
<td>-2.48</td>
<td>1.09</td>
<td>-1.88</td>
<td>1.64</td>
</tr>
<tr>
<td>Hurt relations with partner</td>
<td>-1.22</td>
<td>2.14</td>
<td>-1.08</td>
<td>2.00</td>
</tr>
<tr>
<td>Put patients at risk</td>
<td>-1.78</td>
<td>1.54</td>
<td>-0.56</td>
<td>2.00</td>
</tr>
<tr>
<td>Put family at risk</td>
<td>-1.29</td>
<td>1.94</td>
<td>-0.96</td>
<td>1.74</td>
</tr>
<tr>
<td>Hurt job prospects</td>
<td>-2.07</td>
<td>1.53</td>
<td>-1.52</td>
<td>1.53</td>
</tr>
<tr>
<td>Normative Beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High family expectations</td>
<td>0.92</td>
<td>1.85</td>
<td>-1.04</td>
<td>1.51</td>
</tr>
<tr>
<td>High close friends expectations</td>
<td>0.79</td>
<td>1.89</td>
<td>-0.16</td>
<td>1.37</td>
</tr>
<tr>
<td>High classmates expectations</td>
<td>1.23</td>
<td>1.83</td>
<td>0.72</td>
<td>1.37</td>
</tr>
<tr>
<td>High partner expectations</td>
<td>0.70</td>
<td>1.90</td>
<td>-1.12</td>
<td>1.62</td>
</tr>
<tr>
<td>High nursing staff expectations</td>
<td>1.96</td>
<td>1.54</td>
<td>1.04</td>
<td>1.67</td>
</tr>
<tr>
<td>High clinical teacher expectations</td>
<td>2.21</td>
<td>1.40</td>
<td>1.12</td>
<td>1.74</td>
</tr>
<tr>
<td>High dean of nursing expectations</td>
<td>2.11</td>
<td>1.39</td>
<td>1.04</td>
<td>1.59</td>
</tr>
</tbody>
</table>
positive patients.

With regard to normative beliefs, the two groups differed significantly on six of the seven individual normative belief items. There were no significant differences in the groups' belief of what their classmates think they should do regarding caring for HIV positive patients. However results must be interpreted with caution because of the differences in the number of participants in each group.

**Correlation between Major Variables and Demographic Characteristics**

When the major variables of this study were correlated with the demographic characteristics of the respondents, several statistically significant relationships resulted. AIDS knowledge scores was correlated with gender \( r = -0.159, p < .05 \) and school \( r = -0.184, p < .01 \). The relationship between gender and AIDS knowledge score should be interpreted cautiously because only 12% of the participants were males. There was also a statistically significant relationship between attitudes and the number of semesters in nursing \( r = 0.216, p < .01 \), and attitudes and knowing someone with HIV/AIDS \( r = -0.146, p < .05 \). Use caution in interpreting the results because of the total number of correlations and the small variance accounting for by the statistical significant correlations. (See Table 8).

**Summary of Results**

Nursing students' attitude and subjective norm scores simultaneously accounted for 17.1% of the variance in intention. AIDS knowledge scores did not correlate with intention. There were no significant differences between the nursing students who scored
Table 8  

Correlation Coefficients for Major Study Variables with Selected Demographic Characteristics

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Major Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Attitudes</td>
</tr>
<tr>
<td>Gender</td>
<td>.005</td>
</tr>
<tr>
<td>Age</td>
<td>-.033</td>
</tr>
<tr>
<td>Marital Status</td>
<td>.023</td>
</tr>
<tr>
<td>Number of Children</td>
<td>.058</td>
</tr>
<tr>
<td>Religion</td>
<td>.091</td>
</tr>
<tr>
<td>School (University or College)</td>
<td>.050</td>
</tr>
<tr>
<td>Number of Semesters in Nursing</td>
<td>.216**</td>
</tr>
<tr>
<td>Taken a Course on AIDS</td>
<td>-.041</td>
</tr>
<tr>
<td>Number of AIDS Patients Cared for</td>
<td>.031</td>
</tr>
<tr>
<td>Know Someone with HIV/AIDS</td>
<td>-.146*</td>
</tr>
</tbody>
</table>

* Correlation is significant at the .05 level (2-tailed).
** Correlation is significant at the .01 level (2-tailed).
above the third quartile and those who scored below the first quartile on the AIDS Knowledge Test with regard to intention, attitude, and subjective norms. There were numerous differences with regard to specific behavioral beliefs and normative beliefs between nursing students who intended to care for AIDS patients and those who did not.
CHAPTER VI

DISCUSSION

Variables within the Theory of Reasoned Action

For the present study, 90% of the nursing students indicated they were 'quite' to 'extremely likely' to care for AIDS patients to whom they were assigned. The high intention scores for this sample may be explained by the fact that this researcher works with AIDS patients and many of the respondents knew of this fact. The participants may have wanted to respond in a way which was perceived as socially acceptable or they may have thought this was what this researcher wanted them to indicate. However, this sample had high intention scores to care for AIDS patients which were similar to scores found in Goldenberg and Laschinger (1991), Laschinger and Goldenberg (1993) and Laschinger's et al. (1995) studies.

Both the direct and indirect attitude scores for this sample were above zero, which indicated positive attitudes by the nursing students toward caring for AIDS patients. Positive attitudes by nursing students and nurses were also found in Goldenberg and Laschinger (1991), Laschinger and Goldenberg (1993), and Laschinger's et al. (1995) studies.

Based on the normative beliefs scores, nursing students in this sample believed
that their important others wanted them to care for AIDS patients. The motivation to comply scores also indicated that this sample was willing to comply with those important others' expectations. Again, these results were similar to Goldenberg and Laschinger (1991), Laschinger and Goldenberg (1993), and Laschinger's et al. (1995) studies.

**Major Findings**

The present study provides support for the theory of reasoned action. The combination of nursing students' attitudes and subjective norms were found to explain a significant variance in intention. When AIDS knowledge was added to the regression it did not significantly contribute to the variance in intention. This supported the Ajzen and Fishbein (1980) theory of reasoned action that external variables such as knowledge would not contribute to the prediction of intention. Nursing students' AIDS knowledge may have had an influence on the determinants of attitudes (specific beliefs the behavior leads to certain outcomes and the evaluations of those outcomes) and subjective norms (beliefs about important others' expectations and the motivation to comply with those expectations). However, this study only investigated nursing students' AIDS knowledge with their attitudes and subjective norms regarding caring for AIDS patients. It is not certain what role AIDS knowledge played on influencing the present sample.

For this sample of nursing students, attitudes and subjective norms accounted for 17.1% in the variance of intention. These findings were similar to what Goldenberg and Laschinger and Goldenberg (1993) and Laschinger et al. (1995) found in their studies, where attitudes and subjective norms accounted for 19.0% in the variance of intention.
When nursing students were divided into those who scored below the first quartile and those who scored above the third quartile on the AIDS Knowledge Test, there were no differences between the two groups with regard to their attitudes, subjective norms or intentions to care for AIDS patients. These results did not support Brown et al. (1990) and Armstrong-Esther and Hewitt (1990) studies which found nursing students and nurses' attitudes towards caring for AIDS patients became more favorable with an increase in AIDS knowledge scores. The results of the present study also did not support Goldenberg and Laschinger's (1991) study which found that nursing students scores for attitudes, subjective norms, and intentions to care for AIDS patients increased after taking an AIDS education program. However, in Goldenberg and Laschinger's (1991) study, this researcher was uncertain whether nursing students' AIDS knowledge increased after taking a total of four hours of lectures/discussions by AIDS experts. The AIDS education program may have had an affect on the nursing students' attitudes, subjective norms, and intentions without increasing their level of AIDS knowledge.

The lack of significant results between the nursing students who scored below the first quartile and those who scored above the third quartile in the present study may be related to the fact that most nursing students knew how AIDS is transmitted and how to protect oneself from occupational exposure to the AIDS virus, as indicated by Rae, Brown, and Calder's (1992) study. Jemmott, Freleicher, and Jemmott (1992) and Jemmott, Jemmott, Cruz-Collins' (1992) found nursing students and nurses who perceived greater occupational risk had lower intention to care for AIDS patients scores.

The AIDS Knowledge test used in the present study had questions dealing with...
symptomatology, etiology, and epidemiology in addition to questions dealing with transmission of HIV. It is possible that having knowledge in symptomatology, etiology and epidemiology of AIDS would not have as great of an influence on nursing students' attitudes and intentions to care for AIDS patients as knowing how the disease is transmitted.

When nursing students behavioral and normative beliefs of those who intend to care for AIDS patients and those who did not were compared, numerous significant differences emerged. Nursing students who did not intend to care for AIDS patients believed they were putting themselves at risk. This was consistent with Jemmott, Freleicher et al. (1992), Jemmott. Jemmott et al. (1992), Laschinger and Goldenberg (1993), and Laschinger et al. (1995) studies that found nursing students and nurses who perceived greater occupational risk had lower intention to care for AIDS patients. Nursing students who did not intend to care for AIDS patients had significant higher scores in their belief that they would be shunned by their family and friends. Although Laschinger and Goldenberg (1993) and Laschinger's et al. (1995) studies indicated the same, the results were not significant. With regard to normative beliefs, nursing students who intended to care for AIDS patients perceived higher expectations that they should care for patients with AIDS from family, friends, partner, nursing staff, clinical teachers, and dean of nursing. Laschinger and Goldenberg (1993) and Laschinger et al. (1995) studies investigated practicing nurses intentions to care for AIDS patients. Therefore, they looked at nurses perceived expectations of co-workers, fellow nurses, and nursing managers instead of classmates, clinical teachers, and dean of nursing. However in both
their studies, nurses who intended to care for AIDS patients perceived higher expectations that they should care for AIDS patients from family and partners. It is interesting to note that this researcher had observed several nurses who worked on an AIDS unit, later transferred to other units because of their family fears that the nurses might contract the AIDS virus at work. All of these latter findings need to be looked at with caution because of the small number of non-intenders compared to the intenders which may have skewed the findings and also the number of t-tests performed may have increased the likelihood of finding significant results. However, the mean scores for the intenders' group were lower for each of the specific behavioral belief items than for the non-intenders' group and the mean scores for each of the normative belief items were higher than for the intenders' group than for the non-intenders' group.

**Implications for Nursing**

The results from this study have implications for nurse educators. Although AIDS knowledge did not contribute significantly to the variance in intention. AIDS knowledge may have influenced the attitudes in intent to care for AIDS patients by these participants. Several studies have shown a positive relationship between AIDS knowledge and attitudes toward AIDS and people with AIDS (Armstrong-Esther and Hewitt, 1990; Brown et al., 1990; Oermann and Gignac, 1991). In addition, Penderson (1993) found that nursing students who participated in a group discussion on AIDS had more positive toward caring for AIDS patients than students who participated in a lecture only format on AIDS. Nursing students attitudes and intentions to care for AIDS patients may be
influenced to be more positive by employing teaching strategies that address both the
cognitive and affective domains of learning. Lectures which focus on the cognitive
aspect of learning can have an influence on the nursing students' beliefs towards caring
for AIDS patients. However, according to Ajzen and Fishbein (1980) beliefs can easily
be changed over time, but attitudes are more stable. Teaching strategies that encompass
class discussions will have an influence on nursing students' attitudes which would be
more permanent.

Affective domains of learning may include nursing instructors choosing clinical
settings for their nursing students that specialize in AIDS care. This will allow nursing
students to interact with AIDS patients in varying stages of their disease and view AIDS
patients as they view their other patients. During this interaction, nursing students' beliefs
based on stereotypes of AIDS patients will shift to reflect a more accurate view of AIDS
patients.

Staff development departments in hospitals may benefit from developing a
questionnaire based on the theory of reasoned action to determine nurses' beliefs
regarding caring for AIDS patients. Using this information, staff educators conducting
in-services for nurses can target those specific beliefs of the nurses to be incorporated into
their class instructions. Based on the results of the present study where non-intenders
indicated a higher likelihood of putting themselves at risk for contracting the HIV virus
when caring for HIV positive patients than intenders, staff educators might want to focus
their class instructions on the low rate of transmission of the AIDS virus from
occupational exposure.
Attitudes and subjective norms accounted for 17.1% of the variance in intentions to care for AIDS patients for this sample. Nursing students' intention to care for AIDS patients was influenced by their attitude towards AIDS and by their perception of what important others thought they should do regarding caring for AIDS patients. In addition, nursing students who intended to care for AIDS patients had higher expectations from their important others to care for AIDS patients than non-intenders. This has implications for nurse educators and nurse administrators. Nurse educators need to act as role models by exhibiting positive attitudes towards caring for AIDS patients. To attract nurses to work on AIDS units, nurses should feel that they are being supported by nurse administrators to work on the AIDS units. This support may come as offering continuing AIDS education, psychosocial support in the form of support groups run by counselors, and even giving differential pay. Nurses should also be encouraged to invite friends and family members to inservices on AIDS being offered by the hospital in which they work. This may alleviate the fears of the nurses' friends and family members may have regarding the nurses caring for AIDS patients and therefore nurses may receive support and encouragement from friends and family members to care for AIDS patients.

**Limitations**

Due to sampling procedure the present study findings are applicable to only nursing students of the programs sampled. This study investigated nursing students' attitudes, subjective norms, and intentions to care for AIDS patients from only two nursing programs in one southwestern city in the United States.
The Cronbach's alpha reliability estimates for the AIDS knowledge test with this sample was only .36. Although the developer of the AIDS knowledge test considered the test an index and not a scale, the low reliability of the test may explain the lack of significant results to the research question "Is there a difference between AIDS knowledge of the nursing students and their attitudes, subjective norms, and intentions to care for AIDS patients?".

When intenders and non-intenders' behavioral and normative beliefs were analyzed, participants who indicated they would 'slightly' intend to care for AIDS patients were included into the non-intenders' group. This contaminated the non-intenders' group. In addition, the non-intenders' sample size consisted of only 25 participants.

The setting in which this study took place may have had an influence on the findings. All the participants were approached in their classrooms. The participants may have responded differently on the questionnaire under a different setting.

**Recommendations for Further Research**

It was noted by this researcher that many nursing students who participated in this study had difficulty answering the outcome evaluations portion of the questionnaire. They had difficulty with the adjectives (good - bad) used in the Likert Scale type questions. For future research intending to use a similar questionnaire, the use of a different set of adjectives such as "is important to me" and "is not important to me" for the outcome evaluations portion of the questionnaire should be considered.

This study was conducted in one geographic location using nursing students from
two nursing programs. Further research is needed to determine whether the same results can be obtained in other regions of the country. Research is also needed using nursing students from regions with various prevalence of AIDS cases. In addition this study may be replicated in other populations of health care workers.

The present study indicated that nursing students intended to care for AIDS patients. Further studies are needed to determine if nursing students intentions to care for AIDS patients can be translated into the actual behavior of caring for AIDS patients and to evaluate the quality of care AIDS patients receive.

This study investigated nursing students AIDS knowledge with attitudes, subjective norms and intentions to care for AIDS patients. Future research is needed to study nursing students AIDS knowledge with the determinants of attitudes and subjective norms.

The present study did not find any differences between AIDS knowledge of nursing students and their attitudes, subjective norms, and intentions to care for AIDS patients. The AIDS knowledge test used in the present study had questions dealing with various aspects of AIDS. Further research is needed to examine if knowledge of HIV transmission alone would have an influence on nursing students' attitudes and intentions to care for AIDS patients.
APPENDIX A

The Instruments
BELIEFS ABOUT CARING FOR PERSONS WHO ARE HIV POSITIVE

General Instructions

In the questionnaire you are about to fill out the questions make use of rating scales with seven places. You are to place a check mark in the space that best describes your opinion.

For example, if you are asked to rate "The Weather in London" and you think it is extremely good, then you would place your mark as follows:

The Weather in London is

good _______ : _______ : _______ : _______ : _______ : _______ : _______ bad

extremely quite slightly neither slightly quite extremely

PART A

The following items are statements people have made about caring for patients with AIDS. This particular questionnaire is concerned with student nurses' views about caring for AIDS patients. Accordingly, would you please respond to each statement in the manner described above. There are no right or wrong answers. Simply place an X in the space that best describes your opinion.

INTENTION

I intend to care for any person who is HIV positive to whom I am assigned.


extremely quite slightly neither slightly quite extremely
GENERAL BELIEFS ABOUT THE BEHAVIOR

Note: For convenience and time's sake, I am asking you only about caring for persons who are HIV positive. I could just as easily have asked you about not caring for persons who are HIV positive. My choice between the two was essentially arbitrary.

I feel that my caring for persons who are HIV positive is:

unpleasant________:________:________:________:________:________:________:________pleasant
extremely quite slightly neither slightly quite extremely

wise________:________:________:________:________:________:________:________ill-advised
extremely quite slightly neither slightly quite extremely

rewarding________:________:________:________:________:________:________:________punishing
extremely quite slightly neither slightly quite extremely

safe________:________:________:________:________:________:________:________unsafe
extremely quite slightly neither slightly quite extremely

SPECIFIC BEHAVIORAL BELIEFS

1. I believe that caring for persons who are HIV positive will put me at risk for contracting the virus.

likely________:________:________:________:________:________:________:________unlikely
extremely quite slightly neither slightly quite extremely

2. I believe that my caring for persons who are HIV positive will result in my being shunned by my family.

unlikely________:________:________:________:________:________:________:________likely
extremely quite slightly neither slightly quite extremely

3. I believe that my caring for persons who are HIV positive will result in my being shunned by my friends.

unlikely________:________:________:________:________:________:________:________likely
extremely quite slightly neither slightly quite extremely
4. I believe that my caring for persons who are HIV positive will result in my being shunned by my classmates.

unlikely: extremely quite slightly neither slightly quite extremely

5. I believe that my caring for persons who are HIV positive will have a negative effect on my relationship with my spouse/partner.

likely: extremely quite slightly neither slightly quite extremely

6. I believe that my caring for persons who are HIV positive will result in increased risk to my other patients.

unlikely: extremely quite slightly neither slightly quite extremely

7. I believe that my caring for persons who are HIV positive will put my family at a greater risk for contracting the virus.

likely: extremely quite slightly neither slightly quite extremely

8. I believe that my caring for persons who are HIV positive will restrict future job opportunities in other nursing settings.

likely: extremely quite slightly neither slightly quite extremely

OUTCOME EVALUATIONS

1. Caring for persons who are HIV positive will put myself at risk for contracting the virus.

good: extremely quite slightly neither slightly quite extreme bad

extremely quite slightly neither slightly quite extremely

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2. Caring for persons who are HIV positive will result in my being shunned by my family.

   good________:________:________:________:________:________:________:________bad
   extremely quite slightly neither slightly quite extremely

3. Caring for persons who are HIV positive will result in my being shunned by my friends.

   good________:________:________:________:________:________:________:________bad
   extremely quite slightly neither slightly quite extremely

4. Caring for persons who are HIV positive will result in my being shunned by my classmates.

   good________:________:________:________:________:________:________:________bad
   extremely quite slightly neither slightly quite extremely

5. Caring for persons who are HIV positive will create a negative effect on my relationship with my spouse/partner.

   good________:________:________:________:________:________:________:________bad
   extremely quite slightly neither slightly quite extremely

6. Caring for persons who are HIV positive will result in increased risk to my other patients.

   good________:________:________:________:________:________:________:________bad
   extremely quite slightly neither slightly quite extremely

7. Caring for persons who are HIV positive will put my family at risk for contracting the virus.

   good________:________:________:________:________:________:________:________bad
   extremely quite slightly neither slightly quite extremely
8. Caring for persons who are HIV positive will restrict future job opportunities in other nursing settings.

good: _______ : _______ : _______ : _______ : _______ : bad
extremely quite slightly neither slightly quite extremely

PART B

Now I would like to know how you think other people feel about your caring for persons who are HIV positive.

SUBJECTIVE NORM

Most people who are important to me think I should care for any person who is HIV positive to whom I am assigned.

likely: _______ : _______ : _______ : _______ : _______ : unlikely
extremely quite slightly neither slightly quite extremely

NORMATIVE BELIEFS

1. Most members of my family think I should care for any persons who are HIV positive to whom I am assigned.

likely: _______ : _______ : _______ : _______ : _______ : unlikely
extremely quite slightly neither slightly quite extremely

2. My close friends think I should care for any persons who are HIV positive to whom I am assigned.

unlikely: _______ : _______ : _______ : _______ : _______ : likely
extremely quite slightly neither slightly quite extremely

3. My classmates think I should care for any persons who are HIV positive to whom I am assigned.

unlikely: _______ : _______ : _______ : _______ : _______ : likely
extremely quite slightly neither slightly quite extremely
4. My spouse/partner thinks I should care for any persons who are HIV positive to whom I am assigned.

likely________________________unlikely
extremely quite slightly neither slightly quite extremely

5. The nursing staff on my unit think I should care for any persons who are HIV positive to whom I am assigned.

unlikely________________________likely
extremely quite slightly neither slightly quite extremely

6. My clinical teacher thinks I should care for any persons who are HIV positive to whom I am assigned.

unlikely________________________likely
extremely quite slightly neither slightly quite extremely

7. My dean of nursing thinks I should care for any persons who are HIV positive to whom I am assigned.

likely________________________unlikely
extremely quite slightly neither slightly quite extremely

MOTIVATION TO COMPLY

1. Generally speaking, I want to do what most members of my family think I should do.

likely________________________unlikely
extremely quite slightly neither slightly quite extremely

2. Generally speaking, I want to do what my close friends think I should do.

unlikely________________________likely
extremely quite slightly neither slightly quite extremely

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3. Generally speaking, I want to do what my classmates think I should do.
unlikely: extremely quite slightly neither slightly quite extremely
likely: extremely quite slightly neither slightly quite extremely

4. Generally speaking, I want to do what my spouse/partner thinks I should do.
likely: extremely quite slightly neither slightly quite extremely
unlikely: extremely quite slightly neither slightly quite extremely

5. Generally speaking, I want to do what the nursing staff think I should do.
likely: extremely quite slightly neither slightly quite extremely
unlikely: extremely quite slightly neither slightly quite extremely

6. Generally speaking, I want to do what my clinical teacher thinks I should do.
likely: extremely quite slightly neither slightly quite extremely
unlikely: extremely quite slightly neither slightly quite extremely

7. Generally speaking, I want to do what my dean of nursing thinks I should do.
unlikely: extremely quite slightly neither slightly quite extremely
likely: extremely quite slightly neither slightly quite extremely
AIDS/HIV KNOWLEDGE TEST

Instructions

For the True and False questions, please place an X next to the correct answer. For the multiple questions, please circle the letter to the corresponding correct answer.

1. In comparison to adults infected with HIV, children are more likely to be symptomatic throughout the course of their illness.
   True  False ___

2. AIDS is a late manifestation of infection with the human immunodeficiency virus (HIV).
   True  False ___

3. The development of chronically swollen lymph nodes is a late manifestation of HIV.
   True  False ___

4. When a person is initially infected with HIV he/she may experience:
   A. fever
   B. rash
   C. flu-like symptoms
   D. A and C above
   E. all of the above

5. HIV preferentially infects:
   A. platelets
   B. erythrocytes
   C. epithelial cells
   D. T4 cells
   E. B and D above

6. Over time persons with HIV may develop symptoms including:
   A. unexplained weight loss
   B. persistent night sweats
   C. chronic diarrhea
   D. A and B above
   E. all of the above
7. For which of these reasons may an HIV antibody test yield a false-negative result?
   A. the specimen of blood was not incubated for a long enough period prior to analysis
   B. there is generally a period of 1-3 weeks when antibodies are present in other bodily fluids but not in the blood
   C. an insufficient quantity of blood was used for the analysis
   D. there is generally a window period of 6-12 weeks following the time of infection before HIV antibodies can be detected
   E. all of the above

8. Statistics show the risk to health care workers of acquiring the AIDS virus from AIDS patients is low
   True___ False___

9. As an HIV infected individual's immune dysfunction progresses the likelihood of transmission of HIV increases
   True___ False___

10. HIV can be transmitted through:
    A. unprotected sexual contact
    B. injections with contaminated needles or blood products
    C. perinatal from mother to baby
    D. A and B above
    E. all of the above

11. If an individual is found to be HIV positive and asymptomatic, which of these statements about this person's ability to transmit HIV is accurate?
    A. the virus is dormant, and therefore the person is not considered infectious
    B. until symptoms develop, the person is not considered infectious
    C. this person should be considered infectious
    D. without further clinical evaluation, the infectious potential of this person is unknown

12. Studies of household contacts of AIDS patients show:
    A. casual transmission of the virus does not occur
    B. household members are at increased risk of developing AIDS because they live in the same household
    C. no studies have adequately looked at this issue
13. The CDC guidelines for universal precautions for HIV apply to all:
   A. feces and urine
   B. nasal secretions, sputum, sweat, tears, vomitus
   C. blood and other body fluids containing visible blood
   D. semen and vaginal secretions
   E. C and D above
   F. all of the above

14. If an HIV test is negative which of the following can be true?
   A. the person has not been exposed to the virus
   B. the person had been exposed to HIV but has not become infected and therefore has not produced antibodies
   C. the person has been infected by the virus but has not yet produced antibodies
   D. A and B above
   E. all of the above

15. HIV is increasing faster in the homosexual population than in any other risk population in the United States.
    True___    False___

16. Black and Hispanic populations in the United States are proportionately represented in the AIDS population.
    True___    False___

17. Most of the women with AIDS are in the childbearing years.
    True___    False___

18. An individual who has a sexually transmitted disease is at increased risk for getting HIV.
    True___    False___

19. HIV positive intravenous drug users are at high risk for acquiring TB.
    True___    False___

20. Safer sex practices have helped reduce the seroconversion rate among homosexual populations.
    True___    False___

21. There are many needle exchange programs in the United States that have helped reduce the spread of HIV among intravenous drug users.
    True___    False___
22. In addition to using condom, which of these additional measures should be recommended to promote safer sexual activity?
   A. using an oil-based lubricant
   B. using a nonoxynol-9 (N-9) spermicide
   C. allowing the penis to become flaccid before withdrawal from the orifice
   D. bathing the penis thoroughly before starting sexual activity
   E. A and B above

23. Studies show that most Americans:
   A. know how HIV is transmitted and practice preventive methods to reduce the risk of acquiring HIV
   B. know how HIV is transmitted but don't practice preventive methods to reduce the risk of acquiring HIV
   C. don't know the most common ways that HIV is transmitted

24. The spread of AIDS among IV drug users can be reduced:
   A. by drug treatment programs
   B. with needle exchange programs
   C. by providing information on how to clean needles
   D. B and C above
   E. all of the above

25. The FDA has approved the use of open-label (prescription) AZT for HIV positive individuals who are:
   A. asymptomatic and have T4 cell counts under 500
   B. symptomatic and have T4 cell counts under 500
   C. asymptomatic and T4 cell counts under 200
   D. A and B above
   E. B and C above

26. The majority of business in this country have specific anti-discrimination policies in the workplace that protect the legal rights of employees infected with HIV.
   True___   False____

27. Current communicable disease law and regulations in Nevada require that all HIV infected persons have a TB test.
   True___   False____

28. In Nevada if a physician knows the identity of an HIV infected person's spouse, the physician is required to report this information to the Division of Health Services.
   True___   False____
DEMOGRAPHIC INFORMATION

1. Gender: Male____ Female____

2. Age _____

3. Marital Status: Single____ Married____ Separated____ Divorced____

4. Number of children _____

5. Ages of children _______________________________________

6. Do you attend a: University____ College____

7. The number of semesters enrolled at a nursing program_______

8. Have you ever taken a course that included specific contents on AIDS?________

9. How many patients with AIDS or who are HIV positive have you cared for in the past?________

10. Religious Affiliation______________________________

11. Do you personally know someone with AIDS, HIV positive or someone who died of AIDS? ______

12. Are you a registered nurse?________
APPENDIX B

Human Subject Rights
Dear Nursing Student,

My name is Martin Medvejer. I am a graduate student at the University of Nevada, Las Vegas. For my thesis, I am conducting a study on nursing students' intentions to care for AIDS patients. I am inviting nursing students to participate in this research project. The purpose of the research is to investigate nursing students' attitudes, subjective norms, and intentions to care for AIDS patients. In addition, the relationship of AIDS knowledge on nursing students' attitudes, subjective norms, and intention to care for AIDS patients will be analyzed. There are no foreseeable risk to you by participating in this study. The study consists of two questionnaires and a demographic questionnaire. The first questionnaire elicits information on intention to care for AIDS patients and the second questionnaire elicits knowledge on AIDS. It will take approximately 40 minutes to complete both questionnaires. Results from this study will benefit hospitals in providing better care for AIDS patients and nursing schools in improving their curriculum.

All data will be coded to ensure anonymity. Data collected from this study will be stored in a locked cabinet and will not be shared with anyone to ensure confidentiality.

I will be distributing the questionnaires to several nursing classes. Please do not fill out the questionnaires twice. After you have finished filling out the questionnaires, please enclose them in the envelope provided.

Your participation in this study is voluntary. Your grade in the class will not be affected by your decision to participate. You have the right to withdraw at any time from this study. If you have any questions regarding this study you may contact me at the University of Nevada, Las Vegas nursing department, at 895-3360. If you have questions about your rights regarding this study, you may contact the UNLV Office of Sponsored Programs at 895-1357.

By completing the questionnaire, you have indicated consent to participate in the study. Thank you for your time and patience.

Sincerely,

Martin Medvejer
DESCRIPTION OF STUDY

1. SUBJECTS: Nursing students from the University of Nevada, Las Vegas and Community College of Southern Nevada will be asked to participate in the study. After receiving permission from the students' instructors to use part of the class time to distribute the questionnaire, students will be asked to participate in the study. Both females and males will have an equal opportunity to participate in the study.

2. PURPOSE, METHODS, PROCEDURES: The purpose of this study is to investigate nursing students' attitudes, subjective norms, and intentions to care for AIDS patients. In addition, the relationship of AIDS knowledge on nursing students' attitudes, subjective norms, and intention to care for AIDS patients will be analyzed. A demographic data sheet and two questionnaires will be distributed to nursing students during or after class time and asked to be completed at that time. The questionnaires are Beliefs About Caring for Persons who are HIV Positive developed by Laschinger and Goldenberg (1993) and AIDS/HIV knowledge test developed by Tessaro (1995).

3. RISKS: There are no identified risks to the subjects who choose to participate in the study.

4. BENEFITS: The benefits derived from this study will be the knowledge of the variables influencing nursing students' intention to care for AIDS patients. The results from this study will also benefit nursing schools by emphasizing the affective component of AIDS education.
5. RISK-BENEFIT RATIO: There are no risks identified.

6. COST TO SUBJECTS: There are no monetary costs to the subjects to participate in this study. There is a cost of time, about 40 minutes.

7. INFORMED CONSENT: Every subject will be given a cover letter attached to the questionnaires. The cover letter will address the following: identify the researcher; invite the subjects to participate in the study; explain the purpose of the research and expected length of time to complete the questionnaire; a description of benefits derived from the study; a statement describing the subjects anonymity and confidentiality; names, addresses and phone numbers subjects may contact for answers to questions regarding the study; assurance that participation is voluntary and subjects may withdraw at any time. By completing the questionnaire, this will imply they are consenting to participate in the study.
Title of Project: Nursing students' attitudes, social norms, knowledge and intention to care for AIDS patients.

Investigator: Martin Medvejer RN, BSN and Margaret Louis, RN, PhD

After reviewing this proposal, the members of the Department of Nursing, Human Subjects Rights Review Committee have indicated below their approval/disapproval of this proposal.

Signature of Committee Members

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The above named project is hereby approved/disapproved (circle one).

Date: 20 Feb 1997

Committee Chairperson's Signature
21 February 1997

Martin Medvejer, RN, BSN
1120 Observation Drive #201
Las Vegas NV 89128

Dear Mr. Medvejer:

The Department of Nursing Human Subjects Rights Committee met and approved your proposal "Nursing students' attitudes, social norms, knowledge and intention to care for AIDS patients" with the following changes:

1. Clarify how you are getting your participants.
2. What level of student are they (beginning, graduating, etc).
3. Clarify why you have an unequal split between the 2 programs.
4. Provide the signed permissions from the appropriate persons at each program to access their students.
5. Sign the 'informed consent' letter.
6. Clarify the responses on the knowledge tool.
7. Make the items for the outcome evaluations a full sentence so the response can be made.
8. Edit the use of AIDS/HIV so accurate use (ie #8 of knowledge tool).

With the above revisions you may take your proposal to the University Office of Sponsored Programs for their consideration. We suggest you request an exempt status for your project.

You have a study that should result in useful information for nursing. The Committee wishes you well in completing it. If any of the above is not clear or you wish to discuss any of the points please do not hesitate to call myself or any of the other committee members.

We wish you well in completing your study and are looking forward to hearing about your findings.

If you make any major change in your project please notify the Committee.

Sincerely,

Margaret Louis, RN PhD
Chairperson
Human Subjects Rights Committee
Department of Nursing

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APPENDIX C

Correspondence
Dear Dr. Goldenberg,

I am a graduate student at the University of Nevada at Las Vegas. I had written to you 2 years ago when I was enrolled in a theory and nursing research class regarding getting a copy of your questionnaire designed to measure the theoretical constructs of the Ajzen-Fishbein. You were very kind to send me a copy. Now, I am requesting permission to use the same questionnaire from your March 1991 article in the Journal of Nursing Education, "Attitudes and Normative Beliefs of Nursing Students as Predictors of Intended Care Behaviors with AIDS patients" for my thesis. In addition, would it be acceptable for me to make approximately 100 copies of your questionnaire for my study?

I also have a question regarding that particular 1991 study. You and Dr. Laschinger performed correlational analysis between intention to care for AIDS patients and the two components of the Ajzen-Fishbein model (Attitudes and Normative beliefs). I was wondering why you used the term normative beliefs as opposed to Subjective Norms (normative beliefs X motivation to comply).

If you have any questions please contact me at my above address or you may E-mail me at martinm@aol.com. Thank you for your time and cooperation.

Very truly yours,

Martin Medvejer

Margaret Louis, PhD
Committee Chairperson
March 19, 1996

Mr. Martin Medvejer, R.N.,
1120 Observation Dr., #201,
Las Vegas, NV 89128

Dear Mr. Medvejer:

You have permission to use the questionnaire "Beliefs About Caring for AIDS Patients" in your study. Good luck with your investigation.

Sincerely yours.

Dolly Goldenberg, RN, Ph.D.,
Associate Professor
March 27, 1996

Gentlemen:

I am a graduate student at the University of Nevada, Las Vegas and I am working on my thesis. I am writing for permission to copy Figure 1.1, Factors determining a person’s behavior, appearing on page 8 of Understanding Attitudes and Predicting Social Behavior by Icek Ajzen and Martin Fishbein published by Prentice-Hall in 1980.

I plan to use the diagram in my thesis to illustrate the Ajzen-Fishbein Model I am using for predicting nursing students’ intention to care for AIDS patients. Adequate acknowledgment will be given to the authors and to Prentice-Hall.

Sincerely yours,

[Signature]

Martin Medvejer
April 22, 1996

Martin Medvejer
1120 Observation Dr. #201
Las Vegas, NV 89128

Dear Mr. Medvejer:

We are glad to give you permission to reprint figure 1.1 from our text, UNDERSTANDING ATTITUDES AND PREDICTING SOCIAL BEHAVIOR, in your thesis.

Please credit our material as follows—

Sincerely,

Michelle Johnson
Permissions Editor
August 21, 1996

Dear Frances Brown,

I am a graduate student at the University of Nevada at Las Vegas working on my thesis as partial requirement for the Master of Science in Nursing. My study focuses on nursing students' intentions to care for HIV/AIDS patients and their knowledge on AIDS. This will be a survey design consisting of the tools, "Beliefs About Caring for AIDS Patients, AIDS/HIV knowledge test, and a demographic information questionnaire.

I am asking permission to use a sample of the nursing students at the Community College of Southern Nevada, West Charleston Campus. Participation in the study will be completely voluntary, and confidentiality and anonymity will be strictly observed.

Yours truly,

Martin Medvejer
September 11, 1996

Martin Medvejer, RN
Graduate Student
University of Nevada at Las Vegas
4505 Maryland Parkway
Las Vegas, Nevada 89154-3018

Dear Martin:

You have permission from the Community College of Southern Nevada to use a sample of our nursing students for your research focusing on nursing students' intentions to care for HIV/AIDS patients. It is my understanding that you are conducting this research as a part of your thesis for the MSN program at UNLV.

I wish you much success in your research efforts. I will be interested in hearing about the results of your study.

Yours Truly,

Frances Brown, MSN, MSEd, RN
Chair, Department of Health Professions
Program Director, Nursing
October 15, 1996

Dear Dr. Witt,

I am a graduate student at the University of Nevada at Las Vegas, working on my thesis as partial requirement for the Master of Science in Nursing. My study focuses on nursing students' intention to care for HIV/AIDS patients and their knowledge on AIDS. This will be a descriptive, correlational design consisting of the tools, "Beliefs About Caring for Persons who are HIV Positive", AIDS/HIV knowledge test, and a demographic information questionnaire.

I am asking permission to use a sample of the nursing students at the University of Nevada at Las Vegas after obtaining approval from the UNLV Human Rights Review Committee. Participation in this study will be completely voluntary, and confidentiality and anonymity will be observed.

Yours truly,

[Signature]

Martin Medvejer
Martin Medvejer R.N.
1120 Observation Dr. #201
Las Vegas NV 89128

Dear Mr. Medvejer:

This letter is to notify you of the Department's permission to utilize the students enrolled in the Nursing course work as respondents in your study, if the following conditions are met:

a. the study proposal has been approved by the Department Human Subject Right Committee.

b. that student participation is as described, voluntary, and the results are treated with confidentiality and anonymity.

I wish you success.

Sincerely,

Rosemary Witt

Rosemary Witt
Irene Tessaro, R.N., Dr.P.H.
P.O. Box 2949
Duke University Medical Center
Durham, NC 27710

January 7, 1997

Dear Dr. Tessaro,

I am a nursing graduate student at the University of Nevada at Las Vegas. I am working on my thesis about nursing students' intentions to care for AIDS patients using the theory of reasoned action. I am incorporating the variable AIDS knowledge into my study. I am requesting permission to use your AIDS knowledge test from your 1994 article in the Public Health Nursing study "HIV and the Work Intentions of Public Health Nurses". I am hoping the AIDS knowledge test would be difficult enough to produce a broad range of scores.

If you grant me permission to use the AIDS knowledge test, would you please send me a copy of the test, include any information regarding the validity of the test you may have and include the correct answers so I may score the test. If you have any questions please contact me at my above address or E-mail me at MartinRN@aol.com. Thank you for your time and cooperation.

Very truly yours,

Martin Medvejer
January 30, 1997

Martin Medvejer
1120 Observation Dr. # 201
Las Vegas, Nevada 89128

Dear Martin:

Enclosed are the 29 questions that comprise the AIDS/HIV knowledge test for our study of public health nurses. The study was done more than 6 years ago so some of the items may not be as relevant today as they were then (e.g., the question about AZT, question about leading cause of death in men). Also, there are two questions that are specific to North Carolina. Three questions were taken from an NLN test. I have also sent two other published articles that give more information about the knowledge index. We did not determine psychometric properties of the knowledge items (reliability) since we considered this an index and not a scale. We considered level of knowledge along the continuum of 0-29. Content validity was determined by expert review.

Good luck with your thesis. If I can be of further help please let me know.

Sincerely,

Irene Tessaro MSN, DrPH
Assistant Research Professor

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April 29, 1997

Martin Medvejer  
1120 Observation Dr. #201  
Las Vegas, Nevada 89128

Dear Martin:

I have reviewed the questions that comprise the AIDS/HIV knowledge test and I believe the test is appropriate to ascertain nursing students' level of AIDS knowledge. I think you should be able to get a variance in scores using the test. If you have further questions, please feel free to contact me. Good luck with your thesis.

Sincerely,

Mary Koithan, R.N., Ph.D.
April 29, 1997

Martin Medvejer
1120 Observation Dr. #201
Las Vegas, Nevada 89128

Dear Martin:

I have reviewed the questions that comprise the AIDS/HIV knowledge test. The questions cover a broad scope of topics regarding AIDS and HIV, and are accurate and relevant according to the latest published articles. Please let me know if I can be of further help. Good luck in your research efforts.

Sincerely,

Jerry Cade, M.D.
Director of AIDS unit at UMC
REFERENCES


students' attitudes toward individuals with AIDS. *Journal of Nursing Education, 29,* 367-372.


hospital physicians, nurses, and social workers. *Social Science and Medicine, 33*, 239-248.


Nursing, 17, 1068-1077.


VITA

Graduate College
University of Nevada, Las Vegas

Martin Medvejer

Local Address:
Las Vegas, NV 89128

Degrees:
Bachelor of Science, Psychology, 1977
Brooklyn College

Associate of Arts, Nursing, 1983
University of Nevada, Las Vegas

Bachelor of Science, Nursing, 1987
University of Nevada, Las Vegas

Thesis Title: Nursing Students' AIDS Knowledge, Attitudes, Social Norms, and Intentions to Care for AIDS Patients

Thesis Examination Committee:
Chairperson, Dr. Margaret Louis, Ph. D.
Committee Member, Dr. Mary Koithan, Ph. D.
Committee Member, Dr. Susan Kowalski, Ph. D.
Graduate Faculty Representative, Dr. Jesse Brinson, Ed. D.