

# Symbolic Prejudice or Fear of Infection? A Functional Analysis of AIDS-Related Stigma Among Heterosexual Adults

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## Abstract

*To determine whether attitudes toward a stigmatized group are primarily instrumental or symbolic, multiple aspects of AIDS stigma were assessed in a two-wave telephone survey with a national probability sample of adults (N = 382). Using responses to the Attitude Functions Inventory (AFI), respondents were categorized according to the dominant psychological function served by their attitudes: (1) evaluative (based on instrumental concerns about personal risk for infection), or (2) expressive (based on a need to affirm one's self concept by expressing personal values). Negative affect toward a person who contracted AIDS through homosexual behavior, support for mandatory testing of so-called high-risk groups, and support for other punitive AIDS policies were predicted mainly by attitudes toward gay men for heterosexuals with expressive attitudes but not for those with evaluative attitudes, a pattern labeled functional divergence. Behavioral intentions to avoid persons with AIDS in various hypothetical situations were predicted primarily by beliefs about contagion for heterosexuals with expressive and evaluative attitudes alike, a pattern labeled functional consensus. Implications for AIDS education and for research based on the functional approach to attitudes are discussed.*

Do attitudes toward stigmatized groups reflect personal self-interest? Or are they symbolic expressions of deeply-held values? Different social scientists have used data from a variety of attitude domains to argue in support of each perspective. In studies of racial prejudice, for example, researchers have debated whether Whites' antiblack attitudes primarily reflect concerns about their (Whites') immediate self-interest or result from "a blend of antiblack affect and the kind of traditional American values embodied in the Protestant Ethic" (Kinder & Sears, 1981, p. 416). These two competing explanations for prejudice have been labeled, respectively, instrumental and symbolic (Bobo, 1983; Kinder, 1986; Sears, Hensler, & Speer, 1979; Sears, Lau, Tyler, & Allen, 1980; Sniderman & Piazza, 1993).

Research on symbolic racism has been criticized for lacking clear conceptual and operational definitions and for failing to demonstrate an empirical difference between symbolic racism and traditional models of racial prejudice (Bobo, 1983; Raden, 1994; Sniderman & Piazza, 1993). However, the general distinction between prejudice that reflects utilitarian self interest and that which results from a value-based ideological system remains popular among social scientists. Crandall (1994), for example, used it in empirical research on attitudes toward fat people, and Herek (1992) used it in a conceptual model of heterosexuals' antigay attitudes.

The distinction between instrumental and symbolic attitudes has also been employed extensively in studies of AIDS stigma (Bishop, Alva, Cantu, & Rittiman, 1991; Jelen & Wilcox, 1992; LePoire, 1994; Pryor, Reeder, Vinacco, & Kott, 1989; Schneider, Snyder-Joy, & Hopper, 1993). In contrast to the symbolic racism

literature, general agreement seems to exist about what constitutes symbolic AIDS attitudes. Pryor et al. (1989) defined the symbolic basis of AIDS attitudes as involving “a concern about what AIDS symbolizes” (p. 378), namely, “homosexual promiscuity and moral decadence” (p. 379). Jelen and Wilcox (1992) elaborated upon this definition and grounded it in the notion that citizens often organize their political opinions in terms of highly visible social groups. Because public perceptions of the epidemic were shaped by the disproportionate impact of AIDS on gay and bisexual men in the U.S., they argued, symbolic AIDS attitudes can reasonably be operationalized in terms of heterosexuals’ attitudes toward homosexuality.

Somewhat less consensus exists concerning a definition of instrumental AIDS attitudes, but most researchers (Bishop et al., 1991; LePoire, 1994; Pryor et al., 1989; Schneider et al., 1993) have used an expectancy value approach (e.g., Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), focusing on the roots of such attitudes in fears of contagion and beliefs about infection (but see Jelen & Wilcox, 1992). Bishop et al. (1991), for example, found that students’ willingness to interact with a hypothetical diseased person was predicted primarily by the disease’s contagiousness rather than its association with homosexuality. They concluded that public avoidance of PWAs results from perceptions of AIDS as a contagious disease, not from its association with homosexuality.

Although the discourse in this area has usually been framed in terms of a dichotomy between two competing approaches to attitudes, Herek (1986) argued instead that stigma typically has both instrumental and symbolic components. Which component is manifest in the attitudes of a particular individual depends on the psychological function served by the stigma for her or him. Herek’s (1986) updated *functional approach* to attitudes, like its predecessors (Katz, 1960; Smith, Bruner, & White, 1956), is based on the assumption that people hold and express particular attitudes because they derive psychological benefit from doing so, and that the type of benefit varies among individuals. Attitudes are understood according to the psychological needs they meet, that is, the

functions they serve. Herek’s (1986, 1987) reformulation added three new elements to the functional approach that are relevant to the present paper.

First, Herek (1986) described two broad categories of attitude functions: *expressive* functions, which are served by symbolic attitudes, and *evaluative* functions, which underlie instrumental attitudes (see also Abelson & Prentice, 1989; Herek, 1987; Prentice, 1987). Attitudes serving an expressive function derive their affective content from personal needs that are met by the attitude’s expression, needs broadly related to affirmation of identity and enhancement of self esteem. The object of these attitudes serves primarily as a symbol (e.g., for values integral to the self concept). Attitudes serving an evaluative function, in contrast, reflect an underlying need to understand the social world — at least, the portion of that world relevant to the stigmatized group — in terms of direct utility or harm to oneself. Evaluative attitudes thus are based principally on self-interested appraisals of the attitude object; the attitude’s valence derives from whether the object itself is a source of benefit or detriment.

Whether an attitude is expressive or evaluative is independent of its valence. Both positive and negative attitudes toward people with AIDS, for example, can serve principally to affirm an individual’s self-concept as a moral or religious person, depending on how that individual relates AIDS to her or his moral beliefs. Whereas one individual may understand AIDS as a test of her capacity for compassion and caring for other human beings (and therefore has positive attitudes toward PWAs that serve an expressive function), another may believe that AIDS poses a moral imperative to reject conduct that he regards as sinful (and therefore has negative attitudes toward PWAs that serve an expressive function). Alternatively, positive and negative attitudes toward PWAs can each be based on an individual’s assessment of whether persons with AIDS pose a danger to him or her, and thus serve an evaluative function.

Second, breaking with functional attitude theorists’ historical focus on individual differences and personality factors, Herek (1986)

pointed out that an attitude object's attributes can sometimes be a decisive factor in determining the range of functions served by attitudes toward it (on this point, see also Shavitt, 1990; Snyder & DeBono, 1989). In the present paper, we propose the terms *functional divergence* and *functional consensus* to describe the situations when attitude functions derive primarily from, respectively, individual differences and the characteristics of the attitude object. Functional divergence occurs when an attitude object has multiple social constructions, such that the function served by a person's attitudes toward it is determined primarily by individual factors such as personal experiences or dispositional traits. In the study by Pryor et al. (1989), significant and independent portions of the variance in heterosexuals' willingness to interact with a non-homosexual PWA were predicted by attitudes toward homosexuality and by beliefs about the likely consequences of such interaction. In our terms, this finding reflects functional divergence, and suggests that individual differences will affect the extent to which any individual's AIDS attitudes are primarily symbolic or instrumental. Functional consensus occurs when an attitude object is socially constructed in such a way that attitudes toward it serve largely the same function for all members of a population. When Bishop et al. (1991) concluded that AIDS stigma — operationalized in terms of uninfected individuals' unwillingness to interact with an HIV-infected person — has its roots entirely in fear of contagion, they were arguing (using our terminology) that this attitude domain evokes functional consensus.

A third new element in Herek's reformulation of the functional approach is a method for directly assessing attitude functions with a series of objectively scored items called an *Attitude Functions Inventory*, or AFI (Herek, 1987). This approach involves developing a set of statements describing the reasons why an individual holds her or his attitudes toward a particular group, issue, or object — regardless of whether those attitudes are positively or negatively valenced. Respondents indicate the extent to which the statements — each of which is keyed to a particular attitude function — describe their own attitudes. Responding to AFI items does not

require a respondent to identify the functions of her or his attitudes directly. Rather, the AFI elicits respondents' self-reports of the extent to which a variety of factors (e.g., religious beliefs, concern about own safety) have influenced her or his opinions about a particular topic. Attitude functions are inferred from these self reports. The AFI permits categorization of respondents according to their dominant attitude function(s) or, alternatively, computation of a continuous score for each function (Herek, 1987; Herek & Glunt, 1993a).

The present paper utilizes data from a 2-wave national telephone survey that included AFI items to assess the utility of Herek's (1986, 1987) version of the functional approach to understanding AIDS stigma. Based on Goffman's (1963) definition of stigma as "an attribute that is deeply discrediting within a particular social interaction" (p.3), we defined *AIDS-related stigma* (or, more simply, *AIDS stigma*) as prejudice, discounting, discrediting, and discrimination directed at people perceived to have AIDS or HIV, their loved ones and associates, and the groups and communities with which they are affiliated (Herek, 1990; Herek & Glunt, 1988). AIDS stigma is an important topic for social psychological study because it has a variety of negative consequences for people with HIV (Gerbert, Maguire, Bleecker, Coates, & McPhee, 1991; Herek, 1990; Herek & Glunt, 1988; Johnston, Stall, & Smith, 1995; Pryor & Reeder, 1993), their loved ones and caregivers (Bennett, Kelaher, & Ross, 1994; Folkman, Chesney & Christopher-Richards, 1994; Folkman, Chesney, Cooke, Boccillari, & Collette, 1994; Jankowski, Videka-Sherman, & Laquidara-Dickinson, 1996; Paul, Hays, & Coates, 1995; Walker, Pomeroy, McNeil, & Franklin, 1996), people at risk for HIV (Stall et al., 1996), and society as a whole (Bailey, 1995; Panem, 1988).

Drawing from previous research, we assessed multiple facets of AIDS stigma: intentions to interact with or avoid persons with AIDS in various social situations (Bishop et al., 1991; Pryor et al., 1989); attitudes toward various public policies that would restrict the civil liberties of people with AIDS (Herek & Glunt, 1991; Price & Hsu, 1992); and attributions of blame for people with AIDS (Herek & Glunt, 1991; Weiner, Perry,

& Magnusson, 1988). In addition, we measured respondents' affective reactions to persons with AIDS. Also following from previous AIDS research (LePoire, 1994; Pryor et al., 1989; Schneider et al., 1993), we assessed attitudes toward gay men and beliefs about HIV transmission as indicators of, respectively, the symbolic and instrumental aspects of AIDS-related stigma.

In addition, we used AFI responses to identify respondents whose attitudes served a single primary function, and categorized them into two groups: evaluative (persons with attitudes motivated primarily by personal worry about getting HIV) and expressive (persons with attitudes motivated primarily by political or religious values). We then conducted a series of regression analyses to assess the extent to which the variance in different components of AIDS stigma was predicted for the evaluative and expressive groups by a variable relevant to assessment of personal risk (i.e., beliefs about the likelihood of HIV transmission through casual contact) and by a variable relevant to the symbolic aspects of AIDS stigma (attitudes toward gay men).

We expected to observe functional divergence for all or most aspects of AIDS stigma, and we anticipated that this divergence would be most evident in the symbolic aspects of AIDS. We hypothesized that AIDS stigma would serve as a vehicle for attitudes toward gay men only among respondents whose AIDS attitudes serve an expressive function. At the same time, we expected most (or possibly all) individual manifestations of AIDS stigma to result to some extent from the characteristics of AIDS as an illness and beliefs about contagion, and thus to be predicted by beliefs about whether or not HIV can be transmitted in various situations. Thus, for heterosexual respondents with expressive AIDS attitudes, we hypothesized that stigma would be predicted both by transmission beliefs and by attitudes toward gay men. For heterosexual respondents with evaluative AIDS attitudes, in contrast, we hypothesized that AIDS stigma would be predicted principally by beliefs about HIV transmission.

We designed the study to permit testing of the

alternative hypothesis that AIDS stigma is characterized by functional consensus. That is, some or all aspects of AIDS stigma might be based entirely on fears about contagion (consistent with the conclusions of Bishop et al., 1991) or exclusively on attitudes toward homosexuality. Such consensus would be indicated if our measures of AIDS stigma were predicted only by an instrumental variable (transmission beliefs) or only by a symbolic variable (attitudes toward gay men) for all respondents, regardless of their AFI responses. Because our data were collected from a national probability sample, observation of functional consensus or divergence on a particular issue among our respondents can reasonably be interpreted as evidence for that pattern in the U.S. adult population at the time the survey was conducted.

## Method

### *Respondents*

Respondents were drawn from the population of all English-speaking adults (at least 18 years of age) residing in households with telephones within the 48 contiguous states. They were interviewed on two separate occasions approximately one year apart. Wave 1 interviews were completed with 538 individuals. Wave 2 reinterviews were completed with 382 (71%) of the original respondents.<sup>1</sup> Of the 382 Wave 2 respondents, 366 had identified themselves as heterosexual at Wave 1 and are included in the analyses for this paper.<sup>2</sup>

### *Procedure*

Ten-digit telephone numbers for 768 households were generated using a stratified two-phase procedure for random-digit dialing, or RDD (Casady & Lepkowski, 1993; Herek & Capitanio, 1997). Interviews were conducted by the staff of the Survey Research Center at the University of California at Berkeley between September of 1990 and February of 1991 for Wave 1, and between November of 1991 and February of 1992 for Wave 2, using their computer-assisted telephone interviewing (CATI) system. No limit was set on the number of recontact attempts for each number. At Wave 1, upon reaching an adult in the household, the interviewer enumerated the

first name and race of each person 18 years or older living in the household. The target respondent was selected at random from the household list.<sup>3</sup> Of the 768 households, 653 (85%) were enumerated. Of these, interviews were completed with 538 (82.4%), yielding a Wave 1 response rate (enumeration rate X completion rate) of 70.1%. The mean duration of the interview was 39 minutes for Wave 1 and 40 minutes for Wave 2 (for additional details about the survey methodology, see Herek & Capitanio, 1993, 1994, 1995, 1996, 1997).

#### ***AIDS-Related Measures: Wave 1***

We assessed three aspects of AIDS-related attitudes and beliefs: affective responses to PWAs, attitudes toward PWAs and policies that would isolate them, and intentions to avoid or stigmatize PWAs.

***Affective responses to PWAs.*** Respondents indicated the extent to which they felt disgust, anger, and fear toward PWAs on 4-point scales (*very, somewhat, a little, not at all*). The responses were summed to create a 3-item Negative Affect scale ( $\alpha = .60$ ), with higher scores indicating more negative feelings.

***Stigmatizing attitudes toward persons with AIDS.*** Using a 4-point Likert scale (*agree strongly, agree somewhat, disagree somewhat, disagree strongly*), respondents indicated their agreement with three statements: (1) "People who got AIDS through sex or drug use have gotten what they deserve;" (2) "People with AIDS should be legally separated from others to protect the public health;" and (3) "The names of people with AIDS should be made public so others can avoid them." Responses were summed to yield a 3-item AIDS Stigma scale ( $\alpha = .63$ ), with higher scores indicating more stigmatizing attitudes.

***Index of avoidant behavioral intentions.*** Respondents were asked to predict their own behavior in three situations involving potential contact with a person with AIDS. The situations were (1) having one's child attend a school where another student is known to have AIDS; (2) working in an office with a male coworker who has AIDS; and (3) learning that the owner of a small neighborhood grocery store has AIDS. For each situation, responses were categorized as avoidant (e.g., asking to be transferred away from

the coworker) or supportive (e.g., helping the coworker or treating him the same as always). Responses were combined into a 3-item PWA Avoidance index ( $\alpha = .73$ ), with higher values indicating greater willingness to avoid PWAs.<sup>4</sup>

#### ***AIDS-Related Measures: Wave 2***

***Affective responses to PWAs.*** In Wave 2, the format of the affective response items was revised. Instead of describing their feelings toward people with AIDS, respondents rated their levels of anger, fear, and disgust toward "people who got AIDS through homosexual behavior." As in Wave 1, four response alternatives were provided for each feeling, and responses were combined into a 3-item Negative Affect scale ( $\alpha = .73$ ), with higher values indicating more negative feelings.<sup>5</sup>

***Stigmatizing attitudes toward PWAs.*** The three items from Wave 1 were repeated in the Wave 2 survey ( $\alpha = .68$ ). Moderate correlations were observed across waves (Pearson  $r$ s = .47 for blame, .63 for quarantine, and .54 for disclosure). For the scale,  $r = .69$  across waves.

***Index of avoidant behaviors.*** The same three items from the Wave 1 survey were repeated ( $\alpha = .71$ ). The correlation across waves was .75 for the index.

***Attitudes toward mandatory testing.*** Two items were added at Wave 2, using the same 4-point Likert response format as the AIDS Stigma scale: (1) "People at high risk for getting AIDS should be required to be tested regularly for the AIDS virus;" and "People from other countries who want to live in the United States should first be required to have an AIDS test to prove they are not infected with the AIDS virus." Responses were summed to form a 2-item Mandatory Testing index ( $\alpha = .62$ ).

#### ***Other Measures***

***Attitude functions (Wave 1 only).*** The Wave 1 survey included items adapted from the Attitude Functions Inventory, or AFI (Herek, 1987), to assess the functions served by AIDS-related attitudes.<sup>6</sup> The AFI items were asked immediately after respondents had completed the AIDS stigma items. Three of the AFI items were used for the present analysis. One item (*PERSONAL WORRY*) assessed the influence of personal concerns about

infection, that is, an evaluative function. After describing their own level of worry about getting AIDS, respondents were asked “How much has that [e.g., the fact that the respondent is somewhat worried that he or she will get AIDS] influenced your feelings about AIDS and what you think should be done about it?” Two other items assessed the influence of personal values, which were used as indicators of the expressive function. The *RELIGIOUS* item asked “How about your own personal religious or moral beliefs — your feelings about right and wrong? How much influence have they had [on your feelings about AIDS]?” The *POLITICAL* item asked “How much would you say your political values have influenced your feelings about AIDS and what should be done about it?” The political item was preceded by a question about the respondent’s political ideology (liberal, moderate, conservative). For all AFI items, respondents were provided with four response alternatives: *a great deal* (coded as 4), *some* (=3), *very little* (=2), or *no influence at all* (=1).<sup>7</sup>

**Attitudes toward gay men (Waves 1 and 2).** Attitudes toward gay men were assessed at both waves with a 3-item short form of the Attitudes Toward Gay Men (ATG) scale (Herek, 1994), which has been shown to be a reliable and valid measure of heterosexuals’ attitudes when administered in paper-and-pencil format and in telephone survey research (Herek, 1988, 1994; Herek & Glunt, 1993b). The three ATG items were: (1) “Sex between two men is just plain wrong;” (2) “I think male homosexuals are disgusting;” and (3) “Male homosexuality is a natural expression sexuality in men.” For each statement, respondents were provided with four response alternatives (*agree strongly, agree somewhat, disagree somewhat, disagree strongly*) which were scored on a 4-point scale. Item responses were reversed as appropriate and summed to yield a 3-item scale score ( $\alpha > .70$  at both waves), with higher scores indicating more unfavorable attitudes. The correlation between Wave 1 and Wave 2 ATG scores was .69.

**Beliefs about HIV transmission through casual contact (Waves 1 and 2).** At both waves, respondents indicated their belief about the likelihood “that a person could get AIDS or AIDS virus infection” through four different routes: (1)

sharing a drinking glass; (2) using public toilets; (3) being coughed on; and (4) insect bites. Five response alternatives were provided (*very likely, somewhat likely, somewhat unlikely, very unlikely, and it is impossible to get AIDS from this activity*). Responses were combined into a Casual Contact Transmission Beliefs (CCBT) scale, with higher scores indicating greater overestimation of risk from casual social contact ( $\alpha = .77$  and  $.82$  at Waves 1 and 2, respectively). The correlation across waves was  $.76$ .

### Data Analysis

We used ordinary least squares regression to analyze the data. Based on the functional divergence hypothesis, we expected transmission beliefs to be a reliable predictor of AIDS stigma for both expressives and evaluatives whereas attitudes toward gay men were expected to be a reliable predictor only for expressives. Testing these hypotheses posed some special challenges because of the present study’s sample size and nonexperimental design. The most obvious analytic strategy for the data is moderated regression (Aiken & West, 1991; Jaccard, Turrisi, & Wan, 1990). With this approach, a two-step regression equation is computed for each aspect of AIDS stigma, with the first step comprising ATG scores, casual contact beliefs, and a dummy variable representing membership in either functional group; the second step comprises two multiplicative interaction terms, each representing the product of the dummy variable with one of the other scores (ATG or CCTB). Hypothesis tests are based on the statistical significance of the unstandardized regression coefficient for each interaction term (see McClelland & Judd, 1993).

Unfortunately, moderated regression analyses of data from nonexperimental studies are highly prone to Type II errors. McClelland and Judd (1993) found that a moderated regression analysis resulted in Type II errors for 91% of computer-simulated nonexperimental studies (compared to only 26% of simulated experiments). They concluded that interaction effects in nonexperimental designs are extremely difficult to detect, largely because of the nature of the joint distribution of the two interacting variables in such designs.

Recognizing this problem, we analyzed our

data in two stages. First, we assessed simply whether transmission beliefs and attitudes toward gay men each are reliable predictors of various aspects of AIDS stigma for individuals with evaluative or expressive attitudes. We computed a separate series of regression equations for the evaluative and for the expressive function groups. For analyses of AIDS stigma at Wave 1, we used Wave 1 casual contact beliefs and ATG scores as independent variables; for Wave 2 analyses, we used the corresponding Wave 2 scores. By examining the change in the proportion of explained variance (the squared semipartial correlation, or  $R^2$ ) in AIDS stigma for each independent variable, we assessed their predictive power for each function group. Second, we conducted moderated regression analyses to assess whether the unstandardized regression coefficients for each independent variable differed significantly across function groups. In order to reduce the likelihood of multicollinearity, scores for casual contact beliefs and attitudes toward gay men were centered (i.e., transformed to deviation scores by subtracting the aggregate mean from each individual score; Aiken & West, 1991).

## Results

### Sample Characteristics

Of the 382 respondents who participated in both waves, 45.5% were male and 54.5% were female. Racially, the sample was 83.8% White, 9.9% Black, 4.2% Hispanic, and 1.3% Asian. The mean age was 44.9 years ( $sd = 15.7$ ); median annual household income was between \$30,000 and \$40,000; and median educational attainment was “some college.” Statistical comparison of these demographic measures for the total Wave 1 and Wave 2 samples revealed that significantly more Asians and significantly fewer Whites were lost between Waves 1 and 2 than would be expected through random attrition ( $chi-square(4, N = 538) = 13.7, p < .01$ ). In addition, the highest income category (income greater than \$70,000 annually) had a significantly lower attrition rate than did any of the other income categories ( $chi-square(7, N = 507) = 19.4, p < .01$ ).<sup>8</sup>

### AIDS Stigma: Response Frequencies and Scale Scores

A significant minority of respondents expressed stigmatizing attitudes on one or more items, although the majority of responses were in the nonstigmatizing direction. Combining “agree strongly” and “agree somewhat” responses, approximately one-fifth of the respondents believed that PWAs deserve their illness (19.7% at Wave 1, 20.4% at Wave 2). At Wave 1, roughly one-third supported quarantine (34.9%) or public disclosures of the names of PWAs (29.2%). By Wave 2, support for quarantine and public disclosure had decreased, but these policies continued to be favored by almost one-fourth of respondents (24.1% and 21.8%, respectively, supported quarantine and public disclosure at Wave 2). Wave 2 respondents overwhelmingly supported mandatory testing of immigrants (80.9%) and people in so-called high risk groups (73.8%).

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*Insert Table 1 about here*

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Table 1 displays summary scores for the additive scales. Attitudes toward gay men were significantly more negative at Wave 2 whereas inaccurate beliefs about HIV transmission through casual contact were significantly reduced. Stigmatizing attitudes (support for quarantine and public disclosure of PWAs’ names) were significantly reduced at Wave 2 compared to Wave 1. Respondents’ intentions to avoid a PWA did not change between the two surveys. As noted above, the Wave 1 and Wave 2 scores for negative feelings toward PWAs are not directly comparable.

### Attitude Functions

Respondents’ AIDS attitudes were categorized as serving primarily an evaluative function if their score for the *PERSONAL WORRY* item was greater (i.e., indicating stronger influence) than their score for either the *RELIGIOUS* or *POLITICAL* items. They were categorized as primarily expressive if their score for either the *RELIGIOUS* or *POLITICAL* items was greater than their score for the *PERSONAL WORRY* item. With this procedure, 48 respondents (13%) were

classified as evaluatives and 179 (49%) as expressives.<sup>9</sup>

Because attitude functions are not inherently related to the valence of attitudes, it was not expected that evaluatives and expressives would differ on most demographic or attitudinal variables. This was generally the case. Function category was not associated with respondents' gender, age, race, educational level, income, geographic area of residence, urban versus nonurban residence, marital status, or political party affiliation. Nor were there differences among function groups in frequency of self-reported risk factors for HIV (e.g., sharing needles, unprotected receptive anal intercourse) or in frequency of attendance at religious services. Compared to evaluatives, however, expressives had significantly more negative attitudes toward gay men at Waves 1 and 2, and more negative feelings and attitudes toward PWAs at Wave 2 (for all comparisons,  $p < .05$ ). In addition, evaluatives were more likely than those in the expressive category to know someone with HIV or AIDS, but no more likely than expressives to know gay men or lesbians personally.

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*Insert Table 2 about here*

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### ***Predictors of AIDS Stigma: Regression Analyses Within Function Groups***

Before presenting the results of the regression analyses, Table 2 describes four outcome patterns of interest. The first row represents a simple case of functional divergence: Expressives' attitudes are predicted largely by a symbolic variable (attitudes toward gay men in the present study) and evaluatives' attitudes are predicted largely by an instrumental variable (beliefs about contagion in the present study). Put another way, the symbolic variable accounts for a significant and substantial amount of variance in the attitudes of expressives (but not evaluatives) and the instrumental variable accounts for a significant and substantial amount of variance in the attitudes of evaluatives (but not expressives).

For the present study, a variation on this pattern was predicted which is portrayed in the second row of Table 2. Because we assumed that,

regardless of the psychological function it serves, practically all AIDS stigma is based to some extent on the characteristics of AIDS as a disease, we expected that most aspects of AIDS stigma would be significantly predicted by casual contact beliefs for both functions groups. The asterisk (\*) in the instrumental variable column for all groups indicates that this variable should account for a significant proportion of variance for both functional groups. In addition, for the expressive group, we expected a significant portion of additional variance in AIDS stigma to be predicted by attitudes toward gay men, indicated by the asterisk (\*) in the symbolic variable column.

Rows 3 and 4 describe the expected pattern when functional consensus prevails for an attitude. If an aspect of AIDS stigma was an instrumental issue for most of the American public at the time of data collection, we expected that an instrumental variable (transmission beliefs) would be a substantial and significant predictor for both groups, whereas a symbolic variable (attitudes toward gay men) would explain a nonsignificant or relatively small proportion of the variance. Similarly, consensually symbolic issues would be predicted significantly by a symbolic variable (attitudes toward gay men) and only incidentally — or not at all — by an instrumental variable (beliefs about contagion).

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*Insert Table 3 about here*

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Table 3 displays the results of the separate regression analyses for the 43 evaluatives and 157 expressives who provided complete responses for all variables. For each analysis, we computed a simultaneous regression equation with ATG and Casual Contact Transmission Beliefs (CCTB) scores entered on a single step. The patterns of statistical significance indicate functional divergence (Table 2, Row 2) for all measures at both waves. That is, for those respondents whose attitudes served primarily an evaluative function, CCTB scores were the sole significant predictor of feelings, attitudes, and intentions, accounting for roughly 10-25% of the variance in these measures. In contrast, the feelings, attitudes, and intentions of respondents whose attitudes



principally served an expressive function were predicted significantly by both instrumental (CCTB scores) and symbolic (ATG scores) concerns. For these individuals, CCTB accounted for roughly 4-31% of the variance, and ATG explained an additional 2-18% of the variance in the dependent measures.<sup>10</sup>

Although statistically significant for expressives, the proportion of variance in avoidance explained by ATG scores was small in magnitude at both waves compared to that explained by CCTB. At Wave 1, CCTB scores explained roughly 15 times more variance for expressives than did ATG scores, and the Wave 2  $R^2$  for CCTB was about 5 times greater. The corresponding regression coefficients were significantly different from each other (using a procedure described by Cohen & Cohen, 1983, Appendix 2). For the Wave 1 equation,  $t(154) = -4.1758$  ( $p < .001$ ); for the Wave 2 equation,  $t(154) = -2.3357$  ( $p < .05$ ). Thus, intentions to avoid PWAs may actually be based primarily on instrumental concerns for expressives as well as for evaluatives.<sup>11</sup>

#### ***Testing Interaction Effects: Moderated Regression Analyses Across Function Groups***

Whereas Table 3 reports the reliability of transmission beliefs and attitudes toward gay men as predictors of AIDS stigma within each function group, the results in Table 4 indicate the extent to which the magnitude of the predictors (i.e., the unstandardized coefficients associated with each independent variable) is significantly different between expressives and evaluatives. Put differently, the results in Table 4 indicate whether the slope of the regression line for each independent variable differs significantly between evaluatives and expressives. In all cases, the interaction terms were entered into the equation only after their component variables (functional group, ATG scores, and CCTB scores) were entered. To simplify Table 4, and because our hypotheses focus on the interaction terms, we present results only for the interactions. Positive regression coefficients in Table 4 indicate that the independent variable's predictive power is greater for the expressives than the evaluatives. Negative coefficients indicate that the independent variable's predictive power is greater for the

evaluatives. Thus, the functional divergence hypothesis predicts that coefficients in the first column (function-by-ATG interactions) will be positive and statistically significant, whereas the coefficients in the second column (function-by-CCTB interactions) will be near zero and nonsignificant. Alternatively, functional consensus would result in nonsignificant, near-zero coefficients in both columns. We also report the proportional reduction in error (PRE, the squared partial correlation) for each interaction term as an indicator of whether including the interaction term substantially improves the explanatory power of the regression equation (McClelland & Judd, 1993).

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*Insert Table 4 about here*

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Table 4 shows that the regression coefficient for expressives' ATG scores is significantly greater than the coefficient for evaluatives' ATG scores for three variables: Wave 2 feelings toward a homosexual man with AIDS, Wave 2 stigmatizing attitudes, and Wave 2 attitudes toward mandatory testing. The PRE associated with each of these interaction terms is greater than 2%, indicating substantial improvement in the equation's explanatory power as a result of including the interaction term. Thus, the differences between evaluatives and expressives in Table 3 are statistically significant for three of the stigma variables. For two of the remaining stigma measures — Wave 1 feelings toward a generic PWA and Wave 1 stigmatizing attitudes — Table 4 shows that the differences between expressives and evaluatives are not significant. However, because the function-by-ATG coefficients for the Wave 2 counterparts to these variables are significant — along with the fact that the Table 3 patterns of explained variance are consistent with the functional divergence hypothesis — these aspects of AIDS stigma may well display functional divergence that might be better detected with a larger sample and greater statistical power. In contrast, the differences for avoidance intentions are not significantly different at either wave. Considered in conjunction with the significantly greater amounts of variance explained by CCTB scores in Table 3, this finding

might be tentatively interpreted as indicating functional consensus concerning direct contact with PWAs.

In summary, the pattern of results is generally consistent with the functional divergence pattern for measures of negative affect toward PWAs, stigmatizing attitudes, and support for mandatory testing. For at least one wave of the survey, these variables were reliably predicted by transmission beliefs for both functional groups, but by attitudes toward gay men only for the expressives. Intentions to avoid PWAs in various situations, in contrast, were predicted mainly by transmission beliefs for expressives and evaluatives alike, a pattern suggesting functional consensus.

### Discussion

The results yield three important insights about the psychological functions served by AIDS stigma, which may be applicable to other types of stigma as well. First, stigma serves different functions for different individuals. The current data set indicates that expressive functions were more prevalent than evaluative functions in U.S. public opinion in the early 1990s. AIDS-related attitudes were based primarily on religious or political values for roughly 41% of heterosexual adults, but were based primarily on concerns about personal safety for only 13%. The finding that the AIDS-related attitudes of 30% of the sample simultaneously served both expressive and evaluative functions demonstrates the importance of considering different attitude functions independently, rather than as opposite ends of a single bipolar dimension.

A second important conclusion is that the determinants of stigma differ depending on whether it serves an expressive or evaluative function. Using the terminology coined here, attitudes toward a stigmatized group or phenomenon can be functionally divergent. In the present study, stigmatizing attitudes, blame for PWAs, and affective reactions to PWAs were explained by contagion concerns for evaluatives but by attitudes toward gay men as well as contagion concerns for expressives (see Table 3). Differences between the functions groups were statistically significant for three of the five measures, and were nonsignificant but in the direction of functional divergence for the

remaining two measures (see Table 4).

At the same time, some manifestations of stigma reflect functional consensus, that is, they have the same underlying determinants regardless of the function they serve. Functional consensus can be observed even when other attitudes within the same general domain are functionally divergent. In the present study, intentions to avoid PWAs appeared to be shaped largely by concerns about HIV transmission, regardless of whether a respondent's AIDS attitudes serve an expressive or evaluative function. We offer this interpretation of functional consensus cautiously, recognizing that the results in Tables 3 and 4 are somewhat ambiguous. Although the patterns of statistical significance in Table 3 are consistent with the functional divergence hypothesis in a strict sense, the magnitude of the ATG coefficients was small for expressives at both waves (2% at Wave 1 and 3.6% at Wave 2), in contrast to the large amount of variance accounted for by their beliefs about casual contact (more than 19% at both waves). This pattern seems more consistent with functional consensus than divergence. Thus, intentions to avoid or interact with PWAs in various situations may be determined primarily by concerns about contagion and personal safety, regardless of whether an individual's other AIDS attitudes are expressive or evaluative.

The distinction between functional divergence and functional consensus may prove theoretically useful by helping to identify which attitude objects are most amenable to a functional analysis. Historically, proponents of the functional approach have portrayed it as applicable to all attitude domains. However, functionalism and its emphasis on individual differences in motivation might be relevant principally to a subset of attitude objects, namely, those that evoke functional divergence. That same subset of objects might also provide the most appropriate topics for a functional approach to attitude change, that is, one stressing the importance of formulating different persuasive messages to appeal to attitudes with different functions. An obvious question follows from this speculation: What determines whether a particular attitude domain evokes functional divergence or consensus? Consideration of this question is beyond the scope of the present paper (for

relevant discussions, see Herek, 1986; Snyder & DeBono, 1989; Shavitt, 1989). We merely note here that it offers interesting opportunities for considering the interplay of person variables, situational factors, and cultural influences in attitude formation and change.

A principal strength of the present research is its utilization of well-validated measures with a national probability sample to test hypotheses generated from a social psychological theory. In this respect, the present study enjoys the strengths of both laboratory and field survey approaches. Of perhaps greatest importance is that the findings reported here, because they were obtained with a probability sample, can be generalized to the population of US adults living in households with telephones. Nevertheless, future research could improve upon the present study in at least three ways.

First, the use of larger probability samples would reduce the problem of Type II error — common in moderated regression analyses with nonexperimental data (McClelland & Judd, 1993) — that limited our ability to conclude that intentions to avoid PWAs reflect functional consensus rather than functional divergence. Larger samples might also yield more individuals whose AIDS-related attitudes serve an evaluative function, thereby permitting more intensive study of that group's demographic, social, and psychological characteristics. Second, classification of respondents could be improved by developing more items to assess attitude functions. For example, new items might assess instrumental concerns apart from one's own health (e.g., concern about the financial impact of AIDS on one's own taxes and health care costs) and symbolic concerns in addition to religious and political values (e.g., perceptions of whether PWAs are perceived as being like or unlike oneself or members of one's social reference groups).

Third, the use of additional predictor variables relevant to each type of attitude function might yield greater insights into the functional basis of AIDS stigma. Whereas the present study used transmission beliefs and attitudes toward gay men as predictors of stigma, future research might profit from assessing multiple predictors for each

type of function. As the epidemic increasingly expands beyond the demographic groups originally most affected by AIDS in the United States, for example, attitudes toward homeless people and immigrants may become increasingly predictive of expressive AIDS stigma. In addition, assessment of other variables relevant to instrumental concerns (with, for example, the type of reasoned action format used by Pryor et al., 1989) could augment the measure of casual contact beliefs used here. Measurement of additional predictors of instrumental stigma might be especially important because, as noted by Pryor and Reeder (1993), instrumental beliefs about illness transmission may not be entirely distinct from symbolic beliefs about social contamination. Concerns about contagion can reflect concerns about symbolic pollution as well as reality-based judgments about transmission (Rozin, Markwith, & Nemeroff, 1992).

Returning to the questions posed at the beginning of this paper, the data suggest that society's attitudes toward stigmatized groups reflect both instrumental and symbolic concerns. It is only when those attitudes are examined at the individual level, and their psychological functions directly measured, that we can detect variations among individuals and among different issues within the same attitude domain. Applied to AIDS, this type of scrutiny reveals that symbolic attitudes predominated among adults in the United States as the epidemic's second decade began, although instrumental concerns were important for a sizable minority and perhaps were the most important factor in attitudes about personal contact with PWAs. Even though the relative proportion of AIDS cases attributable to unprotected male-male sexual intercourse had been steadily decreasing at the time the data were collected, the heterosexual public's attitudes concerning AIDS continued largely to reflect their attitudes toward homosexuality and AIDS has remained a symbolic vehicle for expressing such attitudes. Thus, public education campaigns focusing primarily on instrumental concerns about HIV transmission are unlikely to reduce AIDS stigma significantly. It will be necessary as well to directly confront the symbolic issues evoked by AIDS, including heterosexuals' attitudes toward homosexuality.

At a more general level, the present study indicates that to ask whether attitudes are instrumental or symbolic may be to pose the wrong question. Rather, it may be more useful to ask under what conditions, with which individuals, and in which attitude domains do symbolic and instrumental concerns predominate. Such questions are at the heart of a functional approach to attitudes.

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### Notes

1. Cases were post-stratified by gender and racial category (White, Black, Other), using 1990 Census Bureau data.
2. Sexual orientation was assessed at Wave 1 with the following question: "Now I'll read a list of terms people sometimes use to describe themselves — heterosexual or straight; homosexual, gay, lesbian [for female respondents]; and bisexual. As I read the list again, please stop me when I get to the term that best describes how you think of yourself." Those who described themselves as gay, lesbian, or bisexual ( $n = 7$ ) or who declined to answer the sexual orientation question ( $n = 9$ ) were excluded from the present analyses.
3. Once the target respondent was identified, 62.4% of Wave 1 interviews were completed within one or two calls. The same respondent was reinterviewed at Wave 2. As in Wave 1, most Wave 2 interviews (72.6%) were completed within one or two calls. Twenty-four respondents in Wave 1 and four in Wave 2, however, required more than eight calls before the interview was successfully completed. The maximum number of calls before completing an interview was 19 for Wave 1 and 14 for Wave 2. Chi-square analyses revealed no consistent response differences according to the number of contact attempts for either sample.
4. In previous reports on the Wave 1 results (Herek & Capitanio, 1993, 1994), we used a fourth item in the avoidance scale, concerning respondents' willingness to care for a friend with AIDS. However, responses to this item were missing for several cases. To minimize the number of cases lost due to missing data, the item was dropped from the analyses reported here. The 3-item and 4-item scales (computed for respondents with complete data for all items) were highly correlated ( $r_s > .95$  at both waves).
5. Respondents also rated their feelings toward "people who got AIDS from a blood transfusion." These data are described elsewhere (Herek, 1997).
6. Because of time and budgetary constraints, the items assessing attitude functions were included only in the Wave 1 interview. These responses were used in the analysis of both waves of data. We recognize that the validity of the Wave 2 analysis rests on an assumption that attitude functions are relatively stable over time. Although this assumption could not be tested directly with the present data set, we believe that it is supported by the general coherence of the results (see Tables 3 and 4).
7. We also included items for assessing the social expressive and defensive functions (Herek, 1987) but too few respondents ( $< 10$ ) could be classified as having attitudes that primarily served these functions.
8. Data from the Wave 1 sample (including respondents lost to attrition at Wave 2) have been reported elsewhere (Herek & Capitanio,

1993, 1994, 1997). Only small differences were observed in response distributions between the larger Wave 1 sample and the subsample that completed both waves of data collection (see also Herek, 1997).

9. Another 111 respondents (30%) scored equally high for both the PERSONAL WORRY and RELIGIOUS/POLITICAL items (i.e., scored a 3 for both or a 4 for both). Another 28 (8%) did not manifest either function. Because the functional approach does not offer hypotheses about such respondents, and to avoid the increase in Type I error that would be introduced by additional significance tests, we limited the analysis to respondents in the evaluative and expressive groups.
10. A Bartlett-Box test for homogeneity of variances was performed on each predictor (ATG and CCTB at Waves 1 and 2) to insure that variances for these measures for the two function groups were comparable. Results indicated that the variances were

homogeneous despite the unequal sample sizes (all  $ps > .45$ ).

11. The differences for evaluatives showed a similar pattern that approached significance (for the Wave 1 equation,  $t(40) = -1.6309, p < .06$ ; for the Wave 2 equation,  $t(40) = -1.4881, p < .10$ ). Using the same procedure, we also compared the ATG and CCTB coefficients for expressives and evaluatives on the other five variables at both waves. In this analysis, the regression coefficients for CCTB were significantly greater than those for ATG in both Wave 2 equations for stigmatizing attitudes (for expressives,  $t(154) = -2.1188, p < .05$ ; for evaluatives,  $t(40) = -1.695, p < .05$ ). This was expected for evaluatives. For expressives — considered in light of the results presented in Table 3 and Table 4 — it indicates that both symbolic and instrumental concerns played an important role in shaping stigmatizing attitudes at Wave 2.

Table 1  
*Mean Scores For Stigma Scales, Waves 1 and 2*

| STIGMA VARIABLE                                 | WAVE 1             | WAVE 2            |
|---|--------------------|-------------------|
| Negative Feelings (Generic PWA) <sup>1</sup>    |                    |                   |
| MEAN  | 5.65               | N.A               |
| (STD DEV)                                       | (2.27)             | N.A               |
| Negative Feelings (Homosexual PWA) <sup>1</sup> |                    |                   |
| MEAN  | N.A                | 5.98              |
| (STD DEV)                                       | N.A                | (2.63)            |
| Avoidance Index <sup>2</sup>                    |                    |                   |
| MEAN  | 0.84               | 0.78              |
| (STD DEV)                                       | (1.02)             | (1.01)            |
| Stigmatizing Attitudes <sup>3</sup>             |                    |                   |
| MEAN  | 5.79 <sup>a</sup>  | 5.32 <sup>a</sup> |
| (STD DEV)                                       | (2.37)             | (2.33)            |
| Mandatory Testing                               |                    |                   |
| MEAN  | N.A                | 6.48              |
| (STD DEV)                                       | N.A                | (1.72)            |
| Attitudes Toward Gay Men <sup>4</sup>           |                    |                   |
| MEAN  | 8.45 <sup>b</sup>  | 9.12 <sup>b</sup> |
| (STD DEV)                                       | (3.14)             | (2.78)            |
| Beliefs About Casual Contact <sup>5</sup>       |                    |                   |
| MEAN  | 10.33 <sup>c</sup> | 9.48 <sup>c</sup> |
| (STD DEV)                                       | (4.14)             | (3.99)            |

<sup>1</sup>Higher scores indicate more negative feelings.

<sup>2</sup>Higher scores indicate more responses indicating intentions to avoid PWAs.

<sup>3</sup>Higher scores indicate more blame and support for coercive policies.

<sup>4</sup>Higher scores indicate more negative attitudes.

<sup>5</sup>Higher scores indicate more incorrect beliefs about the risks of transmission through casual contact.

<sup>a</sup>Wave 1 and Wave 2 significantly different,  $F(1,357) = 21.89, p < .001$ .

<sup>b</sup>Wave 1 and Wave 2 significantly different,  $F(1,337) = 24.55, p < .001$ .

<sup>c</sup>Wave 1 and Wave 2 significantly different,  $F(1,354) = 27.38, p < .001$ .

*Note.* Only self-described heterosexuals are included in the table. N.A = Items not asked in this wave.



Table 2

*Predicted Patterns of Variance Explained by Symbolic and Instrumental Variables for Functional Divergence and Functional Consensus*

| PATTERN                                | FUNCTION GROUP       |                          |                      |                          |
|--|----------------------|--------------------------|----------------------|--------------------------|
|  | Evaluative           |                          | Expressive           |                          |
|  | SYMBOLIC<br>VARIABLE | INSTRUMENTAL<br>VARIABLE | SYMBOLIC<br>VARIABLE | INSTRUMENTAL<br>VARIABLE |
| Functional Divergence:<br>Simple Case  | n.s.                 | *                        | *                    | n.s.                     |
| Functional Divergence:<br>Special Case | n.s.                 | *                        | *                    | *                        |
| Functional Consensus:<br>Instrumental  | n.s.                 | *                        | n.s.                 | *                        |
| Functional Consensus:<br>Symbolic      | *                    | n.s.                     | *                    | n.s.                     |

\* = significant portion of  $R^2$  predicted to be explained ( $p < .05$ ).  
 n.s. =  $R^2$  predicted to be nonsignificant.

Table 3

Percentage of Variance ( $R^2$ ) Explained By Symbolic and Instrumental Variables For Each Function Group, Waves 1 and 2

| DEPENDENT VARIABLE                    | FUNCTION GROUP |                   |                   |                   |
|---------------------------------------|----------------|-------------------|-------------------|-------------------|
|                                       | Evaluative     |                   | Expressive        |                   |
|                                       | ATG            | CCTB              | ATG               | CCTB              |
| WAVE 1                                |                |                   |                   |                   |
| Negative Feelings<br>(Generic PWA)    | 2.4            | 12.9 <sup>a</sup> | 13.4 <sup>c</sup> | 4.0 <sup>b</sup>  |
| Stigmatizing Attitudes                | 4.9            | 19.1 <sup>b</sup> | 8.9 <sup>c</sup>  | 11.9 <sup>c</sup> |
| Avoidance Index                       | 1.8            | 21.8 <sup>b</sup> | 2.0 <sup>a</sup>  | 30.9 <sup>c</sup> |
| WAVE 2                                |                |                   |                   |                   |
| Negative Feelings<br>(Homosexual PWA) | 2.5            | 18.4 <sup>b</sup> | 18.4 <sup>c</sup> | 6.9 <sup>c</sup>  |
| Stigmatizing Attitudes                | 0.0            | 15.3 <sup>b</sup> | 7.2 <sup>c</sup>  | 22.9 <sup>c</sup> |
| Avoidance Index                       | 4.2            | 25.1 <sup>c</sup> | 3.6 <sup>b</sup>  | 19.3 <sup>c</sup> |
| Mandatory<br>Testing                  | 0.0            | 10.4 <sup>a</sup> | 12.8 <sup>c</sup> | 12.4 <sup>c</sup> |

<sup>a</sup>  $p < .05$  <sup>b</sup>  $p < .01$  <sup>c</sup>  $p < .001$

$n = 43$  for Evaluatives;  $157$  for Expressives.

ATG = Attitudes Toward Gay Men (Symbolic).

CCTB = Casual Contact Transmission Beliefs (Instrumental).

Table 4  
*Comparison of Unstandardized Regression Coefficients for Interaction Terms Between Expressives and Evaluatives*

| DEPENDENT<br>VARIABLE                 | INTERACTION TERM |        |      |                 |        |      |
|---------------------------------------|------------------|--------|------|-----------------|--------|------|
|                                       | Function X ATG   |        |      | Function X CCTB |        |      |
|                                       | b                | (p)    | PRE  | b               | (p)    | PRE  |
| <b>WAVE 1</b>                         |                  |        |      |                 |        |      |
| Negative Feelings<br>(Generic PWA)    | .151             | (n.s.) | .009 | -.058           | (n.s.) | .003 |
| Avoidance Index                       | -.000            | (n.s.) | .000 | .035            | (n.s.) | .006 |
| Stigmatizing Attitudes                | .073             | (n.s.) | .002 | -.000           | (n.s.) | .000 |
| <b>WAVE 2</b>                         |                  |        |      |                 |        |      |
| Negative Feelings<br>(Homosexual PWA) | .277             | (.04)  | .023 | -.063           | (n.s.) | .003 |
| Avoidance Index                       | .001             | (n.s.) | .000 | -.003           | (n.s.) | .000 |
| Stigmatizing Attitudes                | .233             | (.05)  | .021 | .130            | (n.s.) | .014 |
| Mandatory<br>Testing                  | .259             | (.01)  | .035 | .026            | (n.s.) | .001 |

*n* = 43 for Evaluatives; 157 for Expressives.

n.s. = not significant (*p* > .05).

PRE = Proportional Reduction in Error (squared partial correlation)

ATG = Attitudes Toward Gay Men (Symbolic).

CCTB = Casual Contact Transmission Beliefs (Instrumental).