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Religiosity and AIDS:
The Relationship Between Religious Orientation
and Attitudes Toward AIDS

by

Patricia J. Pallay

A thesis submitted to the Department of Psychology in
partial fulfillment of the requirements for the degree of

Master of Counseling Psychology

UNIVERSITY OF NORTH FLORIDA

COLLEGE OF ARTS AND SCIENCES

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Abstract

It was hypothesized that religious orientation would influence the attitudes that individuals formulated about AIDS and its victims. Specifically, intrinsically oriented subjects were predicted to have more positive attitudes toward AIDS and people with AIDS, and extrinsically oriented subjects were predicted to have more negative attitudes toward AIDS and people with AIDS. Sixty three college students enrolled in social psychology were administered Allport and Ross' Religious Orientation Scale to measure intrinsic and extrinsic religious orientation. Three existing measures were used to assess attitudes toward AIDS. Additional instruments were also given to assess the subjects' knowledge about AIDS and attitudes toward homosexuality in order to eliminate the risk of confounds from these variables. Results showed no relationship between religiosity and attitudes toward AIDS, knowledge about AIDS, or attitudes toward homosexuality. Several plausible alternative explanations for the null results were considered and recommendations for future research were discussed.

Religiosity and AIDS:

The Relationship Between Religious Orientation and Attitudes Towards AIDS

Religiosity is a construct that is frequently cited as important in the scientific study of religion (Hood, 1970). The question that often accompanies those citations, however, concerns the exact nature of religiosity. Some theorists believe religiosity is the strength of an individual's belief in the specific tenets which accompany a particular religious denomination (Balakrishnan & Chen, 1990). As a result, this construct should easily be measured by the frequency with which a person attends church, because attendance at the place of worship is often one of the primary requirements of most religions (Grasmick, Bursik, & Cochran, 1991). As a result, many published studies will use church attendance as a measure of the construct of religiosity, believing it to be an adequate representation of the depth of the subjects' religious beliefs (Austin, Hong & Hunter, 1989; Baldwin & Baldwin, 1988).

Religiosity has also been defined as religious motivation, the degree to which an individual is compelled to adhere to religious guidelines (Kirkpatrick & Hood, 1991). The higher individuals are in the construct of religiosity, the more individuals will attempt to guide their lives according to their religious beliefs. This approach views religiosity not simply as the strength of belief in the religious dogma itself, but how motivated individuals are to use a religious philosophy to make decisions in living on a daily basis. However, this interpretation is also regularly measured using the frequency of church attendance as its operational definition. Overall, various studies which measure religiosity may have many different conceptualizations of the construct of religiosity, but still may use the same self-reported measure of church attendance to measure it.

Religiosity, when defined as a motivational force, has been divided into two component parts. The most widely used approach was developed by Allport and Ross

(1967) who viewed religiosity as consisting of two separate orientations. The intrinsically religious were those individuals who valued their religion for what it was. It provided them with a framework by which to live. Intrinsically religious people adhered to a life influenced by their religious constitution because it was internally satisfying to do so. Conversely, the extrinsically oriented individuals used their religion. Religious practice provided these individuals with a means to an end. It provided them with comfort against the unknown and was socially useful. Therefore, according to these two separate conceptualizations of religiosity, people may attend church frequently, but for entirely different reasons. According to Donahue (1985), the intrinsic may go because they gleaned satisfaction from participation in the service. However, the extrinsic may go because they find it to be the socially conventional choice to make if you are a member of a particular denomination.

Allport and Ross (1967) describes the intrinsic orientation as a mature motivation towards religion. Intrinsically religious individuals have incorporated the doctrine of their particular religion into their cognitive scheme. They have transcended making decisions based on societal expectations and use their religious beliefs as the basis for attitudes and behaviors. On the other hand, the extrinsic orientation is seen as an immature religious motivation. Extrinsically oriented individuals use their religion to satisfy their own needs (Kirkpatrick & Hood, 1991). As a result they feel free to pick and choose which tenets that they will adhere to based on how instrumental they are to achieving their personal goals. Therefore, individuals who are intrinsic and extrinsic may have high frequencies of church attendance, but very different reasons underlying that particular exhibited behavior.

The relevance of the division of the construct of religiosity into two distinct components is clearly demonstrated in the classic study of prejudice by Allport and Ross (1967). The study was designed to examine the relationship between religiosity and prejudice. The initial hypothesis predicted that individuals who scored high on the

religiosity dimension should score low on the measure of prejudicial attitudes. However, when analyzing the results, Allport and Ross discovered individuals who were very religious, but who also exhibited high degrees of prejudice toward others. These perplexing results could not be explaining using the existing scientific concepts of religion, and some type of revolutionary breakthrough was necessary to legitimize the contradictory findings of Allport and Ross's study.

The above cited study produced results which were counter intuitive to the layperson and the scientist's concepts of what a religious person is like. This motivated Allport and Ross (1967) to further examine the issue, and the concept of intrinsic and extrinsic orientations was born. Another study similar to the first, incorporated a scale which measured religious orientation. The results now made more intuitive sense. Individuals who scored high on the intrinsic scale and low on the extrinsic scale were labeled as intrinsically religious. For these individuals, prejudicial attitudes proved to be negatively correlated with religiosity. This effect corresponded to the fact that most Western religions take the viewpoint that all men are brothers (Allport, 1987). If individuals were to incorporate the basic tenets of their religion into their cognitive schemes, the result would be acceptance of all, regardless of skin color, and hence non-existent prejudicial attitudes. When analyzing the results of individuals who scored high on the extrinsic scale and low on the intrinsic scale, Allport and Ross discovered individuals who were highly religious, but also highly prejudiced as well. Again, these results made perfectly good sense when considering the definition of extrinsic orientation. These individuals only adhered to those religious beliefs that were instrumental to them, and thus they could be religious only in self selected areas. Exhibiting prejudicial attitudes toward a minority, therefore, could be congruent with their concept of religion.

Religiosity viewed according to orientation can be relevant in attempting to explain issues which are important in society today. In the area of medicine, one of the most

visible diseases of this century is Acquired Immune Deficiency Syndrome (AIDS). Not only is AIDS the subject of intense medical research, it is also considered to be a serious health risk for a large portion of the population throughout the world. The reasons for allotting AIDS a paramount position in the medical laboratories worldwide is many. AIDS is deadly. We have no cure available for the 22 million people in the United States alone who suffer from the effects of the retrovirus which attacks the victim's immune system, rendering it incapable of fighting off other opportunistic diseases. (Stine, 1993). The health professionals also have no vaccine to prevent the spread of AIDS. Therefore, individuals who come in contact with the retrovirus will eventually contract the disease, a fact which can bring the status of AIDS to epidemic proportions similar to the Black Plague which devastated the European population in the Middle Ages. These two factors alone can explain the fear reactions generated by society when interviewed about the impact of AIDS on their lives.

However, AIDS often elicits other, more unusual responses from the average American toward the disease itself and toward many of its victims. The range of reactions to the AIDS epidemic can vary from compassion to abhorrence, disgust, and blame (Austin, Hong, & Hunter, 1989; Baguma, 1992). To understand these reactions, an explanation of how AIDS is spread and the devastation it causes within the body is necessary. The retrovirus which produces the syndrome is HIV, the Human Immunodeficiency Virus, so called because of the devastating effects the viral agent has on the immune system (Stine, 1993). The virus can enter the body by being passed from person to person within any number of bodily fluids, blood, semen, and possibly saliva. Therefore one of the most common methods of transmitting HIV is through sexual contact, especially highly risky sexual activity commonly associated with homosexuals, anal sex. Another frequent mode of transmission is through contaminated blood, often the

result of sharing needles among intravenous drug users. Because the initial cases of AIDS predominantly affected the homosexual population and IV drug users, many individuals associated the disease with divine retribution, and attitudes of disgust for its victims ensued (Honey, 1988; Kayal, 1985; Rudolph, 1989).

The AIDS victim often goes through a painful, continual onslaught of rare, opportunistic infections prior to his or her inevitable death. An example depicted by Stine (1993) is the unusual incidence of Kaposi's Sarcoma in young, male, homosexual AIDS sufferers. Kaposi's Sarcoma is a type of cancer which only occurred in elderly males of European descent prior to the advent of AIDS. Because of this fact, and because Kaposi's Sarcoma leaves the victim with bright red, readily identifiable blotches upon the body, people further interpreted the incidence of AIDS as a punishment by God for deviant behavior. Therefore the lack of compassion which originally accompanied an AIDS diagnosis was based on religious beliefs about the nature of the disease (Kayal, 1985; Tibler, Walker & Rolland, 1989). Kayal (1985) indicated that society in general perceives AIDS as a "gay illness" (p. 220). Because initially the disease was prevalent among homosexuals and IV drug users, the attitudes toward AIDS were found to be more negative than the attitudes toward any other infectious disease, regardless of its lethality. Society has a negative attitude toward drug users and many perceive their high risk behavior as irresponsible and therefore unworthy of any form of compassion (Honey, 1988).

However, AIDS failed to remain within the homosexual community and began to spread among heterosexuals, being passed through sexual contact, blood transfusions, childbirth, and breast feeding (Bell, 1991). The philosophy that AIDS was a form of divine retribution from God became harder to accept, and more people found it easier to experience compassion toward its victims. However, because AIDS is incurable and inevitably results in death, and because many individuals who are inflicted with the disease

are outside the mainstream society, attitudes towards AIDS patients probably fluctuate more along a continuum of acceptance than any other disease in recent history.

The attitude a person develops toward an individual with AIDS is influenced by many factors. Demographic differences in education, SES, gender, and marital status are probably responsible for the variety of attitudes found within the population toward AIDS (Conner, Richman, Wallace, & Tilquin, 1990). For example, the attitudes of African - American Baptist ministers were influenced by their age and their level of education (Crawford, Allison, Robinson, Hughes & Samaryk., 1992). Personality factors may also be responsible for an individual's reaction to AIDS. The characteristics of locus of control, conservatism, and the ability to empathize can also explain the variations. Furthermore, factors inherent to the victims, themselves may also influence a person's attitude. How the individual acquired the disease is probably a primary factor used in the formation of attitudes toward the infected (Leone & Wingate, 1992). More compassion would be shown toward an infant who was infected during childbirth, or toward a hemophiliac who received a tainted transfusion, than toward a homosexual who engaged in unsafe sex or an IV drug user, sharing needles. In fact, attitudes toward homosexuality itself has been found to be strongly correlated with attitudes towards AIDS (Greene, Parrott, & Serovich, 1993.) Relationship to the victim may also prove to be a powerful predictor of attitude toward AIDS. But because of the stigma associated with a diagnosis of AIDS, the expected response of compassion may not hold true across all families, especially cross-culturally. Therefore, the attitude a person has toward AIDS and its victims may be more difficult to predict as a result of the many contributing influences.

Previous studies have shown that attitudes towards AIDS in general are not only influenced by demographic factors and personality traits, but that they may also be influenced by the persons' religious beliefs (Crawford et al., 1992). Many individuals will

formulate their attitudes according to the guidelines of their particular religious denomination. Therefore, those individuals who score high on the dimension of religiosity should formulate their internal concepts according to their religious philosophy. As a result, by knowing the tenets which permeate the individual's religion, a researcher should be able to predict the stance that person will take on various issues. This should hold true across many areas of a person's life, but especially those concepts which resemble specific religious ideology.

However, Allport and Ross(1967) already demonstrated that highly religious individuals often adhere to attitudes that would appear completely unorthodox to any denomination. If, for example, researchers are measuring religiosity according to the common operational method of church attendance, the results would give little, if any indication of a particular person's attitude, because as previously noted people go to church for very different reasons. A study by Kunkel and Temple (1992), defining religiosity as frequency of church attendance and denomination, found no relationship with attitudes towards AIDS. Austin, Hong and Hunter (1989) found a weak positive relationship between church attendance and fear of AIDS. A study was conducted by Cunningham, Dollinger, Satz and Rotter (1991) which explored the personality correlates which were associated with a negative attitudes against AIDS victims. The variable of religiosity was one of the constructs measured. However, it was operationalized by using church attendance, frequency of thinking and talking about religion, and frequency of religious feelings. The results of the study indicated no relationship between religiosity and negative attitudes. But by dividing religiosity into an intrinsic and extrinsic orientation, a correlation between the variables is expected.

Therefore, if previous studies were to use Allport's conceptualization which differentiates religiosity into intrinsic and extrinsic orientations, some more definitive predictions about people's religious attitudes and prejudicial behaviors should be possible,

especially on those issues which are particularly salient across many different religious sects. Individuals high on the intrinsic scale, should be compassionate toward victims of AIDS and have minimal prejudices against those affected. As previously stated, intrinsically oriented individuals live according to their religious beliefs. Therefore, if their particular religion espouses the principle of humanity toward the weak and afflicted, then the intrinsically religious should have accepting attitudes towards the victims of AIDS.

For those individuals who score high on the extrinsic scale, we predict that they will have more negative attitudes toward the victims of AIDS, based on the intolerance of society as a whole (Stine, 1994). The individuals classified as extrinsic pick and choose those religious tenets which provide personal gratification. Therefore, based on the fear of, the social stigma attached to, and the tendency of society to ostracize AIDS victims, the extrinsically religious individual should have negative attitudes. Showing compassion and not fear toward this deadly, incurable, and readily transmittable disease would not provide the extrinsically religious with personal comfort. Because their behavior is based on both secular and religious influences, the tendency to oppose mainstream society's perception of AIDS victims as "sinful, deviant and contaminated" (Tibler, Walker & Rolland, 1989, p.106) would not be attempted unless it provided them with some intrinsic value. The groups most affected by the HIV virus are those groups which are already discriminated against- gays, drug abusers and minorities. Should societal attitudes toward stigmatization sway and the population as a whole becomes more accepting, then the extrinsic may be more tolerant of AIDS victims.

Method

Subjects

Participants were 63 undergraduates enrolled in a social psychology class at the

University of North Florida. Thirty females and 33 males voluntarily agreed to participate in the study in exchange for extra credit points toward their final grade at the end of the term. Subjects ranged in age from 18 to 44, mean age 22 years. The majority of subjects were enrolled in their junior year and came from a middle class socioeconomic background. All subjects were assured that their responses would be confidential and anonymous, due to the sensitive nature of the material being assessed.

Procedure

Prior to the date of the study, subjects were asked to sign up on a designated sheet if they wished to participate in a study which would assess their individual attitudes on a contemporary social issue. They were instructed to meet in their social psychology class on the date of the study. Two experimenters, one male and one female were present to conduct the study. On arrival, the participants were given explicit instructions. The subjects were told that they were about to take part in an ongoing study about contemporary social issues and that previous research had been done on euthanasia and abortion. They were told that the present study would be a continuation of this project and that the researchers would be examining attitudes about Acquired Immune Deficiency Syndrome. Participants were informed that there were no right or wrong answers and that people have variable beliefs and feelings when it comes to this topic. Subjects were asked to complete the surveys they were given as accurately and completely as possible. However, they were also given permission to stop at any time if they found any component of the instruments offensive. They were also instructed to omit any responses they felt uncomfortable answering. They were assured that all information they provided would be held in the strictest confidentiality and that all responses would remain anonymous. They were instructed to omit their names when filling out the surveys. Subjects were then asked to complete an informed consent.

During the one hour time period allotted for the study, subjects were administered several questionnaires. Attempts were made to space subjects adequately to help ensure complete confidentiality of their answers. They were given computerized answer sheets to code their answers on for the items in the survey.

The initial scale was administered to determine the subjects' knowledge of AIDS. The purpose of including this assessment was to rule out the influence of knowledge of AIDS as a confounding factor on the participants' attitudes toward the disease. Two existing instruments were used to assess knowledge about AIDS (DiClemente et al., 1986; Goodwin & Roscoe, 1988). Each scale was administered in tact (i. e. items from one scale were not interspersed with items from the other scale). The order of the items was not changed in any way. The response format used was also identical to that used by the author of the original scale. For the knowledge surveys, items were answered according to a true/ false format with a "don't now" option to discourage subjects from not responding to an item. For all surveys, responses were scored so that the higher the total score, the more knowledgeable the participant would be. The scores for each individual survey were summed together to provide two overall measures of the subjects' degree of knowledge. Again, the higher the total score, the greater the subjects' knowledge about AIDS. Some of the items on the surveys were counterbalanced in order to prevent answering according to a favorable response set.

The second set of instruments administered were measures of attitudes toward AIDS. Three existing scales by Bouton, Gallaher, Garlinghouse, Leal, Rosenstein, & Young (1987), Cunningham, Dollinger, Satz & Rotter (1991), and DiClemente, Zorn & Temoshok (1986) were used. The scales were not altered in any way from their original format. Items were not interfused among the scales and the order was kept the same as the original. Accordingly, items on the Bouton et al. (1987) scale and the Cunningham et al. (1991) scale, were answered by the subjects on a 5-point Likert scale with responses

ranging from strongly disagree to strongly agree. For the DiClemente et al.(1986) scale, the items were scored according to a true / false format with an optional "don't know"category in order to dissuade non-response by subjects. For all surveys , the responses were scored so that the higher scores were indicative of a more negative attitude toward AIDS. The scores were summed together for each individual survey to provide three overall measures of the participants' attitudes towards AIDS. Again, the higher score indicated a more negative attitude toward AIDS. In the surveys, answers were counter balanced in order to prevent participants from responding in an acquiescent manner.

Attitudes toward homosexuality were assessed using two existing instruments. The purpose of including these surveys in the battery of tests given was to determine if homophobia served as a covariate and would confound subjects attitudes towards AIDS. The scales used were measures by Bouton et al. (1987), and Hudson and Ricketts (1980). . Again, each scale was used in its original form, with no alterations in order or response format. Items were answered according to a 5-point Likert scale ranging from strongly agree to strongly disagree. For each instrument administered, the items were added together with the higher score indicating an increasing negative attitude toward homosexuality. Scores from the individual instruments were summed together to provide two overall measures of attitudes toward homosexuality. Again, the higher the total score, the more intense the homophobic attitudes. Some of the items were counterbalanced in order to prevent subjects' from responding with a favorable response set.

A final scale was administered to assess the participants' religiosity. The Allport and Ross scale (1967) was used to determine the religious orientation of the subjects. The items were answered using a 5-point Likert scale with responses ranging from strongly agree to strongly disagree. The answers were summed together and a median split was used to divide the subjects into intrinsic and extrinsic categories. Subjects who scored high on the intrinsic items and low on the extrinsic items were classified as intrinsically oriented.

Subjects who score high on the extrinsic scale and low on the intrinsic scale were identified as extrinsically oriented. Some of the wording of the responses was counterbalanced in order to prevent participants from responding acquiescently.

Demographic information was also gathered. Subjects' were asked to provide information which included their age, sex, marital status, religious affiliation, and educational background to ensure representativeness of the sample.

Results

Correlational Analyses

A two step process was followed in analyzing the relationship between religiosity, knowledge about AIDS, attitudes toward AIDS, and attitudes toward homosexuality. First, the interrelationship among the criterion variables (i.e. knowledge about AIDS, attitudes toward AIDS, and attitudes toward homosexuality) was evaluated. Second, the relationship between the predictor variable (i.e. religiosity) and the criterion variables (i.e. knowledge about AIDS, attitudes toward AIDS, and attitudes toward homosexuality) was evaluated.

Criterion Variables. For all three criterion variables, the construct of interest was measured with more than one survey instrument. In order to assess the convergent validity among the measures, a correlational analysis was performed. The results are presented in Table 1.

Insert Table 1 about here

Subjects' knowledge about AIDS was assessed using two measures. A scale by DiClemente, Zorn, and Temoshok (1986) and a scale by Goodwin and Roscoe (1988) were administered. Responses were scored so that the higher the score, the more

knowledgeable the subject was about AIDS. The correlational analysis revealed a surprisingly small, non-significant relationship between the two scales. Obviously, no evidence of convergent validity could be established.

Attitudes toward AIDS were assessed using three instruments. DiClemente, Zorn, and Temoshok's (1986) Attitudes and Beliefs about AIDS scale, Bouton et al.'s (1987) Fear of AIDS Scale, and Cunningham, Dollinger, Satz, and Rotter's (1991) Attitudes Toward AIDS Measure were used. Responses were scored so that the higher the score on the instrument, the more negative the subject's attitudes were toward AIDS. The correlational analysis revealed that the scores on the Bouton et al. scale were moderately and positively correlated with the scores on the DiClemente et al. scale and the scores on the Cunningham et al. scale.. Therefore, convergent validity was established for the Bouton et al. scale. However, the scores on the DiClemente et al. scale and the scores on the Cunningham et al. scale were not correlated and showed no evidence of convergent validity. It should be noted that of the three correlations found within the analysis, the weakest relationship among the scores on the scales always included DiClemente's Beliefs and Attitudes About AIDS Scale. Perhaps this instrument is less reliable than the other instruments used, or it may not be a valid measure of subjects' attitudes towards AIDS.

Attitudes toward homosexuality were assessed using two instruments. The Index of Homophobia by Hudson and Ricketts (1980) and the Homophobia Scale by Bouton et al. (1987) were the measures used. The responses were scored so that the higher the score, the more negative the subject's attitude toward homosexuality. A very strong and reliable correlation was found between the two scales. The analysis provides very strong evidence for convergent validity and the assumption that the two scales are measuring the same construct.

Predictor and Criterion Variables. Religiosity was hypothesized to exert a major influence on subjects' attitudes towards AIDS. Specifically, individuals who were

intrinsically religious were expected to have a more positive attitude towards AIDS and its victims. Conversely, extrinsically religious individuals were expected to have a more negative attitude toward AIDS and its victims. Knowledge about AIDS and attitudes toward homosexuality were also examined for exploratory purposes in order to determine if they had any influence on the subjects' attitudes toward AIDS. Perhaps the more knowledgeable individuals were about the disease, the less negative their attitude toward AIDS would be. Similarly, if individuals had a positive attitude toward homosexuality, they might be less disapproving of AIDS and its victims.

To explore the relationship between religiosity and the criterion variables, a correlational analysis was performed. The full range of scores of the Allport and Ross (1967) religiosity sub-scales were correlated with the scores on the measures of knowledge about AIDS (DiClemente et al., 1986; Goodwin & Roscoe, 1988), attitudes toward AIDS (Bouton et al., 1987; Cunningham et al., 1991; DiClemente et al., 1986), and attitudes toward homosexuality (Bouton et al., 1987; Hudson & Ricketts, 1980). The results of the analysis are presented in Table 2.

Insert Table 2 about here

Although it was expected that a relationship between religiosity and attitudes toward AIDS would be established, the data generally did not support the hypothesis. The correlations between religious orientation and attitudes toward AIDS were, by and large, not large or significant, regardless of intrinsic or extrinsic religious orientation. The only exception to this generalization is the moderately positive, significant correlation between intrinsic religiosity and attitudes toward AIDS as measured by the DiClemente et al. scale. Overall, the results of the analysis failed to establish a relationship between religious

orientation and knowledge about AIDS or a relationship between religiosity and attitudes toward homosexuality.

Summary. Evidence of convergent validity among the criterion variables was demonstrated, in part, in the correlational analysis. Indications of a relationship between two of the measures of attitudes toward AIDS was acceptable. Convergent validity was strongly established for the two attitude measures toward homosexuality. However, evidence for a relationship between religiosity and (a) knowledge about AIDS, (b) attitudes toward AIDS, and (c) attitudes toward homosexuality could not be established. The null results occurred even for the criterion variables of attitudes toward AIDS and attitudes toward homosexuality that showed some evidence of convergent validity. This pattern suggests that religiosity is not related to individuals' knowledge about AIDS, their attitudes toward AIDS or their attitudes toward homosexuality.

Analysis of Variance

To provide an alternative and more powerful test of our hypothesis, an analysis was done which compared purely intrinsically with purely extrinsically oriented individuals. Median splits were used to categorize individuals into intrinsic and extrinsic religiosity categories. Subjects who scored above the median (Mdn = 24) on the intrinsic scale and below the median (Mdn = 27) on the extrinsic scale were classified as intrinsically religious. Subjects who scored above the median on the extrinsic scale and below the median on the intrinsic scale were classified as extrinsically religious. A one-way analysis of variance was performed in which intrinsics and extrinsics were compared in terms of knowledge about AIDS, attitudes toward AIDS, and attitudes toward homosexuality.

The results of the one-way analysis of variance appeared to parallel the correlational analysis. The one-way ANOVA examining the relationship between religiosity and knowledge about AIDS as measured by the DiClemente (1986) and

the Goodwin and Roscoe (1988) scales indicated no difference between intrinsically and extrinsically oriented subjects and their knowledge of AIDS, all F 's < 1.00 . The ANOVA performed on the relationship between religiosity and all the AIDS attitudinal measurements including the scales by Bouton et al. (1987), Cunningham et al. (1991) and DiClemente et al. (1986) also showed no difference between intrinsically and extrinsically oriented subjects, all F 's < 1.00 . Finally, the ANOVA performed on the relationship between religiosity and homosexual attitudes using the scores on the Bouton et al. (1987) scale and the Hudson and Ricketts' (1980) scale resulted in no demonstrable difference between the attitudes of intrinsically and extrinsically oriented subjects, all F 's < 1.00 .

In summary, the analysis of variance just described contrasted purely intrinsically oriented individuals with purely extrinsically oriented individuals. Despite the usage of subjects who were highly representative of an intrinsic and extrinsic religious orientation, a relationship between religiosity and (a) knowledge about AIDS, (b) attitudes toward AIDS, and (c) attitudes toward homosexuality failed to emerge. Again, the results of the analysis of variance paralleled the null results of the correlational analysis.

Supplemental Analysis

In a further attempt to have a more refined test of our hypothesis, an analysis of covariance was conducted. In the covariance analysis, religiosity (intrinsic versus extrinsic) was the predictor variable. The criterion variables were measures of (a) knowledge about AIDS (Diclemente et al., 1986; Goodwin & Roscoe, 1988), and (b) attitudes toward AIDS (Bouton et al., 1987; Cunningham et al., 1991; Diclemente et al., 1986). For each dependent measure, two ANCOVAs were performed. The first analysis used scores on Hudson and Ricketts' (1988) attitudes toward homosexual scale as the covariate. In the second analysis, scores on Bouton et al.'s (1987) Homophobia Scale were used as the covariate.

With respect toward attitudes toward AIDS, the result of the ANCOVA replicated the results of the one-way ANOVA. When scores on the Hudson and Ricketts' (1988) scale were used as the covariate, no relationship was found between religiosity, attitudes toward AIDS, or knowledge about AIDS, all F 's < 1.00 . However, a significant relationship was discovered between the covariate and scores on the Bouton et al. Fear of AIDS Scale, $F(1, 20) = 11.35, p < .01$. When scores on Bouton et al.'s Homophobia Scale were used as the covariate, no significant relationship was found between religiosity and scores on the attitudes toward AIDS scales, or the knowledge about AIDS scales. However, a significant relationship was found between the covariate and scores on Bouton et al.'s (1987) attitudes toward AIDS scale, $F(1, 20) = 6.15, p < .01$, and scores on the Cunningham et al. (1991) attitudinal scale, $F(1, 20) = 8.00, p < .01$. The results of the ANCOVA paralleled the results of the ANOVA. No relationship between religiosity and the criterion variables could be established, even when a correlation was established between the criterion variables and the covariate.

Discussion

The purpose of this study was to attempt to establish a relationship between religiosity and attitudes toward AIDS. It was hypothesized that individuals who have an intrinsic religious orientation and who live their lives according to the standards of their religion should be more accepting of people with AIDS. On the other hand, extrinsically oriented individuals who use their religion as a means to an end would adopt the generally negative attitudes that society in general has towards AIDS. Generally, the results of our study did not support the hypotheses. No relationship was found between religiosity and attitudes toward AIDS. Even when attitudes toward homosexuality were considered in conjunction with attitudes toward AIDS, the data did not establish evidence of a relationship between the subjects' religious orientation and their attitudes toward AIDS.

The idea that knowledge about AIDS would influence the subjects' attitudes toward the disease was also not supported by the results.

One plausible explanation for the unexpected results of our study is that the measures used to operationalize the criterion variables are not reliable and valid. For the instruments used to assess knowledge of AIDS, this explanation may be somewhat convincing because, in our study, the correlation between the two measures was miniscule and negative. However, previously published research has demonstrated that the knowledge instruments used were capable of assessing the construct accurately and establishing a relationship between knowledge and fear of AIDS (DiClemente et al., 1986; Kaplan & Worm, 1993). As a result, perhaps the lack of support for our hypothesis was due to the sample size or characteristics rather than aspects of the instrument. The question of the ability of the attitudinal measures of AIDS to efficiently represent the construct of interest was partly addressed by the moderate convergent validity established in the correlational analysis. The same evidence can be used for the attitudinal measures toward homosexuality which correlated quite strongly. Furthermore, the measures of attitudes toward AIDS and measures of homosexuality have also been used extensively in previous research and proved to be adequate measures of each of the constructs (Conner, Richman, Wallace & Tilquin, 1990; Kunkel & Temple, 1992). Therefore, although a possible explanation for the null results of the study could be the use of inferior instruments, evidence has been presented which makes that explanation highly unlikely.

Another explanation for the lack of support for our hypothesis is that the instrument used to measure the predictor variable is not reliable and valid. Although this explanation appears plausible, it is highly unlikely. Some controversy surrounding the validity of the Allport and Ross (1967) measure of religiosity was indicated by Kirkpatrick and Hood (1990), but overall, previous research has provided powerful evidence for the validity and

reliability of the instrument (Hood, 1990; McFarland & Warren, 1992; Watson, Hood, Morris & Hall, 1984). Again, the evidence shows that the Allport and Ross measure can adequately measure religious orientation and make predictions based on the concepts of intrinsic and extrinsic religious orientation. In sum, it appears highly unlikely that the scale can be blamed for the incapability to establish a relationship between AIDS and religiosity.

Another explanation for the lack of support for the hypotheses is that the sample used was not satisfactory in terms of size and representativeness. First of all, the number of subjects which participated in the study may not have been large enough to provide the power necessary to elicit a significant relationship between the criterion and predictor variables in the analysis. Secondly, the subjects used were college students. Perhaps, their level of knowledge about AIDS may exceed that of the general population. In addition, college students may possess a more tolerable attitude toward homosexuality, due to education and exposure to alternative lifestyles. Therefore, it is possible that the sample used was not representative of the general population and thus was not sufficient in size or composition to elicit the desired results from their scores on the assessment instruments.

Another plausible explanation for the unanticipated results may have been the failure to take into account the doctrines concerning AIDS and homosexuality held by specific religious denominations. Perhaps the attitudes of intrinsically and extrinsically oriented subjects could not be distinguished because certain religious sects hold very negative attitudes toward homosexuality (i. e. Catholicism, Judaism) and AIDS. Therefore, although individuals may be intrinsically oriented, their attitudes may be negative because their particular religion states that homosexuality is a sin and AIDS is a punishment from God. As a result, it would be impossible to separate intrinsically and extrinsically religious individuals based on their attitudes toward AIDS or homosexuality because their particular religious tenets are similar to the negative attitudes held by many in the general population.

Finally, the expected results may not have been achieved because the hypothesis was wrong. Possibly, there is no relationship between religiosity and attitude toward AIDS. The influence of religiosity on attitudes toward AIDS has been investigated in previous studies. However, the researchers tended to use church attendance as the operational definition of the construct and found no relationship between the constructs (Austin, Hong & Hunter; Cunningham et al., 1991; Kunkel & Temple, 1989). Examine the previous results and the data from our study, and the conclusion may be drawn that regardless of how religiosity is measured, it has no impact on people's attitudes toward AIDS.

Future research which may attempt to investigate the relationship between religiosity and AIDS may wish to consider alternative measures of the criterion and predictor variables. Possibly, measures which examine behavior rather than attitudes may have more predictive ability than the attitudinal measures used. Also, the construct of religiosity may need to be operationalized using alternative instruments as well, or some combination of church attendance and a reliable, valid assessment instrument. The nature of the sample may also need to be transformed. Obtaining volunteers from the general population and increasing the number of subjects may increase the researchers ability to establish a relationship between religiosity and attitudes toward AIDS. A further refinement in subject selection may focus on matching the attitudes toward AIDS and homosexuality of a specific denomination with the subjects' religious affiliation to determine if there is a correlation between specific religious beliefs and attitudes toward AIDS.

Table 1
Intercorrelations of Criterion Variables

Knowledge of AIDS			
DiClemente et al. Scale		Goodwin and Roscoe Scale	-.08
Attitudes Toward AIDS			
	BATT	CATT	DATT
BATT	1.0	.51*	.34
CATT		1.0	.11
DATT			1.0
Attitudes Toward Homosexuality			
Homophobia Scale		Index of Homophobia	.70*

Note. BATT = Bouton et al.'s Fear of AIDS Scale, CATT = Cunningham et al.'s Attitudes Toward AIDS Measure, DATT = DiClemente et al.'s Beliefs and Attitudes About AIDS Scale. * $p < .05$.

Table 2
Intercorrelation Between Religiosity and Criterion Variables

Religiosity		
Knowledge		
Criterion Variables	Intrinsic Orientation	Extrinsic Orientation
DKNOW	.09	-.15
GKNOW	.08	-.01
Attitudes Toward AIDS		
BATT	.03	.12
CATT	.09	.14
DATT	.40*	.13
Attitudes Toward Homosexuality		
IHP	.12	.05
HOS	.11	.05

Note. DKNOW = DiClemente et al.'s Knowledge Scale, GKNOW = Goodwin & Roscoe's Knowledge Scale, BATT = Bouton et al.'s Fear of AIDS Scale, CATT = Cunningham et al.'s Attitudes Toward AIDS Measure, DATT = DiClemente et al.'s Belief and Attitudes About AIDS Scale, IHP = Hudson & Ricketts' Index of Homophobia, HOS = Bouton et al.'s Homophobia Scale. * $p < .05$.

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Vita

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