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Functional Analysis of HIV/AIDS Stigma: Consensus or Divergence?

Hassan Hosseinzadeh, PhD¹, and Syeda Zakia Hossain, PhD¹

Abstract

Functional theory proposes that attitudes may serve a variety of purposes for individuals. This study aimed to determine whether stigmatized attitudes toward HIV/AIDS serve the same function for all (consensus function) or serve different functions for different individuals (divergence function) by assessing various aspects of HIV/AIDS stigma using a sample of 236 adults aged 20 to 65 years from the Iranian community living in Sydney, Australia in 2007. Respondents were classified as evaluatives or expressives based on their responses to attitude function inventory scale. HIV/AIDS-related attitudes in the study group were found to have more of an expressive (58.5%) than an evaluative function (32.2%). Multiple regression analyses revealed that various aspects of HIV/AIDS stigma were functionally divergent within the study group and could serve evaluative and expressive function. The study’s findings suggest that different messages should be presented to different audiences depending on whether the stigma performs an expressive or evaluative function.

Keywords

HIV/AIDS stigma, functional analysis, divergence or consensus function, health education

Introduction

Stigma has had profound effects on the prevention and control of HIV/AIDS. Although advances have been made in the treatment of the disease and the profile of people with HIV/AIDS (PWHA) has changed significantly, stigma attached to HIV/AIDS continues despite educational campaigns (Greene, Derlega, Yep, & Petronio, 2003; Herek, Capitanio, & Widaman, 2002; Parker & Aggleton, 2003). HIV/AIDS stigma refers to any prejudice or discount aimed at individuals, groups, or communities affected by HIV/AIDS (Herek et al., 1996). It plays a key role in perpetuating the epidemic by causing major barriers to the prevention of further infection and the provision of adequate care, support, and treatment (De Bruyn, 2006; Prost et al., 2007; UNAIDS, 2002). Fear of stigma is the main reason why people are reluctant to be tested, to disclose HIV status, or to take antiretroviral drugs (Chesney, 1999; World Health Organization, 2008).

HIV/AIDS is a universally stigmatized disease and societies worldwide have displayed HIV/AIDS stigma in different ways such as mistreatment, avoidance, and ostracism of PWHA (Bennett, 2007; Lau, Tsui, & Chang, 2005; Mak et al., 2006; Persson & Richards, 2008; Weiser et al., 2006). In a number of countries, support has been given to coercive measures against PWHA in the form of quarantining, mandatory testing, and public disclosure (Crandall, Glor, & Britt, 1997; Herek, 1990; Mawar, Saha, Pandit, & Mahajan, 2005; UNAIDS, 2002). Recent studies have documented that PWHA in Australia continue to experience less favorable treatment in many areas of their lives such as application for insurance, accommodation, health services, and public housing (Grierson, Thorpe, Saunders, & Pitts, 2004; Persson & Richards, 2008).

Stigma is classically defined as an attribute that discredits or “spoils” an individual in the eyes of society (Goffman, 1963). A stigmatized attribute or trait may refer to a pathological, immoral, or disfiguring condition (e.g., HIV/AIDS), or any quality that is considered “deviant” from culturally embedded meanings (Alonzo & Reynolds, 1995). In fact, stigmatization is a socially constructed process that labels individuals or groups of people as deviant from some shared norm or expectation (Devine, Plant, & Harrison, 1999). Addressing the more fundamental question of why stigma originates in the first place has the potential to explain why some aspects of people’s lives, for example, being infected with HIV/AIDS, are universally stigmatized (MacIntosh, 2007). Stigmatization can occur for different purposes. In the HIV/AIDS arena, people may use stigmatization to distance themselves from HIV/AIDS and feel safe by isolating and blaming PWHA for their condition (Mondragon, Kirkman-Liff, & Schneller, 1991). This distance not only increases the

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sense of security of the majority by reducing the risk of contamination, but it also protects their identity as “healthy” and not deviant (Bruce, Shrum, Trefethen, & Slovik, 1990; Devine et al., 1999). There are clearly some psychological reasons for stigmatization; however, stigma is disadvantageous and can be harmful for those stigmatized. Adopting a functional theoretical approach is helpful to better understanding the role of attitudes within this context.

The primary tenet underpinning the functional theory of attitudes is that people hold attitudes for reasons and those reasons (i.e., “functions”) may differ among individuals (Hullett & Boster, 2001; Katz, 1960). This theory further emphasizes that attitude change is unlikely if messages fail to address the reasons behind why particular attitudes are held (Smith, Bruner, & White, 1956). Understanding the reasons for, or functions of, stigmatized reactions to HIV/AIDS is therefore key to the design of effective HIV/AIDS policies and prevention programs. The present study aimed to improve understanding of the function(s) played by attitudes underpinning HIV/AIDS-related stigma and the influence of sociodemographic characteristics including migrant status on such stigma in Australia. In particular, this study investigated whether HIV/AIDS-related stigma serves the same function for all (functional consensus) or different functions for different individuals (functional divergence) using Herek’s (1986) neofunctional theoretical approach to attitudes.

Conceptual Framework

Functional Approach to HIV/AIDS Stigma

The functional theory of attitudes encourages researchers to pay attention to its primary argument that persuasive messages are most effective if their content addresses the basis of the attitudes held (Katz, 1960; Smith et al., 1956). Based on the functional approach, “the fundamental idea is to find out why people hold their attitudes in the first place, and then construct messages addressing those reasons so that the attitudes are no longer supported” (Hullett & Boster, 2001, p. 133). As mentioned previously, functional theory proposes that the same attitudes may fulfill different functions for different individuals (Abelson, 1968; Herek, 1986; Katz, 1960; Pryor, Reeder, Vinacco, & Kott, 1989). For instance, two individuals might hold a positive attitude toward a politician. However, one might primarily hold the attitude because the politician’s policies align with the achievement of the person’s values (e.g., wealth or independence), whereas the other primarily holds the attitude because he or she perceives that important others hold a positive attitude about the politician. (Hullett & Boster, 2001, p. 134)

Given the different reasons for holding this positive attitude, different messages would be required to change the attitudes of the two individuals. Without knowing the function that an attitude may serve for an individual or group of people, the educator or policy maker is less likely to design an effective message to modify such an attitude.

The primary conceptualization of the functional approach to attitudes was introduced by Sarnoff and Katz (1954), Smith et al. (1956), and Katz (1960). However, Herek (1986) initiated the use of this theoretical framework in the analysis of stigma. Introducing a neofunctional theory of attitudes, Herek argued that stigma typically has instrumental and symbolic attitudinal components. Instrumentally based attitudes are derived from an assessment of the consequences of behavior whereas symbolically based attitudes are derived from the symbolic meaning of behavior. Herek further proposes that “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 & Capitanio, 1998, p. 231). Herek’s functional approach to stigma and the role played by attitudes provides the primary conceptual framework for the present study.

Herek (1986) also identified two broad functions for attitudes: expressive and evaluative. Expressive functions are primarily played by symbolically based attitudes whereas evaluative functions are primarily played by instrumentally based attitudes (see also Herek, 1987). Herek explained that negative reactions toward HIV/AIDS might originate from a fear of transmission of the disease (serving an evaluative function) or might be a reaction to the social meanings of the disease (serving an expressive function). In relation to HIV/AIDS stigma, attitudes that perform primarily an expressive function are likely to be based on deeply held values regarding the metaphorical social meanings attached to this disease (see also Herek et al., 2002). HIV/AIDS is often used as a symbol of moral decadence (Herek, 1991). It is also often used to symbolize homosexual promiscuity because of the relationship between its transmission and homosexuality (Brandt, 1988; Pryor et al., 1989). In contrast, attitudes underpinning HIV/AIDS stigma that perform an evaluative function arise from a psychological need to protect oneself from HIV/AIDS, a disease that is potentially fatal (see also Herek & Capitanio, 1998). According to Herek’s neofunctional theory of attitudes, individuals can be categorized as “expressive” or “evaluative” based on the dominant function played by their attitudes in relation to a particular issue.

Finally, Herek uses the concepts of functional divergence and functional consensus to define the range of functions served by attitudes to a particular issue (see Figure 1). The concept of the functional divergence of attitudes reflects individual differences and occurs when an object or an issue has multiple social constructions. For example, Pryor et al. (1989) found that the uninfected individual’s willingness to interact with PWHA was predicted by both negative attitudes toward gay men and beliefs about the consequences of interaction with PWHA. In contrast, functional consensus
happens when attitudes toward an issue serve largely the same function for all members of a population or group (Herek, 1986). For instance, Bishop, Alva, Cantu, and Rittiman (1991) researching in the United States found that people’s unwillingness to interact with PWHA was predicted entirely by a fear of contagion.

Because of the key theoretical role played by the concepts of functional consensus and functional divergence in the present study, their applicability to and utility in the analysis of HIV/AIDS stigma are detailed further. Herek and Capitanio (1998) described four possible patterns of functional consensus and divergence in the HIV/AIDS domain—two patterns of functional consensus and two patterns of functional divergence. They propose that one pattern of functional consensus occurs if attitudes underpinning HIV/AIDS stigma fulfill primarily an evaluative function for most individuals within a population. The second pattern of functional consensus is proposed to occur if attitudes underpinning HIV/AIDS stigma perform primarily an expressive function for most individuals. In contrast, functional divergence occurs when the attitudes driving HIV/AIDS stigma serve both expressive and evaluative functions within a population (third pattern). However, Herek and Capitanio propose that in relation to attitudes toward HIV/AIDS, a variation on this pattern can be expected. This variation is proposed on the assumption that various aspects of HIV/AIDS stigma are to some degree, regardless of the psychological function they play, based on the perception that HIV/AIDS is a fatal and contagious disease (Herek, 1999; Herek & Capitanio, 1998).

On this basis, it is hypothesized that instrumentally based attitudes (e.g., fear of contagion) might also be a significant predictor for different aspects of HIV/AIDS stigma within the expressive functional group, resulting in a second pattern or type of functional divergence (fourth pattern).

The present study was conducted to determine whether attitudes underpinning HIV/AIDS stigma within the study group serve a primarily expressive function underpinned by symbolically based attitudes (e.g., attitudes toward gay men and injecting drug users) or an evaluative function underpinned by instrumentally based attitudes (e.g., attitudes toward HIV/AIDS transmission). In line with Herek’s neofunctional theory, the functions of different aspects of HIV/AIDS stigma, such as negative feelings toward PWHA, support for coercive policies against PWHA and blaming them for their condition, avoidance intentions toward PWHA, and attitudes toward mandatory HIV testing were examined. Attitudes Toward Gay men (ATG) and Attitudes Toward Injection Drug Users (ATIDUs) were used as predictors of symbolically based attitudes. In contrast, Casual Contact Transmission Beliefs (CCTB) was used as a predictor of an instrumentally based attitude. Study participants’ responses to Herek’s (1987) Attitude Functions Inventory (AFI) scale were used to classify individuals into either an evaluative functional group (individuals with attitudes primarily based on personal concerns regarding HIV transmission) or an expressive functional group (individuals with attitudes primarily based on personal or religious values). Finally, analysis was undertaken to determine whether attitudes driving

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Figure 1. Neofunctional conceptual model of stigma and attitudes (based on Herek, 1986)
HIV/AIDS related stigma within the study population served
the same function for all (functional consensus) or served dif-
ferent functions for different people (functional divergence).

The Significance of the Study
In Australia, where an estimated 17,444 people were living
with HIV infection at the end of 2008 (National Centre in
HIV Epidemiology & Clinical Research, 2009), the epidemic
is growing at a concerning rate especially among immigrants.
Annually, in Australia, the number of people newly infected
by HIV increased by 31.0% between 2000 and 2006. Of
those approximately 40.0% were overseas immigrants. Fur-
thermore, people born in Middle Eastern countries such as
Iran accounted for around 8.0% of new cases of HIV
(National Centre in HIV Epidemiology & Clinical Research,
2007). Given the increasing magnitude of HIV notifications
among immigrants, studies concerning HIV/AIDS stigma—a
significant barrier in the battle against HIV/AIDS—are
important. However, little is known about the level and func-
tions of HIV/AIDS stigma among people from culturally
diverse backgrounds in Australia. The present study is an
attempt to fill this gap. This research targeted the Iranian
community—one of the fast growing migrant communities

Context
The Sociodemographic Characteristics
of the Iranian Community Living in Australia

Iranians living in Australia, with a total population of 22,550
in 2006, represent a small but fast-growing migrant commu-
nity. The majority of Iranian migrants (54.7%) arrived in
Australia before 1996 with 16.9% having arrived between
1996 and 2000, and one quarter (24.9%) between 2001 and
2006. Just more than one half of this population (53.0%)
lives in New South Wales, the state in which this study was
conducted. At the time of the study, 39.0% of Iranians living
in Australia were aged between 25 and 44 years, with 30.1%
aged between 45 and 64 years. With regard to education,
40.0% held a university qualification (e.g., bachelor’s, master’s,
or PhD degree) and 10.5% had obtained a skill-based certifi-
cate (i.e., technical education, which generally requires 2 years
of study), whereas 37.0% had no postschool qualification.
Furthermore, the majority of Iranians living in Australia
were Shi’a Muslims, with a small proportion believing in
other religions such as Bahai, Catholicism, and Armenian

The Prevalence of HIV/AIDS in Iran
Based on reports from the Joint United Nations Program on
HIV/AIDS (UNAIDS) and the World Health Organization,
it has been estimated that the total number of people aged
15 years or more who were living with HIV/AIDS in Iran
rose from 37,000 in 2003 to 66,000 by the close of 2005
(UNAIDS, 2006). However, there are discrepancies between
these figures and figures reported by Iranian officials. In
2007, the Center for Disease Control of the Ministry of
Health and Medical Education of Iran reported that a total of
15,587 adults and children were living with HIV/AIDS in
Iran. The notable difference between the number of esti-
mated cases reported by UNAIDS and the Ministry of Health
and Medical Education of Iran is interesting and, arguably,
concerning. In light of what is known universally regarding
the stigma attached to HIV/AIDS, this difference in esti-
mates could indicate a high level of stigma is attached to this
disease within Iranian society. In Iran, HIV/AIDS are pub-
lricly linked to immorality and moral decadence (Montazeri,
2005; Obermeyer, 2006).

Method
Recruitment and Data Collection Methods

Study participants were recruited using snowball sampling.
Initially, Iranian community organizations were contacted to
obtain a list of places where Iranian migrants were living in
the Sydney metropolitan area. A member of the research
team attended a number of events organized by Iranian cul-
tural associations in Sydney to discuss the objectives of the
study and recruit eligible respondents. Potential participants
had to meet the following eligibility criteria—they had to be
an Iranian who had obtained Australian citizenship or been
granted Australian residency, 18 years of age or older, and
resident in the Sydney metropolitan area at the time of the
study. The leaders of a range of Iranian associations in Syd-
ney were also informed about the study and asked for assis-
tance in finding additional eligible respondents. The project
was advertised via Iranian newspapers, flyers, and posters to
further invite participation of the target group. Enrolled par-
ticipants were also encouraged to recruit other eligible Irani-
ans to the study. A total of 255 Iranian immigrants enrolled
in the study and 236 completed the survey (92.5%). A power
analysis, using Cohen’s (1988) formula, showed that a sam-
ple size of 200 would provide an 80% chance of detecting
correlations (±0.223) with .01 confidence levels.

The survey instrument (questionnaire) was prepared in
English then translated into Farsi in line with Beaton,
Bombardier, Guillemin, and Ferraz’s (2000) guidelines for
cross-cultural adaptation of self-report measures. To ensure
the construct validity of the survey instrument, four Iranian
academics (one from the research team and three from other
academic groups), all of whom were fluent in Farsi and Eng-
lish, translated the content of the questionnaire. Each transla-
tor completed an initial and independent translation of the
survey instrument from English to Farsi. Based on Guillemin,
Bombardier, and Beaton’s (1993) recommended procedure, the translators then met to compare translations and back-translations. When agreement was reached on the final draft of the survey instrument, it was piloted with 20 participants to further establish consistency of items and test–retest reliability. Based on the pilot results and participant feedback, the questionnaire was further refined and finalized. The study and its instruments were reviewed and approved by the Human Ethics Committee of University of Sydney prior to the distribution of questionnaires to research participants. Participants were able to choose which version of the questionnaire they wanted to complete, the English or the Farsi.

**Measurement**

Sociodemographic data collected included age, sex, marital status, level of education, employment status, level of income, religious status, and length of time lived in Sydney (a proxy for length of migration). A number of scales measuring various aspects of HIV/AIDS stigma developed by Herek and Capitanio (1993, 1998) were refined and used in this study. The following of their measures were used as dependent variables: negative feelings toward PWHA, support for coercive policies and blame, intention to avoid PWHA, and attitudes toward HIV mandatory testing. Attitudes Toward Gay men (ATG, an indicator of the symbolic aspect of HIV/AIDS related stigma), Attitudes Toward Injection Drug Users (ATIDUs, another indicator of the symbolic aspect of HIV/AIDS stigma), and Casual Contact Transmission Beliefs (CCTB, an indicator of the instrumental aspect of HIV/AIDS stigma) were used as independent variables. A description of each of the measurement scales used in this study is provided below.

**Dependent Variables**

**Negative feelings toward PWHA.** Respondents were asked to what extent they felt anger, fear, disgust and sympathy toward PWHA. They were offered four possible responses, such as very, somewhat, a little and not at all angry. Responses were reversed where appropriate and scores on each of the dimensions measured (anger, fear, disgust, and sympathy) were summed to yield a four-item Negative Feelings scale (Cronbach’s $\alpha = .76$) with higher scores indicating more strongly negative feelings.

**Support for coercive policies and blame.** This scale comprised responses to three statements recorded using a 5-point Likert-type scale with responses ranging from strongly agree (a score of 5) to strongly disagree (a score of 1). Respondents were asked to indicate the extent of their agreement with the following statements: (1) “People with AIDS should be legally separated from others to protect the public health”; (2) “The names of people with AIDS should be made public so that others can avoid them”; and (3) “People who acquired AIDS through sex or drug use deserve it.” Responses were summed to form a three-item scale (Cronbach’s $\alpha = .80$) indicating Support for Coercive Policies and Blame, with higher scores indicating stronger support for coercive policies and a stronger tendency to blame PWHA for their condition.

**Attitudes toward HIV mandatory testing.** Using a 5-point Likert-type scale, respondents indicated their agreement with two statements: (1) “People at high risk for getting AIDS should be required to be tested regularly for the AIDS virus” and (2) “People from other countries who want to live in Australia should first be required to have an AIDS test to prove they are not infected with the AIDS virus.” Responses were summed to create a two-item Mandatory Testing scale (Cronbach’s $\alpha = .59$), with higher scores indicating attitudes that are more supportive toward mandatory testing.

**Intentions to avoid PWHA.** Participants were asked to predict their own behavior in four hypothetical situations involving potential contact with a PWHA: (1) having a loved one who had developed AIDS, (2) having one of their children attending a school where there was a student with AIDS, (3) working in an office where a coworker had AIDS, and (4) learning that the owner of a neighborhood grocery store had developed AIDS. For each situation, a variety of response alternatives were provided. Responses for each situation were categorized as avoidant (e.g., avoiding contact with the coworker) or supportive (e.g., helping the coworker). For the purpose of this study, responses were added to form a four-item Avoidant index (Cronbach’s $\alpha = .61$) with higher values indicating stronger intentions to avoid PWHA.

**Independent Variables**

**Attitudes toward gay men (ATG; symbolically based attitude).** Participants indicated their agreement with three statements using a 4-point Likert-type scale with responses ranging from strongly agree (a score of 4) to strongly disagree (a score of 1). The statements 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 of sexuality in men.” Responses were reversed where appropriate and summed to create a three-item ATG scale (Cronbach’s $\alpha = .59$) with higher scores indicating more unfavorable attitudes toward gay men.

**Attitudes toward injecting drug users (ATIDUs; symbolically based attitude).** The ATIDUs scale comprised responses to four statements using a 4-point Likert-type scale ranging from strongly agree (a score of 4) to strongly disagree (a score of 1). The statements were (1) “IV drug use is just plain wrong,” (2) “IV drug users are disgusting,” (3) “IV drug use is a perversion,” and (4) “Injecting drug users deserve sympathy.” Responses were reversed where appropriate and summed to form a four-item ATIDUs scale (Cronbach’s $\alpha = .61$) with higher scores indicating more unfavorable attitudes toward injecting drug users.
Casual contact transmission beliefs (CCTB; instrumentally based attitude). Respondents were asked to indicate their belief about the likelihood that a person could get HIV/AIDS through five different ways: (1) kissing on the cheek, (2) sharing a drinking glass, (3) using public toilets, (4) being coughed on, and (5) as a result of insect bites. For all CCTB items, responses were recorded using a 5-point Likert-type scale with scores ranging from *very likely* (a score of 5) to *it is impossible to get AIDS from this activity* (a score of 1). Responses were summed to yield a five-item CCTB scale (Cronbach’s $\alpha = .85$) with higher scores indicating greater concerns about getting HIV/AIDS by casual contact.

Attitude Functions Inventory (AFI). To determine the function of respondents’ HIV/AIDS-related attitudes, the AFI developed by Herek (1987) was used in this study. The AFI comprises a set of statements that measure why a person holds an attitude toward a particular issue or group. Responses to the AFI indicate how different factors such as personal values and concern about one’s safety can influence individuals’ opinions in relation to a particular subject (Herek & Capitanio, 1998).

In this study, four items of the AFI scale—those measuring a person’s concern about his or her safety, religious values, and personal values—were used to examine the function of a participant’s attitudes in the HIV/AIDS domain and categorize him or her into functional groups (evaluative or expressive). The “personal worry” items were used as indicators of attitudes serving an expressive function (Cronbach’s $\alpha = .84$) whereas the “religious values” and “personal values” items were used as indicators of attitudes serving an expressive function (Cronbach’s $\alpha = .87$). The “personal worry” items asked participants the following questions: (1) “How much you are worried about getting or becoming infected with the AIDS virus?” and (2) “How much do you think that being worried about HIV infection has influenced your feelings about AIDS?” The “personal values” item asked participants, “How much have your personal values about right and wrong influenced your feelings about AIDS?,” and the “religious values” item asked respondents, “How much have your personal religious values influenced your feelings about AIDS?” Responses to each question were framed using a 4-point Likert-type scale ranging from *a great deal* (a score of 4) to *no influence at all* (a score of 1). If a respondent’s score for either of the “personal worry” items was greater than his/her score for the “religious values” or “personal values” item, his or her attitudes toward HIV/AIDS were categorized as serving an evaluative function. In contrast, a respondent’s attitudes toward HIV/AIDS was categorized as having an expressive function if his or her score for either the “religious values” or “personal values” item was greater than his or her scores for either of the “personal worry” items.

Data Analysis

Univariate statistics were generated to describe participants’ sociodemographic characteristics (age, gender, level of education, marital status, religion, employment status, income, and year of residence in Sydney as a proxy for year of migration), attitudes toward HIV/AIDS, categorization in either the evaluative or expressive functional groups as well as attitudes toward the possibility of HIV transmission through casual contact, homosexuals, and injecting drug users. Multiple regression analyses were used to identify associations among demographic characteristics and various aspects of HIV/AIDS stigma. Chi-square and t-test analyses were used to identify associations between sociodemographic characteristics and categorization into the evaluative or expressive functional group. Finally, multiple regression analyses were undertaken separately for each functional group to determine the predictive power of instrumentally based and symbolically based attitudes theorized to underpin HIV/AIDS stigma within the functional groups. The hypotheses of this study were tested at a significance level of .05.

Results

Sociodemographic Characteristics

The study group reported sociodemographic characteristics similar to those seen within the general Iranian population living in Australia. Approximately one half of respondents (46.6%) were middle aged (31-50 years of age), slightly more than one quarter (27.6%) were between 51 and 65 years of age, and a further one quarter (25.8%) were young (20-30 years of age). Respondents were almost equally distributed with regard to gender (49.6% were male and 50.4% were female). Approximately one half were married (49.6%) whereas almost one third (30.9%) were single, and the remainder (19.5%) were separated, divorced, or widowed. Muslims constituted the largest number of participants (73.7%) followed by Jews and “others” (14.8%) and Christians (11.4%). Slightly less than one half of respondents (47.5%) had a university education, for example, bachelor’s, master’s, or PhD degree with the remainder having achieved a skill-based certificate (i.e., technical education, which generally requires 2 years of study) or high school education. Three quarters of respondents were employed (77.1%) and the majority of those held a full-time job (63.9%). Finally, the majority of respondents (81.8%) were in receipt of a low income ($\leq$AUS$60,000 per year) with slightly less than one fifth (18.2%) receiving a comparatively high income ($>\text{AUS}60,001$ per year). On average, respondents had been living in the Sydney metropolitan area for 11 years ($SD = 8.2$) at the time of the survey.

Levels of HIV/AIDS Stigma

The results of descriptive analyses (see Table 1) of various aspects of HIV/AIDS stigma showed generally negative feelings. A majority of respondents were not sympathetic toward PWHA (70.0%) and a slightly smaller majority was
Table 1. Responses to HIV/AIDS Stigma Measures: Dependent Variables, N = 236

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>M (±SD)</th>
<th>Percentage (Frequency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative feelingsa</td>
<td>9.4 (±3.2)</td>
<td>Very/somewhat 53.8 (127)</td>
</tr>
<tr>
<td>Angry</td>
<td>46.2 (109)</td>
<td>A little/not at all 49.4 (124)</td>
</tr>
<tr>
<td>Afraid</td>
<td>60.6 (143)</td>
<td>39.4 (93)</td>
</tr>
<tr>
<td>Disgusted</td>
<td>44.9 (106)</td>
<td>55.1 (130)</td>
</tr>
<tr>
<td>Sympathetic</td>
<td>30.1 (71)</td>
<td>69.9 (165)</td>
</tr>
<tr>
<td>Avoidanceb</td>
<td>1.9 (±1.2)</td>
<td>Avoidant 74.0 (107)</td>
</tr>
<tr>
<td>Care for close friend</td>
<td>24.8 (58)</td>
<td>Supportive 70.0 (103)</td>
</tr>
<tr>
<td>Child attending school</td>
<td>48.3 (113)</td>
<td>51.7 (121)</td>
</tr>
<tr>
<td>Office coworker</td>
<td>45.1 (105)</td>
<td>54.9 (128)</td>
</tr>
<tr>
<td>Neighborhood grocer</td>
<td>75.3 (177)</td>
<td>24.7 (58)</td>
</tr>
<tr>
<td>Coercive policies and blamec</td>
<td>9.0 (±3.8)</td>
<td>36.2 (88)</td>
</tr>
<tr>
<td>PWHA should be separated</td>
<td>52.3 (143)</td>
<td>36.3 (87)</td>
</tr>
<tr>
<td>Public disclosure of PWHA</td>
<td>41.3 (97)</td>
<td>54.6 (129)</td>
</tr>
<tr>
<td>PWHA deserve their disease</td>
<td>48.3 (114)</td>
<td>51.7 (112)</td>
</tr>
<tr>
<td>HIV mandatory testingd</td>
<td>7.4 (±2.3)</td>
<td>43.8 (106)</td>
</tr>
<tr>
<td>Mandatory testing of high-risk groups</td>
<td>75.8 (179)</td>
<td>19.5 (46)</td>
</tr>
<tr>
<td>Mandatory testing of migrants</td>
<td>58.7 (138)</td>
<td>28.5 (67)</td>
</tr>
</tbody>
</table>

Note: PWHA = people with HIV/AIDS. The category of “Agree” combines the responses of “agree strongly” and “agree somewhat.” The category of “Disagree” combines the responses of “disagree strongly” and “disagree somewhat.”

a. A four-item Negative Feelings scale, higher scores indicating more negative feelings (range = 4-16).
b. A four-item Avoidant index, higher values indicating greater avoidance (range = 0-4).
c. A three-item Coercive Policies and Blame scale, higher scores indicating more stigmatizing attitudes (range = 3-15).
d. A two-item Mandatory Testing scale, higher scores indicating more mandatory attitudes (range = 2-10).

Fearful of them (61.0%). Approximately one half of respondents were in favor of coercive policies such as quarantining (52.3%) and believed that PWHA deserved their illness (48.3%). Two fifths supported public disclosure of PWHA (41.3%). The majority supported mandatory HIV testing of people in arguably high-risk groups (75.8%) as well as of migrants (58.7%). Most of the respondents indicated that they would avoid a neighborhood grocery owned or staffed by PWHA (75.3%). About one half of the respondents stated that they would avoid a child (48.3%) and coworker (45.1%) if they knew that they had contracted HIV/AIDS.

Data analysis shown in Table 2 also indicates that respondents were concerned about the risk of HIV/AIDS transmission through casual contact and overwhelmingly disapproved of homosexuality and injecting drug use. Almost two thirds of respondents believed that HIV could be transmitted through kissing someone on the cheek (64.0%). Approximately one half thought that HIV could be transmitted through using public toilets (54.7%), sharing a drinking glass (50.4%), and being coughed or sneezed on (50.0%). Transmission through insect bite was believed possible by just more than two fifths of respondents (42.4%). A majority disagreed that homosexuality is a natural expression of sexuality (70.0%). Similarly, slightly more than one half believed that injecting drug use is a perversion (55.5%). Furthermore, approximately one half believed that homosexuals and injecting drug users are disgusting (52.5% and 46.6%, respectively).

Multiple regression analyses of sociodemographic data showed female respondents were more likely to support HIV mandatory testing than males (B = 0.88, β = 0.19, t = 2.94, p < .01). Younger respondents were more likely to avoid PWHA than older respondents (B = 0.59, β = 0.22, t = 2.29, p < .05). Muslims were more likely to support coercive policies against PWHA than Christians (B = 1.52, β = 0.12, t = 1.98, p < .01). Married respondents were more likely to express negative attitudes toward gay men compared with single respondents (B = 1.18, β = 0.29, t = 3.02, p < .01). Employed respondents were more likely to express negative attitudes toward injecting drug users compared with those who were unemployed (B = 0.874, β = 0.14, t = 1.92, p < .05). In contrast, highly educated respondents were less likely to overestimate the possibility of HIV transmission through casual contact compared to respondents with a lower level of education (B = 2.78, β = 0.193, t = 2.45, p < .05). Regression analysis further revealed that respondents who had lived in Sydney for a longer period were less likely to express HIV/AIDS stigma (across all dimensions) compared to those who had lived in Sydney for a shorter time.

Functions of HIV/AIDS Stigma

Based on AFI responses, 58.5% of the respondents were categorized as having HIV/AIDS-related attitudes that primarily served an expressive function, 32.2% were categorized as having HIV/AIDS-related attitudes that primarily served an evaluative function. The remainder (9.3%) scored equally on both functions were excluded from further analysis. This finding suggests that HIV/AIDS-related attitudes among the study group were functionally divergent, that is, attitudes known to underpin HIV/AIDS stigma serve both expressive
and evaluative functions across the study group. Chi-square and t-test analyses showed that being classified within the evaluative or expressive functional group was not associated with participants’ sociodemographic characteristics.

Testing the Predictive Power of Instrumental and Symbolic Variables for HIV/AIDS Stigma Within the Two Functional Groups

To examine the relationship between the hypothesized predictors of HIV/AIDS stigma (CCTB, ATG, and ATIDUs) and various attitudinal aspects of HIV/AIDS stigma (negative feelings, coercive policies and blame, avoidance intentions, and mandatory HIV testing) within the evaluative and expressive functional groups, multiple regression analyses were conducted separately for each group. For each analysis, all predictors (CCTB, ATG, and ATIDUs) were entered into the regression equation simultaneously.

The results of the regression analyses (see Table 3) showed that within the evaluative functional group, only the instrumental variable (CCTB) significantly predicted different dimensions of HIV/AIDS stigma, explaining 21.5% to 52.7% of the variance. CCTB scores explained 52.7% of the variance in negative feelings, 44.6% of the variance in avoidance intentions, 38.1% of the variance in mandatory HIV testing, and 21.5% of the variance in coercive policies and blame.

In contrast, within the expressive functional group both instrumental (CCTB) and symbolic (ATIDUs and ATG) variables were reliable and significant predictors of different dimensions of HIV/AIDS stigma (see Table 3). For people who fell within the expressive functional group, CCTB, ATIDUs and ATG scores explained between 3.6% and 6.9%, 3.9% and 9.1%, and 6.9% and 17.8% of the variance in various aspects of HIV/AIDS stigma, respectively.

The findings reported in Table 3 clearly indicate that the instrumental variable (CCTB) was an important and reliable predictor of HIV/AIDS stigma for both the expressive and evaluative functional groups, whereas the symbolic variables (ATIDUs and ATG) were only reliable predictors for the expressive functional group. These findings support Herek’s hypothesis that elements of HIV/AIDS stigma are functionally divergent (the fourth pattern mentioned in the conceptual framework).

Discussion

This study collected reliable data to assist in describing the level and function of HIV/AIDS stigma within the Iranian community living in the Sydney metropolitan area in 2007. The study further investigated whether attitudes toward HIV/AIDS among the study population serve the same function for all individuals (functional consensus) or have different functions for different individuals (functional divergence). The findings from this study usefully contribute to existing evidence regarding the various causes and functions of HIV/AIDS stigma particularly within an immigrant community living in Australia.
The results demonstrate that most respondents had negative feelings toward PWHA, believed that they “deserve” their disease, supported the implementation of punitive policies toward them, and were more likely to be avoidant of them. These findings highlight the importance of the reduction of HIV/AIDS stigma among ethnic groups living in Australia as existing evidence shows that in a stigmatized environment people are less likely to disclose their HIV status and use available treatments or even seek HIV voluntary counseling and testing (Clark, Lindner, Armistead, & Austin, 2003; Greene et al., 2003; Hutchinson, Corbie-Smith, Thomas, Mohanan, & Del Rio, 2004; Lau, Choi, Tsui, & Su, 2007; Ma et al., 2007). The current study also showed that young, female, less educated, and Muslim participants were more likely to express stigmatized attitudes. This finding supports the targeting of these particular groups in any campaign aiming to reduce HIV/AIDS-related stigma within the Iranian community (and arguably, similar other ethnic communities) living in the Sydney metropolitan area.

### Levels of Stigma

The results demonstrate that most respondents had negative feelings toward PWHA, believed that they “deserve” their disease, supported the implementation of punitive policies toward them, and were more likely to be avoidant of them. These findings highlight the importance of the reduction of HIV/AIDS stigma among ethnic groups living in Australia as existing evidence shows that in a stigmatized environment people are less likely to disclose their HIV status and use available treatments or even seek HIV voluntary counseling and testing (Clark, Lindner, Armistead, & Austin, 2003; Greene et al., 2003; Hutchinson, Corbie-Smith, Thomas, Mohanan, & Del Rio, 2004; Lau, Choi, Tsui, & Su, 2007; Ma et al., 2007). The current study also showed that young, female, less educated, and Muslim participants were more likely to express stigmatized attitudes. This finding supports the targeting of these particular groups in any campaign aiming to reduce HIV/AIDS-related stigma within the Iranian community (and arguably, similar other ethnic communities) living in the Sydney metropolitan area.

### Function of HIV/AIDS Stigma

Data analysis in terms of the functions of HIV/AIDS stigma yielded three important insights about the psychological

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**Table 3. Summary of Multiple Regression Analyses for Symbolic and Instrumental Variables Predicting Different Aspects of HIV/AIDS Stigma Within the Functional Groups**

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Predictor</th>
<th>B</th>
<th>β</th>
<th>t</th>
<th>Unique Variance Because of Variable (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Within the evaluative functional group, n = 76</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative feelings</td>
<td>CCTB</td>
<td>0.47</td>
<td>0.76</td>
<td>9.04***</td>
<td>52.7</td>
</tr>
<tr>
<td></td>
<td>ATG</td>
<td>0.33</td>
<td>0.15</td>
<td>1.80</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>ATIDUs</td>
<td>-0.02</td>
<td>-0.01</td>
<td>-0.01</td>
<td>0.0</td>
</tr>
<tr>
<td>Avoidance</td>
<td>CCTB</td>
<td>0.15</td>
<td>0.70</td>
<td>7.59***</td>
<td>44.6</td>
</tr>
<tr>
<td></td>
<td>ATG</td>
<td>0.10</td>
<td>0.14</td>
<td>1.42</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>ATIDUs</td>
<td>-0.00</td>
<td>-0.01</td>
<td>-0.13</td>
<td>0.0</td>
</tr>
<tr>
<td>Coercive policies and blame</td>
<td>CCTB</td>
<td>0.32</td>
<td>0.48</td>
<td>4.56***</td>
<td>21.5</td>
</tr>
<tr>
<td></td>
<td>ATG</td>
<td>-0.23</td>
<td>-0.10</td>
<td>-0.89</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>ATIDUs</td>
<td>0.21</td>
<td>0.12</td>
<td>1.11</td>
<td>1.3</td>
</tr>
<tr>
<td>Mandatory HIV testing</td>
<td>CCTB</td>
<td>0.27</td>
<td>0.64</td>
<td>6.87***</td>
<td>38.1</td>
</tr>
<tr>
<td></td>
<td>ATG</td>
<td>0.22</td>
<td>0.15</td>
<td>1.55</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>ATIDUs</td>
<td>-0.14</td>
<td>-0.12</td>
<td>-1.27</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>Within the expressive functional group, n = 138</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative feelings</td>
<td>CCTB</td>
<td>0.16</td>
<td>0.21</td>
<td>3.14**</td>
<td>6.9</td>
</tr>
<tr>
<td></td>
<td>ATG</td>
<td>0.57</td>
<td>0.40</td>
<td>5.38***</td>
<td>17.8</td>
</tr>
<tr>
<td></td>
<td>ATIDUs</td>
<td>0.28</td>
<td>0.25</td>
<td>3.48***</td>
<td>8.4</td>
</tr>
<tr>
<td>Avoidance</td>
<td>CCTB</td>
<td>0.06</td>
<td>0.21</td>
<td>2.87**</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>ATG</td>
<td>0.14</td>
<td>0.25</td>
<td>3.10**</td>
<td>6.9</td>
</tr>
<tr>
<td></td>
<td>ATIDUs</td>
<td>0.12</td>
<td>0.29</td>
<td>3.61***</td>
<td>9.1</td>
</tr>
<tr>
<td>Coercive policies and blame</td>
<td>CCTB</td>
<td>0.20</td>
<td>0.21</td>
<td>2.76**</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>ATG</td>
<td>0.57</td>
<td>0.31</td>
<td>3.81***</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>ATIDUs</td>
<td>0.27</td>
<td>0.19</td>
<td>2.30*</td>
<td>3.9</td>
</tr>
<tr>
<td>Mandatory HIV testing</td>
<td>CCTB</td>
<td>0.09</td>
<td>0.16</td>
<td>2.19*</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>ATG</td>
<td>0.39</td>
<td>0.37</td>
<td>4.65***</td>
<td>14.1</td>
</tr>
<tr>
<td></td>
<td>ATIDUs</td>
<td>0.20</td>
<td>0.24</td>
<td>3.10**</td>
<td>6.8</td>
</tr>
</tbody>
</table>

Note: ATG = attitudes toward gay men (symbolic); ATIDU = attitudes toward injecting drug user (symbolic); CCTB = casual contact transmission beliefs (instrumental).

*p < .05. **p < .01. ***p < .001.
functions served by attitudes underpinning HIV/AIDS stigma. First, HIV/AIDS-related attitudes were found to be functionally divergent and could serve evaluative or expressive functions for different individuals within the study population. For one third of the participants, HIV/AIDS stigma was based on concerns about personal safety (serving an evaluative function). In contrast, for more than one half of the participants, HIV/AIDS stigma was based on their personal or religious values (serving an expressive function). This finding is not surprising given that a majority of the study population reported being Muslim, a religion that prohibits homosexuality and injecting drug use (Hasnain, 2005; Obermeyer, 2006).

Second, the determinants of HIV/AIDS stigma varied between individuals depending on the function served by underpinning attitudes. The findings of the study (see Table 3) indicated that for those participants who were concerned about personal safety (the evaluative functional group), only the instrumentally based attitude (contagion concerns) significantly predicted the four different dimensions of HIV/AIDS stigma measured. In contrast, for participants whose attitudes were based on personal and religious values (the expressive functional group) both symbolically based attitudes (attitudes toward homosexual men and injecting drug users) and instrumentally based attitudes (contagion concerns) significantly explained the different dimensions of HIV/AIDS stigma measured. These findings provide further support for Herek’s (1999) analysis of HIV/AIDS stigma in the United States.

Third, the functions of HIV/AIDS stigma were not associated with participants’ sociodemographic characteristics in this study. Such a result was not unexpected. Other research has found that the function of an attitude is not innately influenced by the intensity of that attitude (Herek & Capitanio, 1998).

Limitations and Future Research

The findings from this study are proposed as largely representative of the Iranian community living in the Sydney metropolitan area in 2007—the sample size (236 individuals) exceeded that required to deliver reliable results. However, despite finding that sociodemographic characteristics are not associated with the functions played by different attitudes underpinning HIV/AIDS stigma, the application of these findings to other Iranian communities would need to assess the extent to which the characteristics of the new and the current study group are similar. Furthermore, the support that the current study gives to the value of Herek’s neofunctional theory in understanding HIV/AIDS stigma bears further testing with other ethnic groups living in Australian as well as in other countries. The issues raised by this study could also be further investigated through the conduct of qualitative research in order to develop an in-depth understanding of stigmatized behavior and the reasons underpinning such behavior. Any future research into the functional aspects of HIV/AIDS stigma and how these functions link with individuals’ attitudes should also consider expanding data collection to include additional measurement of predictors of each type of attitude function in order to yield greater insights into the psychological functions played by AIDS stigma. In the current study, attitudes toward HIV transmission, homosexual men, and injecting drug users were used as predictors of stigma. Future studies should consider assessing multiple predictors for each type of function. For instance, in Australia, the prevalence of HIV/AIDS is reported to be increasing among sex workers and immigrants. Attitudes toward migrants and sex workers could be used as predictors of HIV/AIDS-related attitudes that play an expressive function. Finally, including other measures of the evaluative function of HIV/AIDS-related attitudes, such as concern about the financial impact of HIV/AIDS, could also augment future research in this area.

Implications for Practice

The findings from this study showed that varying aspects of HIV/AIDS stigma serve different functions for different individuals (functional divergence). This reaffirms the importance of developing different strategies to change different attitudes based on the functions that those attitudes fulfill. This finding has significant implications for policy makers and health educators. It strongly suggests that educational campaigns that solely address instrumental factors (e.g., HIV/AIDS transmission routes) are less likely to adequately address HIV/AIDS stigma. This work indicates that educational campaigns to reduce HIV/AIDS stigma should also address symbolic factors (e.g., attitudes toward homosexuals and injecting drug users). Furthermore, the findings of this study suggest that those people who hold symbolically based beliefs may discount the effectiveness of prevention programs focusing on HIV/AIDS transmission routes. Contrary to the focus of such programs, individuals whose HIV/AIDS-related attitudes serve an expressive function appear to use HIV/AIDS stigma as a symbolic instrument or mechanism to express their moral disapproval of deviant groups such as homosexuals and injecting drug users. Without considering such symbolically based attitudes in the framing of educational campaigns HIV/AIDS stigma is likely to persist even in the absence of fears about HIV/AIDS transmission.

Additionally, the finding regarding the functional divergence of HIV/AIDS-related attitudes suggests that different messages should be presented to different audiences otherwise educational campaigns may lose their efficiency. The findings of the current study do not challenge the effect of educational campaigns but highlight the importance of designing specific educational programs for different individuals based on their stigmatized attitude function:
evaluative or expressive. For instance, if the targeted au-

tence consists of people for whom stigma performs an ex-

pressive function, their attitudes are less likely to be changed

less their beliefs and concerns regarding homosexuality

are addressed.

The scales tested in this study could also be used in the

practice setting to assist in better understanding the attitudes

of individuals toward HIV/AIDS. Systematic assessment

using these valid and reliable scales to measure different

aspects of HIV/AIDS stigma could provide quality informa-

tion to health professionals about their clients’ attitudes

toward the disease. Health professionals equipped with such
detailed information about their clients could develop more
effective interventions to improve their understanding of the
disease and challenge any negative attitudes toward PWHA,
homosexuals, and injecting drug users.

Finally, the current research also highlights the value of
undertaking “market” research, for example, replicating the
survey undertaken with the study group ahead of develop-
ment of any public health educational campaign aiming to
reduce stigma and increase take-up of HIV/AIDS relevant
services. By identifying the key functions played by attitudes
and values (including religious faith) in framing HIV/AIDS-
related stigma among a target group, the effectiveness of any
campaign could be substantially improved and sustained.

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