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HIV, Stigma, and Attribution of Causal Emotions

Zoe Elizabeth Larson
Portland State University

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HIV, Stigma, and Attribution of Causal Emotions

by

Zoe Elizabeth Larson

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requirements for the degree of

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in
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Thesis Committee:
Lauren Frank, Chair
Jeffrey Robinson
Brianna Suldoovsky

Portland State University
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Abstract

Stigmatization of people living with HIV/AIDS is considered a major barrier to the treatment and prevention of HIV/AIDS. Attribution theorists have examined stigmatizing attitudes as a product of causal emotions; to wit, people face greater judgment and stigmatization when their actions are perceived as controllable and less stigmatization when actions are perceived as out of the realms of personal control. The current study examined attribution of causal emotions for three different circumstances of HIV acquisition, which varied in their perceived controllability. The results showed statistically significant differences in participant evaluations of responsibility, blame, and anger. Statistically significant correlations were found between these causal emotions and stigmatizing attitudes. A weak, but statistically significant inverse correlation was found between knowledge about HIV and stigmatizing attitudes. Recommendations for improved stigma reduction campaign design based on the results of the study are proposed.

Key words: HIV/AIDS, attribution, stigma, causal emotions

Dedication

This thesis is dedicated to my Dad. You were so excited for me to start graduate school, and I know you would have been so proud of what I have accomplished. I will continue to live in ways that would make you proud, and try to be the person you knew and loved.
Miss you.

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Chapter 1. Introduction

When Charlie Sheen was diagnosed with HIV, he paid nearly \$10 million in blackmail as an attempt to keep his condition a secret (O'Neal, 2015). Sheen only went public about his HIV status after multiple tabloids published articles exposing his status (O'Neal, 2015). Former coworker Jenny McCarthy spoke publicly about the disgust she felt after discovering Sheen has HIV because she had engaged in kissing scenes with the actor previously (Lawson, 2015). Other news outlets highlighted erroneous details about Sheen's past partners, pointing out his proclivity to interact romantically with adult film stars and sex workers, potentially in an attempt to shift blame onto Sheen for hanging out with the wrong crowd (Etkin, 2015). Sheen's efforts to conceal his diagnosis and the public shaming that the media displayed demonstrate the stigmatizing attitudes that people living with HIV/AIDS (PLWHA) are forced to endure.

Since the beginning of the epidemic in the early 1980's, human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) have been treated as highly stigmatized conditions (Herek, Capitanio, & Widaman, 2003). The original conceptualization of stigma stems from the Greek definition in which people who were deemed morally inferior were physically marked. The mark served as a sign to designate the stigmatized individual as one who should be publicly avoided and viewed with disdain (Goffman, 1963). Present conceptualizations of stigma retain the same underlying element of social exclusion but are no longer limited to a tangible sign that can be physically recognized as stigmatizing (Goffman, 1963).

Much literature has identified stigma as a barrier to the treatment and prevention of HIV (Mahajan et al., 2008; Turan et al., 2017; Holzemer et al. 2009) and yet stigmatizing attitudes are often overlooked in campaigns that address HIV/AIDS (Mahajan et al., 2008; Creel, Rimal, Mkandawire, Bose, & Brown, 2011). Historically, public health promotion campaigns have used sexual morality frames to advocate for preventative behaviors; for example, the ABC campaign (Abstain, Be Faithful, and Condom use as a last resort) encourages the prevention of HIV by advocating for a specific set of lifestyle behaviors such as chastity (Stein, 2003). However; these campaigns can cause unintended stigmatization among individuals who do acquire HIV/AIDS, because the acquisition of HIV/AIDS suggests a deviation from the moral behavior dictated by the campaign. A survey conducted in Britain revealed that, although knowledge of HIV/AIDS had increased following an education campaign, perceptions of blame for the PLWHA had increased as well (Stein, 2003).

Of the campaigns and interventions that do address stigma, most address only a single component of the construct (Stangl, Lloyd, Brady, Holland, & Baral, 2013). Jain et al. (2013) concluded through a series of community-based interventions that greater reductions in stigmatizing attitudes occur when campaigns target multiple aspects of stigma. The aspects of stigma examined by Jain et al. (2013) were fear of infection, shame, and blame towards PLWHA. In order to develop appropriate campaigns that can effectively address the aspects of stigma that are most pertinent in a given population, it is first necessary to identify what stigmatizing attitudes exist within the population.

Link and Phelan (2001) identify five indicators that must be met in order for stigma to be present. First, differences between those with the stigma and those without are identifiable and labeled. Second, negative stereotypes are associated with the stigmatized. Third, there exists a categorical separation between "us", the un-stigmatized, and "them" the stigmatized. Fourth, those labeled with a stigma experience discrimination and a loss of social standing. Finally, stigmatization can be recognized by the power imbalance between the stigmatized and un-stigmatized (Link & Phelan, 2001).

Based on this conceptualization, people living with HIV/AIDS (PLWHA) are stigmatized for their condition and suffer negative consequences from this stigmatization. HIV/AIDS is a labeled condition, thereby differentiating those who have the virus from those who do not, which satisfies the first stigma indicator. Research has consistently identified negative stereotypes that are associated with HIV/AIDS such as negative perceptions of homosexuality (Johnson, 1995; Kerr et al., 2014), promiscuity (Pullium, 1993), and drug use (Kerr et al., 2014). The separation between "us" and "them" in the context of HIV/AIDS is evident in studies measuring perceived susceptibility and risk of acquiring HIV/AIDS (Lin, Roy, Dam, & Coman, 2017). College students maintain a perception of low susceptibility to HIV/AIDS even in light of high risk behaviors, while attributing high susceptibility to people who match stereotypical depictions of an HIV/AIDS patient (Lin et al., 2017). Numerous studies document the experience of discrimination and status loss among PLWHA (Chong, Mak, Tam, Zhu, & Chung, 2017; Darlington & Hutson, 2017; Sayles, Ryan, Silver, Sarkisian, & Cunningham, 2007) as well as investigate discriminatory attitudes of the un-stigmatized population (Adrien,

Beaulieu, Leane, Perron & Dassa, 2013; Herek & Capitanio, 1993; Lee, Campbell, & Mulford, 1999). A power imbalance between PLWHA and people without HIV/AIDS exists as a result of the stereotypes that diminish the reputations of PLWHA and leave them discredited (Link & Phelan, 2001). This power imbalance can also be recognized in support for name-based reporting policies that coerce PLWHA into disclosing private information in the name of public safety (Herek et al., 2003).

Despite the benefits that antiretroviral (ART) medication provides for controlling the virus, there is a negative association between perceived stigma and quality of life among PLWHA who use ART (Holzemer et al., 2009). Awareness of one's HIV status and subsequent use of ART may increase the visibility of a person's serostatus due to side effects of the medication (Sayles et al., 2007) or the need to disclose clinic appointments to family or employers (Darlington & Hutson, 2017). Some studies have reported problems with medication adherence and suggested that avoidance of unintended disclosure of serostatus may be a contributing factor (Darlington & Huston 2017, Sayles et al., 2007). Turan et al. (2017) found that stigmatizing attitudes within the community are associated with decreased medication adherence by an internalized stigma mediator. This finding highlights the importance of addressing stigmatization on both a community and individual level to foster social support.

PLWHA who are on ART have higher rates of depression and anxiety when compared with the general population due to stigmatization, and up to 83% of PLWHA who take medication report experiencing stigmatization (Lowther, Selman, Harding, & Higginson, 2013). Mental health conditions, such as depression or anxiety, can suppress

the immune systems of PLWHA resulting in further health complications (Vanable, Carey, Blair, & Littlewood, 2006). Within patient care management, the acknowledgment of the detrimental effects of HIV stigma is an integral part of comprehensive health care for PLWHA (Shacam, Rosenburg, Onen, Donovan, & Overton, 2015). Fear of a positive test result and the subsequent stigmatization that will accompany it may dissuade those who are at risk from testing for HIV (Lin et al., 2017; Herek et al., 2003).

It was once predicted that, with the development of effective treatment, the stigmatization towards PLWHA would be negligible (Crandall, 1991). Studies from the South, Southeast, and Midwest in the United States have indicated that the development of effective treatment has not eradicated the detrimental effects of stigmatization on the health of PLWHA (Darlington & Hutson, 2017; Kingori, Nkansah, Haile, Darlington, & Basta, 2017; Kerr et al., 2014). The stigmatizing attitudes that remain may be, in part, due to stigma reduction campaigns that fail to fully encompass all of the aspects of stigmatization (Jain et al., 2013). A campaign that corrects knowledge deficits may address the stigmatizing attitude associated with fear of infection, but fail to address attitudes of blame based on how an individual acquired HIV/AIDS. Future stigma reduction campaigns can be strengthened by identifying which aspects of stigma are present and heightened in order to adapt public communication campaigns to the population. Currently, campaign efforts to reduce stigmatization associated with HIV/AIDS have been limited, despite being named as one of the five key imperatives for successfully eradicating HIV/AIDS (Mahajan et al., 2008). Of campaigns that have addressed stigmatization of HIV/AIDS, interventions that have seen successful outcomes

include ones that have collaborated within coalitions that incorporate public health and cultural networks (Foege, 2019).

The purpose of this study is to examine current attitudes towards PLWHA among undergraduate students in a Pacific Northwest, liberal city. Chapter 2 will present a review of the literature in which the basic tenets of attribution theory are explicated and applied to a context of attribution of emotion for contracting HIV. Chapter 3 presents the methods for designing an experiment that compares attitudes and beliefs about different ways of acquiring HIV/AIDS to determine the levels of stigmatization for each type of onset. Chapter 4 reveals the results of the experiment, and details the ways in which the hypotheses largely demonstrate support for attribution of causal emotions based on the controllability of HIV acquisition, and positive correlations between attribution of causal emotions and stigmatizing attitudes. Chapter 5 communicates the conclusions drawn from the study, suggestions for the direction of future research, and recommendations for public communication campaigns designed to reduce stigmatizing attitudes towards PLWHA.

Chapter 2. Review of Literature

Stigmatizing attitudes regarding HIV/AIDS and PLWHA were once predicted to be negligible once treatment became available (Crandall, 1991), yet PLWHA continue to face stigmatization, as I stated in the previous chapter. The use of theory to examine stigmatization is advantageous because it involves the explication of the concept of stigma to uncover the contributing attitudes and behaviors, which can illuminate possibilities for decreasing stigmatization. Attribution theorists and researchers of social motivation examine questions of why people harbor negative feelings towards individuals with stigmatized conditions, such as HIV/AIDS.

Attribution

The concept of attribution refers to conclusions drawn by a third party, referred to as perceivers, regarding the culpability of an afflicted individual (Heider, 1958). Attribution theorists have investigated perceiver reactions in response to various contexts and situational interpretations. These experiments have revealed a range of potential reactions and brought to light several key factors for how the culpability of an afflicted individual may be judged by a perceiver (Heider, 1958; Shaver, 1975). Specifically, attribution theory posits that perceivers make a judgment as a result of three internal processes (Heider, 1958). First, the perceiver must be aware of the behavior or affliction for which they judging (Heider, 1958). This awareness may come from direct observation or by hearing of the action through another source (Shaver, 1975).

The second process in judging others' behavior is assessment of intentionality. Fritz Heider (1958), referred to as the father of attribution theory, differentiated between

five levels of causation intentionality. To determine whether an individual is responsible for an action, each level proposes potential influences of personal or environmental factors that may reduce or increase culpability (Shaver, 1975). Intentionality, at its core, evaluates whether the individual performed the act on purpose. Another level of intentionality, association, is the consideration of the individual's involvement in the action and if they simply had the misfortune of being in the wrong place at the wrong time. Causality is a level that takes into account whether the action was accidental or prompted. Forseeability questions whether the outcome could have been predicted, and, thus, prevented. Lastly, justifiability considers whether the action was an appropriate response given the circumstances (Heider, 1958; Shaver, 1975). The level of intentionality that a perceiver uses to frame an individual's behavior will determine their perceived culpability.

The third process involved in casting a judgment for a given behavior or affliction is the attribution of personal disposition (Heider, 1958). Dispositional qualities refer to characteristics that are inherent to an individual's character, and these qualities are perceived as underlying motivators for the observed behavior (Heider, 1958). For example, an individual who contracts HIV from unprotected sex may be attributed a personal disposition that is reckless, careless, or irresponsible. These dispositional attributions do not consider the potential environmental factors that may have contributed to the behavior.

While Heider labelled intention as a principal factor of attribution theory, exertion, or the amount of effort put towards the behavior, is an important moderator that

can alter the significance and meaning of the observed behavior (Heider, 1958). An individual who displays effort but fails due to lack of ability will be judged less harshly than an individual who has the ability but fails due to a lack of effort (Heider, 1958). Weiner and Kukla (1970) explored this concept within the academic achievement realm in which they demonstrated that students who had little academic ability and performed poorly did not suffer from negative judgments, yet students who had the ability to perform well but failed to put forth the effort were judged harshly by other college students (Weiner & Kukla, 1970).

Related to the concept of exertion is the idea of controllable and noncontrollable personal and environmental circumstances (Heider, 1958). In circumstances that an individual perceives as controllable, even if the outcome was not intentional, the individual is likely to be viewed as more personally responsible (Heider, 1958). In contrast, if circumstances are perceived to be out of an individual's control, either due to a lack of personal ability or the interference of environmental factors, the attribution of responsibility is less likely to fall to the individual (Heider, 1958).

Weiner (1993; 2006) developed a social motivation theory that draws on attribution theory to predict and explain reactions towards individuals with stigmatized conditions. According to this social motivation theory, when individuals perceive a stigma to be controllable, they attribute it to the weak moral character of the stigmatized individual (Weiner, 1993). For instance, infection with the stigmatized condition of HIV may be attributed to moral impurities such as promiscuity or drug addiction. Additionally, as in Heider's attribution theory, attributions of responsibility are made

when an individual perceives that a person is accountable for their circumstances (Weiner, 2006). Other emotions that have been empirically linked to attributions of responsibility include blame and anger (Weiner, Perry, & Magnusson, 1988; Weiner, 1993). Responsibility, blame, and anger are all causal emotions, meaning they are cognitions which motivate further action (Weiner, 2006).

Heider (1958) specified the perceived moral obligations a person must fulfill as "ought requirements" (Heider, 1958 p. 222). If a person acts contrary to how they ought to behave in a particular situation, a perceiver expects a punishment to justify the breach of conduct (Heider, 1958). In the instance of stigmatization, Weiner (1993) suggests that when individuals perceive that a person is responsible for the acquisition of their stigma, such as HIV, it elicits the emotional reaction of anger because the individual had the control to prevent the acquisition of the stigma, and yet chose not to do so (Weiner, 1993). Anger may also be provoked by feeling threatened, either physically or by insult to one's ego or moral values (Heider, 1958). For example, learning that a person contracted HIV while casually sleeping with several partners could elicit angry feelings due to unknowingly putting others at risk to the virus, or it may provoke angry feelings in reference to the violation of traditional sexual norms.

A perceiver will react with feelings of blame when justifications of responsibility for circumstances have been considered and dismissed (Mantler, Schellenberg, & Page, 2003). An individual can still be considered responsible, thereby held accountable for their actions, without incurring high levels of blame. For example, an individual may be held accountable for contracting HIV through unprotected sex and yet not be blamed for

their illness if others perceive the consequence of living with HIV as a justified punishment. Heider (1958) explains the desire for balance that accompanies attributions; thus, retribution for perceived wrongs can become rebalanced if the subject suffers consequences from their behavior. Blame and resentment that may have been directed at the subject previously will likely be reduced if the subject must face the consequences of their actions (Heider, 1958).

Social scientists have consistently demonstrated attribution of responsibility and blame for acquiring the stigma of HIV/AIDS, both among health care and social service providers, and among the general public (Cobb & de Chabert, 2002; Herek et al., 2002; Cohen, Romberg, Grace, & Barnes, 2005; Seacat, Hirschman, & Mickelson, 2007). Dental education students in one study indicated a belief that patients with leukemia were more deserving of optimal medical care in comparison to PLWHA (Cohen, Romberg, Grace, & Barnes, 2005). A small study of 46 HIV/AIDS social service providers measured attributions of anger, blame, responsibility, and willingness to help an individual who has demonstrated high HIV-risk behaviors. Service providers responded to scenarios in which a court had ordered an individual to take an HIV education course and to get tested for HIV. The results revealed that service providers felt higher levels of anger and blame towards individuals who they perceived to be responsible for their HIV-risk behaviors (Cobb & de Chabert, 2002). These studies are consistent with attributional theory which posits that individuals with illnesses that are perceived to be controllable, such as HIV, are judged more harshly when compared to individuals with illnesses that are perceived to be uncontrollable, such as leukemia.

In a comparison of stigma and knowledge trends among the general public between 1991 and 1997, Herek et al. (2002) found an increase, from twenty percent to twenty eight percent, in the number of respondents who believed that PLWHA who had acquired the virus from sexual contact or drug use deserved to have HIV/AIDS. When Herek et al. (2002) stated the measure in a less overtly harsh manner, emphasizing responsibility rather than blame, over half of respondents in 1997 believed that PLWHA were responsible for their illness. These results are consistent with a study differentiating attributional emotions which concluded that attributing blame is more severe compared to attributing responsibility and controllability (Mantler et al, 2003) as well as providing support for the claim that stigmatizing attitudes towards PLWHA exist among the general public and reductions in stigmatizing attitudes over time are not guaranteed.

Similar results of attributions of anger, responsibility, and blame depending on the degree of controllability have been found among samples of college students. PLWHA who were perceived to have contracted the virus from controllable behavior, such as unprotected sex with multiple partners or drug use, were considered to be more deserving of their fate and less deserving of sympathy when compared to PLWHA who had contracted the virus from sources out of their control, such as a blood transfusion (Pullium, 1993). A recent survey of college students in the Midwest revealed that 32% of the sample felt afraid of PLWHA, and 30% of the sample believed that most PLWHA were responsible for their status (Kingori et al., 2017). These results too, are consistent with attributional tenets that posit individuals perceived to have greater control will be judged more harshly and considered to be more responsible for their actions (Weiner,

2006). Most recently, Seacat, Hirschman, and Mickelson (2007) presented undergraduate students with vignettes about an individual with HIV. The items of variability were onset controllability (HIV contracted through unprotected sex or through blood transfusion) and sexual orientation of the person with HIV. The results showed that students attributed greater control, responsibility, anger, and blame to an individual who contracted HIV through unprotected sex as compared to a blood transfusion (Seacat et al., 2007). These results are in line with attribution theory, as a perceiver will view unprotected sex as a controllable act with potentially foreseeable consequences while contracting HIV through a blood transfusion is beyond the scope of personal control and therefore beyond the range of personal responsibility. To further examine the effects of attribution of causal emotion, in the current study I add a third condition (HIV contracted through protected sex); additionally, I investigate how attribution of causal emotions relate to stigmatizing attitudes and support for stigmatizing policies.

First, the current study will compare participant perceptions of PLWHA, varied between three conditions perceived controllability of HIV acquisition. I propose that participants will attribute causal emotions based on the level of controllability they assign to the person with HIV in the vignette. Therefore, based on the evidence discussed, the first five hypotheses are as follows:

H1: Participants will vary in their evaluations of control based on how HIV is acquired, such that the person who acquires HIV in the Unprotected Sex condition will be evaluated as having the most control, followed by the Protected Sex condition, and last the Transfusion condition.

H2: Participants will vary in their evaluations of responsibility based on how HIV is acquired, such that the person who acquires HIV in the Unprotected Sex condition will be evaluated as being the most responsible, followed by the Protected Sex condition, and last the Transfusion condition.

H3: Participants will vary in their evaluations of anger based on how HIV is acquired, such that the person who acquires HIV in the Unprotected Sex condition will be evaluated with the greatest anger, followed by the Protected Sex condition, and last the Transfusion condition.

H4: Participants will vary in their evaluations of blame based on how HIV is acquired, such that the person who acquires HIV in the Unprotected Sex condition will be evaluated as the most deserving of blame, followed by the Protected Sex condition, and last the Transfusion condition.

H5: Participants will vary in their evaluations of stigmatizing attitudes based on how HIV is acquired, such that the person who acquires HIV in the Unprotected Sex condition will be evaluated with the greatest amounts of stigmatizing attitudes, followed by the Protected Sex condition, and last the Transfusion condition.

Attribution and Stigma

The literature on HIV has demonstrated the link between attributions of responsibility, blame, and anger with stigmatizing attitudes such as a decreased willingness to engage in casual social interaction and increased support for punitive policies or sub-par medical care. For the current study, I operationalized stigma as a

construct composed of willingness to engage in social interaction and support for coercive policies. I chose this operationalization in order to capture the avoidance tendencies and the power imbalances that are integral to Link and Phelan's (2001) conceptualization of stigma. In the trend analysis that compared public attitudes towards PLWHA in 1991, 1997, and 1999, Herek et al., (2002) reported that a significant minority of the population endorsed negative attributions towards PLWHA and the same proportion of respondents supported policies that were punitive towards PLWHA (Herek et al., 2002). These results indicate a relationship between negative emotional attributions and the stigmatization of PLWHA.

Among the dental education students who found PLWHA to be less deserving of medical care compared to patients with leukemia, the results also revealed an increased desire for social distance from PLWHA (Cohen et al., 2005). The results highlight that beliefs related to causal emotions, such as deservedness, are associated with stigmatizing behaviors, such as avoiding casual contact with an individual with HIV. Similarly, HIV/AIDS social service providers who reported higher levels of anger, blame, and attributions of responsibility also reported less willingness to engage in helping behaviors such as assisting the HIV positive individual in finding a homeless shelter or assisting to reduce the individuals' high-risk behaviors (Cobb & de Chabert, 2002). These studies support the idea that there is a correlation between attribution of negative causal emotions and stigmatization in the form of avoiding social interaction behaviors.

Herek et al. (2003) conducted a survey investigating attitudes towards name-based reporting of PLWHA. Name-based reporting is a surveillance policy in which the

names of PLWHA are available on disease reports (Herek et al., 2003). Although there are benefits to name-based reporting, such as the efficiency with which medical professionals can connect patients with resources, there is also the concern that it may increase stigmatizing attitudes due to the availability of confidential patient information which may lead to subsequent stigma or avoidance (Herek et al., 2003). The survey determined that individuals who supported name-based reporting also demonstrated consistent negative attitudes toward PLWHA (Herek et al., 2003). Although the majority of respondents did not support name-based reporting of PLWHA most indicated that receiving an HIV diagnosis would cause concern for respondents regarding their own susceptibility to stigmatization, and over one third of respondents indicated that this concern of stigmatization would impact their decision to test for HIV (Herek et al., 2003). The results revealed in this survey support the notion that there is a relationship between stigmatizing attitudes about HIV and negative attitudes towards PLWHA (Herek et al., 2003).

This analysis provides confirmation towards stigmatization through decreased willingness for social interaction in the context of individuals with HIV. Based on these findings, I expect a positive correlation between attributions of responsibility, blame, and anger, and stigmatizing attitudes towards PLWHA. Thus, the sixth, seventh, and eighth hypotheses are as follows:

H6: Perceived responsibility for HIV status will be positively correlated with higher levels of stigmatization toward the individual.

H7: Perceived blame for HIV status will be positively correlated with higher levels of stigmatization toward the individual.

H8: Anger towards a person with HIV will be positively correlated with higher levels of stigmatization toward the individual.

Stigma and Knowledge

Some studies have indicated that as knowledge regarding HIV increases, stigma decreases. Shapiro (2005) examined the hypothesis that HIV stigma is a factor of fear of contagion rather than prejudice towards PLWHA by measuring the relationship between HIV knowledge and preferred casual social distance. Shapiro (2005) operationalized sufficient knowledge of HIV as being able to identify two of the three main routes of transmission. The survey results revealed that the majority of respondents had sufficient knowledge of HIV, and that high knowledge correlated with an increased willingness for casual social contact such as living next door to a person with HIV (Shapiro, 2005).

A stigma reduction campaign among college students in Texas found an association between increases in knowledge about HIV and a reduction in stigma among female students (Locke, Meshack, Githumbi, Urbach, Miller, Peters ... W. Ross, 2014). Male students desired greater social distance from PLWHA, but upon close examination of the differences between male and female knowledge scores, male students had poorer scores regarding common HIV myths and misconceptions (Locke et al., 2014). These results suggest the importance of ensuring that people comprehend knowledge regarding HIV and that the material covers multiple topic areas to address stigmatizing viewpoints.

A comparison study contrasting attitudes towards PLWHA and knowledge of HIV/AIDS among African-American youth in the northeastern and southeastern regions of the United States found that low levels of HIV knowledge correlated with higher levels of stigma. As knowledge about HIV increased, stigma levels decreased (Kerr et al., 2014).

Other studies point to the continued pervasiveness of HIV stigmas, even in light of high levels of education. Joe and Foster (2017) investigated the relationship between stigma and knowledge among Master's level counseling students. Counseling students showed a greater desire for social distance from PLWHA who had contracted the virus from transmission routes that students perceived as controllable, such as drug use or sexual activity, compared to PLWHA who had contracted the virus through mother to child transmission. Furthermore, the study revealed that high scores on an HIV/AIDS knowledge test did not correlate with a reduced desire for social distance (Joe & Foster, 2017). These results are in line with attributional principles that predict greater stigmatizing responses for behaviors that are perceived to be controllable as compared to behaviors beyond personal control, but do not match previous studies that suggest increased knowledge about HIV/AIDS has the ability to counteract stigmatizing attitudes.

In a qualitative analysis of social stigma, a man with HIV shared his experience of feeling stigmatized after accidentally spitting in the eye of his best friend. The friend, who was highly educated, mistakenly feared that she would contract HIV after this encounter despite awareness that HIV cannot be transmitted through saliva. (Sayles et al., 2007). Another qualitative analysis detailed multiple incidents of healthcare providers

enacting stigmatizing behavior towards PLWHA including the refusal of treatment that would require bodily contact, such as enemas, or taking unnecessary precautions such as wearing multiple sets of gloves during interactions with PLWHA (Darlington & Hutson, 2017). These studies demonstrate the persistent stigmatization facing PLWHA, even when knowledge of HIV/AIDS is high. In light of conflicting evidence regarding the effectiveness of knowledge as a mediator for decreasing stigma, I pose the following research question:

RQ1: Is greater knowledge of HIV negatively correlated with the amount of stigmatization displayed towards the individual with HIV?

Figure 1 demonstrates the hypothesized relationships between each of the variables.

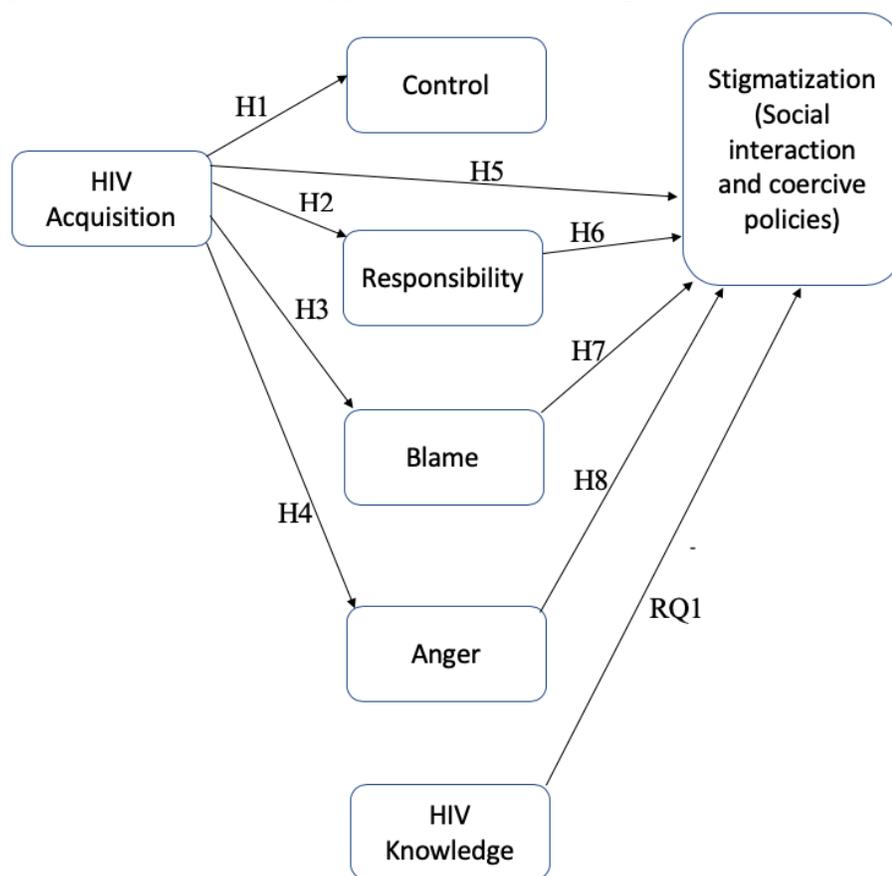


Figure 1

Chapter 3. Methods

The design of this study compares student attitudes towards three different scenarios of an individual who has contracted HIV in a 3 condition between-subjects experiment. In the first version, the individual contracted HIV from sex without a condom. In the second version, the individual contracted HIV when the condom broke during sex. In the third version, the individual contracted HIV from a blood transfusion. This design differs from Seacat et al. (2007), which had only two conditions of HIV controllability variation (unprotected sex and blood transfusion), and manipulated sexual identity (heterosexual, homosexual). The design of the current study allows for the identification of stigmatizing attitudes and attribution of causal emotions toward PLWHA, if any exist, by comparing scenarios in which the individual with HIV had varying levels of control over their exposure to the virus.

Participants

For this study, I recruited undergraduate students enrolled in communication courses at Portland State University for participation. All participants were 18 years or older and current students at the University. I informed students about the opportunity to participate in the study during class; the recruitment script used can be found in Appendix B. Participants provided informed consent prior to completing the study and received extra credit for taking part. An alternative extra credit option was available for students who did not wish to participate.

Participants included 27 men (24.8%), 79 women (72.5%), and 3 unidentified for a total of 109 participants, between the ages of 19 and 54 years ($M = 26.40$, $SD = 7.51$).

The diversity of participation included 73 (67.0%) white/Caucasian participants, 7 (6.4%) Asian participants, $N = 12$ (11%) Latino/a participants, 8 (7.3%) African American/Black participants, and 7 (6.4%) participants identified as "other."

Procedure

Participants started the experiment with a social desirability scale to allow a comparison of data between participants with divergent social desirability scores; this analysis will indicate if social desirability is a factor in how people communicate their beliefs about PLWHA in order to control for responses that may threaten the validity of the survey. Participants also completed an assessment of knowledge about HIV. Next, Qualtrics randomly assigned participants into three evenly distributed experimental groups to read one of three possible vignettes about a Portland State University student living with HIV. Qualtrics assigned 33.0% ($N = 36$) of participants to the group reading the vignette about the student who contracted HIV from sex without a condom; 31.2% ($N = 34$) of participants to the group reading the vignette about the student who contracted HIV using a condom that broke during sex; and 35.8% ($N = 39$) of participants to the group reading the vignette about the student who contracted HIV from a blood transfusion. To ensure that each participant read the vignette, I removed participants who spent fewer than 10 seconds on the page with the vignette ($n = 10$ excluded). Students then answered survey questions about causal emotions, followed by questions regarding stigmatizing attitudes. I removed 8 participants from the sample who did not complete any of the survey questions ($n = 8$ excluded). I removed 1 participant from the sample due to the participant not completing the survey past the social desirability section ($n = 1$

excluded). A total of 19 participants were removed from the sample, resulting in a final analytic sample of $N = 109$.

I adapted the vignettes based on vignettes previously used in a study examining attitudes regarding controllability of HIV onset (Seacat et al., 2007). The original controllable vignette was: "John is a 30-year-old (heterosexual/homosexual) male who has been employed for the last 10 years and enjoys spending time with his friends. John has been engaging in unprotected sexual intercourse with many different (women/men) over the course of the last couple years. John also loves to party, and vaguely recalls having "hooked-up" several times while attending parties. Lately, however, John has not been feeling very well. For approximately the last month, John has been losing weight, feeling extremely tired, having night sweats, and having severe flu-like symptoms. His symptoms never seem to go away and only get worse as time goes on. Because it has been a while since John's last physical check-up, he decides to visit his doctor in hopes of finding out what is wrong. At John's appointment, his doctor asks him if he has ever been tested for HIV. John replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, John's test results come back. John's doctor tells him that he has been infected with HIV, the virus that leads to AIDS." (Seacat et al., 2007 p. 1460).

The adapted vignette for the current study is about a Portland State student named Brad. The main elements of the three vignettes are identical to each other, introducing Brad: "Brad is a 25-year-old heterosexual male who attends Portland State University and enjoys spending time with his friends." The three vignettes also are identical in the way

that Brad receives his diagnosis: "Because it has been a while since Brad's last physical check-up, he decides to visit his doctor. At Brad's appointment, his doctor asks him if he has ever been tested for HIV. Brad replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, Brad's test results come back. Brad's doctor tells him that he has been infected with HIV, the virus that leads to AIDS." The elements of the vignettes that differ are related to how Brad contracted HIV. The full Unprotected Sex vignette reads: "Brad is a 25-year-old heterosexual male who attends Portland State University and enjoys spending time with his friends. Brad has been engaging in unprotected sexual intercourse with many different women over the course of the last couple years. Brad also loves to party, and vaguely recalls having 'hooked-up' without using a condom several times while attending parties. Because it has been a while since Brad's last physical check-up, he decides to visit his doctor. At Brad's appointment, his doctor asks him if he has ever been tested for HIV. Brad replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, Brad's test results come back. Brad's doctor tells him that he has been infected with HIV, the virus that leads to AIDS."

In the Protected Sex condition, Brad contracts HIV after a condom breaks during sex. The full Protected Sex vignette reads: "Brad is a 25-year-old heterosexual male who attends Portland State University and enjoys spending time with his friends. Brad has engaged in sexual intercourse with many different women over the course of the last couple years, but always uses condoms as protection. Brad also loves to party, and Brad vaguely recalls his condom breaking during a 'hook up' at a party. Because it has been a

while since Brad's last physical check-up, he decides to visit his doctor. At Brad's appointment, his doctor asks him if he has ever been tested for HIV. Brad replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, Brad's test results come back. Brad's doctor tells him that he has been infected with HIV, the virus that leads to AIDS."

In the blood transfusion condition, Brad contracts HIV after receiving a blood transfusion. The Blood Transfusion vignette reads: "Brad is a 25-year-old heterosexual male who attends Portland State University and enjoys spending time with his friends. A little over one year ago, Brad was involved in a serious car accident. Police ruled that the accident was not Brad's fault. Brad needed to have a blood transfusion in order to survive. At the time of Brad's blood transfusion, it was possible to be infected with HIV because donor blood could not be screened for the virus. Brad fully recovered from his accident. Because it has been a while since Brad's last physical check-up, he decides to visit his doctor. At Brad's appointment, his doctor asks him if he has ever been tested for HIV. Brad replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, Brad's test results come back. Brad's doctor tells him that he has been infected with HIV, the virus that leads to AIDS."

The Unprotected Sex vignette has a word count of 135, the Protected Sex vignette has a word count of 139, and the Blood Transfusion vignette has a word count of 161. All three vignettes can also be found in Appendix B. I conducted a manipulation check to assure that participants correctly identified how Brad contracted HIV in the vignette they were assigned. I measured this by asking participants to identify how Brad came into

contact with HIV out of the following options: "Sex without using a condom," "the condom broke during sex," "a blood transfusion," "injection drug use." If participants were unable to correctly identify the vignette that they were assigned, indicating that they did not read the vignette, they were omitted from the analysis.

Controllability. I measured controllability using a 4-item scale developed by Mantler et al. (2003), Cronbach's alpha = .91, on a 7-point Likert scale where 1 = *strongly disagree* and 7 = *strongly agree*. Participants indicated their level of agreement with the following statements: "Brad's illness was under his personal control," "It was something that Brad did that caused his illness," "Brad could *not* have prevented his illness," "Brad had *no* control over the cause of his illness." I aggregated participant answers by averaging participant responses to the four items, participants who answered fewer than three questions were not included in the aggregation. Two items were reverse coded and I recoded the items prior to aggregation such that higher numbers indicated greater controllability. On average participants rated a mean of $M = 4.31$ ($SD = 1.81$, Cronbach's alpha = .89).

Responsibility. I measured responsibility using a 4-item scale developed by Mantler et al. (2003), Cronbach's alpha = .91, on a 7-point Likert scale where 1 = *strongly disagree* and 7 = *strongly agree*. Participants indicated their level of agreement with the following statements: "Brad is responsible for his illness," "Brad is accountable for his illness," "Brad's illness is *not* a result of his own negligence," "Brad should *not* be held personally liable for his illness." I aggregated participant answers by averaging participant responses to the four items, participants who answered fewer than three

questions were not included in the aggregation. Two items were reverse coded and I recoded the items prior to aggregation such that higher numbers indicated greater responsibility. On average participants rated a mean score of $M = 4.01$ ($SD = 1.66$, Cronbach's alpha = .86).

Anger. I measured anger with four items previously used in a study by Mantler et al. (2003), Cronbach's alpha = .71. The four items representing anger were anger, irritation, annoyance, and resentment. Two of the four items were positively coded: "I feel considerable anger towards Brad," "I feel considerable resentment towards Brad." Two of the four items were negatively coded "I do not feel irritation towards Brad," "I do not feel resentment towards Brad,". I measured this on a 7-point Likert scale where 1 = *strongly disagree* and 7 = *strongly agree*. I aggregated participant answers by averaging participant responses to the four items, participants who answered fewer than three questions were not included in the aggregation. I recoded the two reverse coded items prior to aggregation such that higher numbers indicated greater anger. On average participants rated a mean score of $M = 2.50$ ($SD = 1.39$, Cronbach's alpha = .86).

Blame. I measured blame using a 4 item scale developed by Mantler et al. (2003), Cronbach's alpha = .82, on a 7-point Likert scale where 1 = *strongly disagree* and 7 = *strongly agree*. Participants indicated their level of agreement with the following statements: "Brad is to blame for his own illness," "It is his own fault that Brad is ill," "Brad does *not* deserve what happened to him," "Brad should *not* feel guilty for being ill." I aggregated participant answers by averaging participant responses to the four items, participants who answered fewer than three questions were not included in the

aggregation. Two items were reverse coded and I recoded the items prior to aggregation such that higher numbers indicated greater blame. On average participants rated a mean score of $M = 3.00$ ($SD = 1.35$, Cronbach's alpha = .82).

Knowledge. I measured knowledge using the 18 item HIV knowledge questionnaire developed by Carey and Schroder (2002), which multiple studies used previously (Kingori et al, 2017; Janulis, 2018) and has demonstrated internal consistency ranging from .75 - .89. The questions covered topics of transmission, treatment, prevention, and myths. Some of the items included "Coughing and sneezing do NOT spread HIV," "Showering or washing one's genitals/private parts after sex keeps a person from getting HIV," "It is possible to get HIV when a person gets a tattoo if the equipment is not properly cleaned," "Having sex with more than one partner can increase a person's chance of being infected with HIV," "A person can get HIV by sitting in a hot tub or a swimming pool," and "A person can get HIV from oral sex." I listed responses in Qualtrics as "*true*", and "*false*". I aggregated the scores by summing participant answers so that a higher score out of 18 indicated greater knowledge regarding HIV. On average participants rated a mean score of $M = 12.99$ ($SD = 2.77$).

Stigma: social interaction. I measured stigma in part by the 7-item social interaction scale developed by Kelly (1987). This scale evaluates willingness to engage in causal social situations and addresses the social distance and rejection aspects of stigmatization that are integral to the definition of stigma (Link & Phelan, 2001). The original scale measured social interaction on a 7-point Likert scale where 1 = *disagree* and 7 = *agree*, for the current study I adjusted the anchors so that 1 = *strongly disagree*

and 7 = *strongly agree* to maintain consistency with the rest of the survey. Participants indicated their agreement with the following questions: "If you met Brad, would you be willing to strike up a conversation with him?" "Would you attend a party where Brad was present?" "Would you attend a party where Brad was preparing food?" "Would you be willing to work in the same office with Brad?" "If you were a friend of Brad's, would you be willing to continue the friendship at this time?" "Brad's lease is up in two months. If you were his landlord, would you renew his lease?" "Would you allow your children to visit Brad in his home?" I aggregated participant answers by averaging participant responses to the seven items, participants who answered fewer than five questions were not included in the aggregation. Higher numbers indicated greater willingness to interact socially, indicating lower stigmatization. On average participants rated a mean score of $M = 5.82$ ($SD = 1.12$, Cronbach's alpha = .92).

Stigma: coercive policies. I also measured stigma by the 5-item coercive policy scale used by Herek et al. (2002). This scale captures the power imbalance that is a critical component of stigmatization, emphasizing the desire to label PLWHA as a separate "other" that have relinquished full access to their rights due to their choices or lifestyles (Link & Phelan, 2001). The original publication of the scale did not specify anchor measurements; for the current study I used a 7-point Likert scale to maintain consistency with the rest of the survey where 1 = *strongly disagree* and 7 = *strongly agree*. The original scale referred only to AIDS, for the current study I updated the items to reference both HIV and AIDS. Participants indicated their agreement to the following statements: "People with HIV/AIDS should be legally separated from others to protect

the public health," "The names of people with HIV/AIDS should be made public so that others can avoid them," "Women who are pregnant should be required to be tested for HIV/AIDS to protect the health of their unborn babies," "People at risk for getting HIV/AIDS should be required to be tested regularly for HIV/AIDS," "People from other countries who want to live in the United States should first be required to have an HIV/AIDS test to prove they are not infected with the HIV/AIDS virus." I aggregated participant answers by averaging participant responses to the five items, participants who answered fewer than four questions were not included in the aggregation. Higher numbers indicated greater support for coercive policies, or higher stigmatization. On average participants rated a mean score of $M = 3.20$ ($SD = 1.13$, Cronbach's alpha = .75).

Social desirability bias. I measured social desirability bias using the 13-item Marlowe-Crowne social desirability short form scale (Crowne & Marlowe, 1960; Reynolds, 1982), Cronbach's alpha = .76. Participants responded "true" or "false" to statements such as "It is sometimes hard for me to go on with my work if I am not encouraged," "On a few occasions, I have given up doing something because I thought too little of my ability," "No matter who I'm talking to, I'm always a good listener," "I'm always willing to admit it when I make a mistake," "I am always courteous, even to people who are disagreeable," "There have been times when I was quite jealous of the good fortune of others," "I have never deliberately said something that hurt someone's feelings." I aggregated participant answers by summing participant responses to the thirteen items. A higher score indicated greater social desirability, and thus a greater likelihood social desirability may have influenced answers to other items on the survey

for those respondents. Participants who scored 10 or higher, on the 13-point scale, were considered to be high in social desirability influence. On average participants rated a mean score of $M = 5.53$ ($SD = 2.77$, Cronbach's alpha = .68).

Analysis

The hypotheses were non-directional with a rejection level set at alpha of .05 in advance. H1 through H5 were all analyzed with ANOVA tests to compare participant reactions towards the individual with HIV based on how it was acquired. H6 through H8 were all analyzed with correlation tests to evaluate the relationships between attributional emotions displayed toward the individual with HIV and the degree of stigmatization demonstrated. RQ1 was analyzed with a correlation to investigate whether greater levels of knowledge regarding HIV are associated with lower levels of stigmatizing attitudes.

Chapter 4. Results

Preliminary Analysis

The overall levels of stigmatizing attitudes were relatively low, particularly in reference to participants' willingness engage in social interaction with PLWHA. Willingness to engage in social interaction with PLWHA is the opposite of a stigmatizing attitude; therefore, responses of higher numerical value correspond to a lower stigmatizing attitude. Despite moderate variability in responses, the majority of participants, specifically 63 participants (57.8%), responded “strongly agree” or “somewhat agree” to statements regarding their willingness to engage in social interaction with PLWHA; 22 participants (20.2 %) responded “agree”, 15 participants (13.7 %) responded “neither agree nor disagree”, and 7 participants (6.3 %) responded “disagree, “somewhat disagree” or “strongly disagree” to such statements. Support for coercive policies, the other component of stigmatizing attitudes, had more of a normal distribution compared to willingness to engage in social interaction, though it had a slight positive skew. There were 47 participants (43.2%) that responded “strongly disagree” or “somewhat disagree” to statements that advocated for coercive policies for PLWHA, 30 participants (27.6 %) responded “disagree”, 7 participants (6.4%) responded “agree”, “somewhat agree”, or “strongly agree”; and 23 participants (21.1%) responded “neither agree nor disagree.”

Most participants in the sample responded that they did not have friends or family affected by HIV/AIDS; when asked, 18 participants (16.5%) responded "yes" and 89 participants (81.7%) responded "no." The majority reported that they would not be likely

to get tested for HIV in the next 6 months; however, there was a high degree of variability among participant responses. When asked about the likelihood to be tested for HIV in the next six months, 36 participants (33.1%) responded that it would be "extremely likely" or "somewhat likely," 47 participants (43.1%) responded "extremely unlikely" or "somewhat unlikely," and 22 participants (22.0%) responded "neither likely nor unlikely." Regarding sexual preference, 87 participants (79.8%) identified as heterosexual, 8 participants (7.3%) identified as homosexual, and 14 participants (12.8%) identified as "other", preferred not to say, or did not answer the question. Most participants (87.2%) correctly answered 11 or more of the 18 total HIV knowledge questions, but only 3 participants (2.8%) answered all questions correctly. The majority of participants responded "strongly disagree" to the statement "My belief in God guides my everyday life decisions," but there was a moderate degree of variability among responses. Specifically, 25 participants (22.9%) responded "agree" or "strongly agree," 66 participants (60.5%) responded "disagree" or "strongly disagree", and 16 participants (14.7%) responded "neither agree nor disagree." Similarly, the majority of participants responded "strongly agree" to the statement "it is okay to engage in premarital sex," but there was a moderate amount of variability among responses. Specifically, 87 participants (79.8%) responded "agree" or "strongly agree," 7 participants (6.4%) responded "disagree" or "strongly disagree," and 11 participants (12.0%) responded "neither agree nor disagree."

A manipulation check was conducted to ensure that participants correctly identified how Brad acquired HIV in the vignette the participant read. Only four

participants failed to correctly identify the mode of transmission in the vignette they had read. All four of these participants were in the Protected Sex condition and mistakenly identified the acquisition of HIV as being due to unprotected sex. This error may indicate more of a misinterpretation of the question and answers provided for the manipulation check than a failure to read the assigned vignette. Overall, the removal from the analytic sample of the four participants who did not pass the manipulation check did not alter the results in profound ways. The reported results that follow include the four participants, and the results are also reported without the four participants in cases where the significance level is altered due to their inclusion. When participants who rated themselves as more likely to give socially desirable answers were removed from the analytic sample, the overall results were largely unchanged.

Hypothesis Tests

H1 predicted that participants would vary in their evaluations of control based on how a person acquired HIV. Results indicated that this prediction was accurate, $F(2/104) = 66.6, p < .001$, partial $\eta^2 = .56$. Post-hoc comparisons revealed that all conditions were statistically significantly different from each other. Specifically, participants in the Unprotected Sex condition ($M = 5.7, SD = 1.0$) evaluated the person with HIV as having statistically significantly more control, followed by the Protected Sex condition ($M = 4.8, SD = 1.4$), followed by the Transfusion condition ($M = 2.5, SD = 1.8$). Thus, H1 was fully supported.

H2 proposed that participants would differ in their evaluations of responsibility based on the vignette read. Results revealed that this prediction was accurate, $F(2/103) =$

40.6, $p < .001$, partial $\eta^2 = .4$. Post-hoc comparisons revealed that the Transfusion condition was evaluated as statistically significantly different from the Unprotected Sex condition and Protected Sex condition. Specifically, the participants in the Unprotected Sex condition ($M = 5.1$, $SD = 1.2$) and the Protected Sex condition evaluated the person with HIV to be statistically significantly more responsible as compared to participants in the Transfusion condition ($M = 2.6$, $SD = 1.3$). There was not a statistically significant difference between the Unprotected and Protected conditions; thus, H2 was partially supported.

H3 advanced that participants would vary in their evaluations of anger based on the experimental condition. Results revealed that this prediction was accurate, $F(2/104) = 8.2$, $p = .001$, partial $\eta^2 = .2$. Because variances were not equal, post hoc analysis was conducted using a Dunnett C test. This analysis revealed that the Transfusion condition was evaluated as statistically significantly different from the Unprotected Sex condition and Protected Sex condition. Specifically, the participants in the Unprotected Sex condition ($M = 2.6$, $SD = 1.3$) and the Protected Sex condition ($M = 3.1$, $SD = 1.5$) evaluated the person with HIV with significantly greater anger compared to the participants in the Transfusion condition ($M = 1.9$, $SD = 1.3$). There was not a statistically significant difference between the Unprotected and Protected Sex conditions; thus, H3 was partially supported. When the four participants who did not pass the manipulation check were removed from the analytic sample, the difference between Unprotected Sex and Blood Transfusion was no longer statistically significant, but when participants who had high scores on the social desirability scale were removed from the

analytic sample, the difference between Unprotected Sex and Blood Transfusion was statistically significant once again. The overall relationship between the three variables retained statistical significance regardless of participants removed from the analytic sample.

H4 posited that participants would have different evaluations of blame based on the vignette read. Results indicated that this hypothesis was accurate, $F(2/104) = 28.5$, $p < .001$, partial $\eta^2 = .35$. Post hoc comparisons revealed that the Transfusion condition was statistically significantly different from the Unprotected Sex condition and the Protected Sex condition. Specifically, the participants in the Unprotected Sex condition ($M = 3.7$, $SD = 1.1$) and the participants in the Protected Sex condition ($M = 3.4$, $SD = 1.2$) evaluated a person with statistically significantly greater amounts of blame as compared to participants in the Transfusion condition ($M = 1.9$, $SD = 0.9$). There was not a statistically significant difference between the Unprotected Sex and Protected Sex conditions; thus, H4 was partially supported.

H5 predicted that participants would vary in their evaluations of stigmatizing attitudes based on the experimental condition. Results did not reveal support for this hypothesis in either social interaction stigmatization $F(2/104) = 1.9$, $p < .15$, or support for coercive policies $F(2/104) = 1.4$, $p < .26$. Thus, H5 was not supported.

H6 posited that a positive relationship would exist between perceived responsibility for HIV status and levels of stigmatizing attitudes towards the person with HIV. Results revealed support for this hypothesis; willingness to interact socially with the person with HIV ($M = 5.82$, $SD = 1.12$) was inversely correlated with perceived

responsibility ($M = 4.01$, $SD = 1.66$) for HIV status $r_s(104) = -0.23$, $p = .016$, and for support for coercive policies ($M = 3.2$, $SD = 1.13$) was positively correlated with perceived responsibility for HIV status $r(105) = .21$, $p = .030$. Thus, H6 was supported.

H7 predicted that stigmatizing attitudes and blame towards a person with HIV would be positively correlated. Results indicated support for this prediction; willingness to interact socially with the person with HIV ($M = 5.82$, $SD = 1.12$) increased as perceived blame ($M = 3.00$, $SD = 1.35$) decreased, resulting in a negative correlation, $r_s(105) = -0.25$, $p = .009$. There was also a positive correlation between support for coercive policies ($M = 3.2$, $SD = 1.13$) and perceived blame towards the person with HIV, $r(105) = .22$, $p = .024$. Thus, H7 was supported.

H8 advanced that there would be a positive relationship between feelings of anger towards a person with HIV ($M = 2.5$, $SD = 1.39$) and stigmatizing attitudes. Results revealed support for this hypothesis; there was an inverse relationship between willingness to interact socially with the person with HIV ($M = 5.82$, $SD = 1.12$) and feelings of anger towards the person with HIV, $r_s(105) = -0.31$, $p = .001$. Additionally, there was a positive relationship between regarding support for coercive policies ($M = 3.2$, $SD = 1.13$) and feelings of anger towards the person with HIV, $r_s(105) = .19$, $p = .045$. *When the four participants who did not pass the manipulation check were removed from the analytic sample the positive correlation between anger and support for coercive policies was no longer statistically significant. The negative correlation between anger and willingness to interact socially maintained significance; thus, H8 was partially supported.

RQ1 asked if there is a negative correlation between knowledge about HIV ($M = 12.99$, $SD = 2.77$) and stigmatizing attitudes. The results indicated a negative relationship; as willingness to interact socially ($M = 5.82$, $SD = 1.12$) increased, knowledge also increased, $r_s(105) = .24$, $p = .012$. There was a negative correlation between knowledge and support for coercive policies ($M = 3.2$, $SD = 1.13$), $r_s(105) = -0.19$, $p = .046$. The correlations for stigmatizing attitudes diverge because the willingness to engage in social interaction is, in fact, measuring the absence of a stigmatizing attitude while support for coercive policies measures the presence of a stigmatizing attitude. When the four participants who did not pass the manipulation check were removed from the analytic sample the negative correlation between knowledge about HIV and support for coercive policies was no longer statistically significant. The correlation between knowledge about HIV and support for coercive policies was also no longer statistically significant when participants who had high social desirability scores were removed from the analytic sample the correlation, independent from the participants who did not pass the manipulation check. The correlation between knowledge about HIV and willingness to interact socially remained statistically significant despite the removal of any participants from the analytic sample. Thus, there was mixed support for RQ1. Figure 2 demonstrates the relationships between variables as revealed in the results.

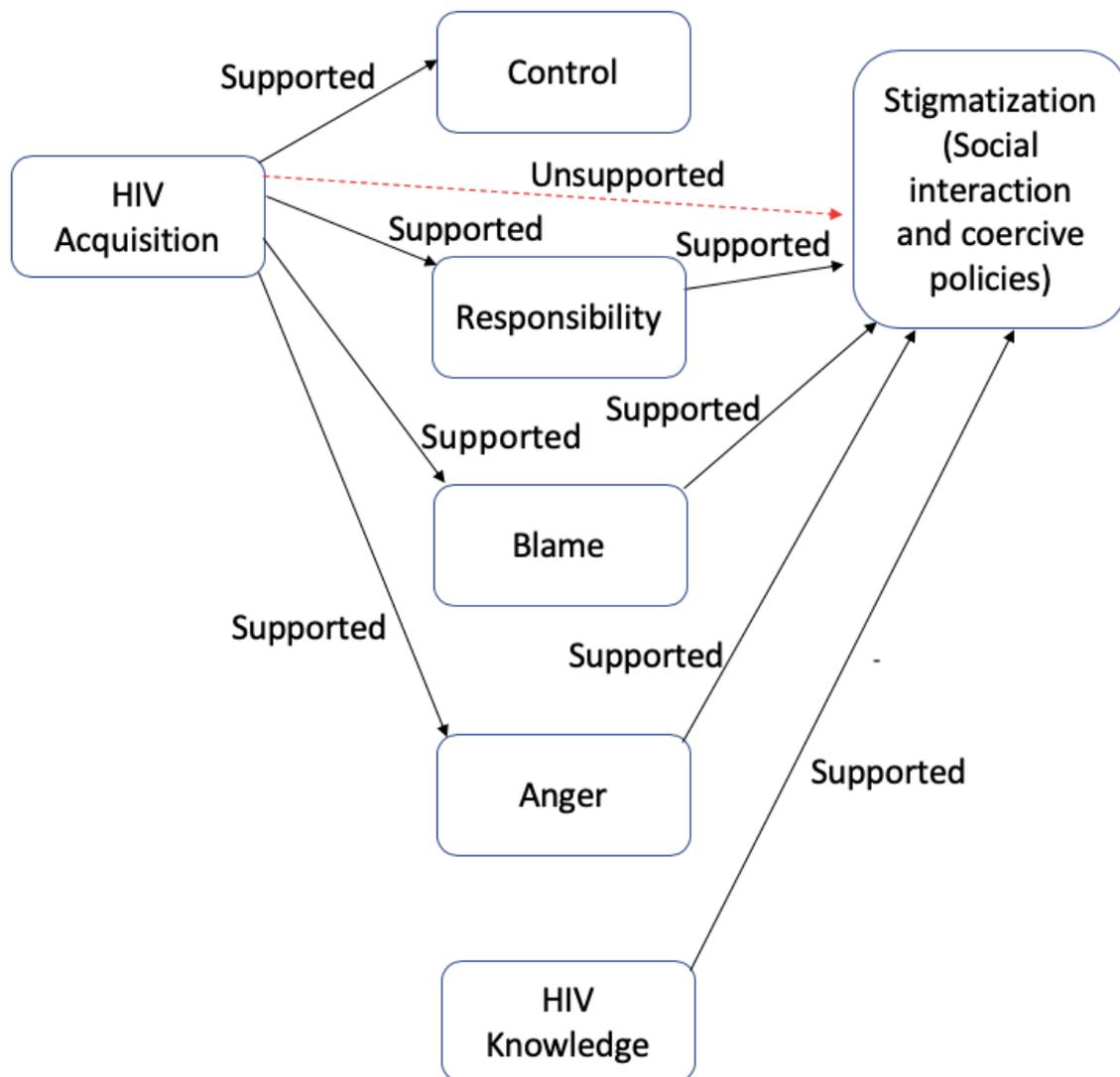


Figure 2

Post Hoc Analysis

Post-hoc tests were conducted to look for relationships between variables that had not been hypothesized. A Pearson's correlation test revealed a statistically significant positive correlation between "my belief in God guides my everyday life decisions" and support for coercive policies $r(103) = .26, p = .006$, as well as a statistically significant negative relationship between "my belief in God guides my everyday life decisions" and willingness to interact socially $r(103) = -0.36, p < .001$. The belief in God, and its influence on everyday decisions also had a statistically significant positive correlation with perceived blame for the PLWHA $r(103) = .23, p = .016$, as well as a statistically significant positive correlation with perceived responsibility for the PLWHA $r(102) = .20, p = .044$.

There was also a statistically significant negative correlation between participants who feel their belief in God guides their everyday life decisions, and participants who do not believe that it is okay to engage in premarital sex $r(104) = -0.696, p < .001$. Likewise, a post-hoc Pearson's correlation test also revealed a statistically significant negative correlation between the belief that it is okay to engage in premarital sex and support for coercive policies $r(103) = -0.20, p = .044$, as well as a statistically significant positive correlation between the belief that it is okay to engage in premarital sex and a willingness to engage in social interaction with PLWHA $r(103) = .35, p < .001$. Additionally, there were statistically significant negative correlations between the belief that it is okay to engage in premarital sex and perceived anger $r(103) = -0.23, p =$

.021, perceived blame $r(103) = -0.20$, $p = .037$, perceived responsibility $r(102) = -0.23$, $p = .017$, and perceived control $r(103) = -0.27$, $p = .005$, towards PLWHA.

Chapter 5. Discussion

The primary purpose of this study was to evaluate the attitudes towards PLWHA among undergraduate students in a liberal city in the Pacific Northwest. The location of the study is a unique contribution to the literature because the existing literature largely covers attitudes toward PLWHA in more conservative areas of the United States, such as the Midwest and the South (Lee et al., 1999; Kerr et al., 2014; Darlington & Hutson, 2017). The application of attribution theory in the context of attitudes towards PLWHA appears to be largely absent in the Pacific Northwest. At first glance, it might seem that the liberal values associated with Pacific Northwest cities, such as secularism, equal rights, and concern for shared community interests (Hertzberg, 2010; Feuerherd, 2017) would be at odds with the discriminatory attitudes towards PLWHA. The results of this study demonstrated that stigmatizing attitudes exist even in cities with liberal values.

This study sought to compare how differing circumstances of HIV acquisition affected the attitudes of students towards PLWHA. It was hypothesized that student participants would attribute greater control, responsibility, blame, and anger towards PLWHA who had acquired HIV from circumstances perceived as being under personal control, such as through sexual activity, as opposed to acquiring HIV from circumstances out of personal control, such as a blood transfusion. It was also hypothesized that attributions of blame, anger, and responsibility for the acquisition of HIV would be positively related to stigmatizing attitudes in the form of support for coercive policies and a decreased willingness to engage in social interaction. Lastly, a research question was

proposed, inquiring whether a negative relationship existed between knowledge about HIV and stigmatizing attitudes.

There was a statistically significant difference between participant evaluations of a person who acquired HIV from sexual activity compared to acquiring HIV from a blood transfusion. As expected, participants evaluated the person who had acquired HIV from Unprotected Sex as having the most control over their HIV status, followed by the person who had acquired HIV from Protected Sex, followed by the person who acquired HIV from the Blood Transfusion. These results are consistent with the levels of causation intentionality which reason culpability for actions are moderated by factors such as whether the act was performed intentionally, and whether the outcome could have been predicted or prevented (Heider, 1958; Shaver 1975). As explained by Heider (1958), the degree of perceived exertion put forth, combined with ability to achieve the task, influences the amount of perceived control attributed by onlookers to the outcome of their actions. Not exerting the effort of using a condom for the prevention of HIV, yet having the ability to do so, allows the person in the Unprotected Sex condition a high level of control over their actions. To exert the effort of using a condom for the prevention of HIV, and not having the ability to avoid the condom breaking, yet having the ability to choose to have sex, allows the person in the Protected Sex condition a moderate level of control over their actions. To be involved in an accident and receive a blood transfusion that results in acquiring HIV involves minimal exertion and no ability to avoid acquiring HIV, thus the person in the Transfusion condition had the lowest level of control over their actions.

For the emotions of responsibility and blame, participants evaluated the person who acquired HIV from the Blood Transfusion to be significantly less responsible and blameworthy for their HIV status as compared to the Unprotected Sex and Protected Sex conditions. The lack of significant difference between the Unprotected Sex and Protected Sex conditions may be due to the fact that both conditions involved HIV acquired from promiscuous sexual activity, as opposed to the Blood Transfusion condition in which HIV was acquired as the result of an accident. In her study regarding attitudes towards AIDS patients based on controllability and sexual promiscuity, Pullium (1993) found that sexual promiscuity increased judgmental attitudes towards the patient. When patients had multiple partners, they were perceived to be more deserving of their HIV status and received less sympathy from participants (Pullium, 1993).

In the current study, the emotion of anger was evaluated similarly to responsibility and blame, such that greater anger was attributed to the person with HIV in the Unprotected Sex and Protected Sex conditions, with no significant difference, and significantly less anger was attributed towards the person with HIV in the Blood Transfusion condition. Anger is a value judgment, elicited by the belief that a person failed to do what they were supposed to do (Weiner, 2006). Anger is closely tied to responsibility, such that a person failed to fulfill obligations for which they were responsible, which arouses anger and can lead to further actions of retaliation (Weiner, 2006). Participants in the Unprotected Sex condition may have been perceived as failing to fulfill their responsibility to behave in a sexually responsible way, as they are supposed to, thus eliciting anger.

Participants who perceived that the person was responsible and blameworthy for their HIV were less willing to engage in social interactions with that person, and were more supportive of coercive policies towards PLWHA. Participants who felt greater anger towards the person with HIV were also less willing to engage in social interactions with that person, and were more supportive of coercive policies toward PLWHA; Heider (1958) described ought requirements as impersonal orders of what we are supposed to do, and a person who violates the ought requirements can expect to be punished. The participants may have imposed social sanctions and supported coercive policies that restrict the freedoms and privacy of PLWHA as a form of punishment or retribution for the violation of ought requirements. There were no statistically significant relationships between the onset circumstances of HIV acquisition and stigmatizing attitudes; instead the stigmatizing attitudes only manifested in relation to the causal emotion. This finding has important implications for future stigma reduction campaigns because it highlights that causal emotions, not onset circumstances, are the key factors which must be addressed in order to influence stigmatizing attitudes.

The research question asking if there is a negative correlation between stigmatizing attitudes and knowledge about HIV tentatively indicates support for an inverse relationship. Initially, results revealed that greater knowledge about HIV is associated with a greater willingness to interact socially as well as decreased support for coercive policies. However; when the four participants who mistakenly identified the Protected Sex condition as Unprotected Sex were removed from the analytic sample, the only significant result was between knowledge about HIV and a greater willingness to

interact socially. Furthermore, when participants who had high scores on the social desirability scale were removed from the original analytic sample, the only significant result was between knowledge about HIV and a greater willingness to interact socially. This suggests that social desirability may have an effect on the way that people answer questions about coercive policies, and honest answers may be more conservative than the responses given. Furthermore, it appears that knowledge about HIV may not decrease support for coercive policies. Herek et al. (2003) identified a positive correlation between the stigmatizing policy of name-based reporting and negative attitudes towards PLWHA. Combined with the results of the current study, this suggests that support for coercive policies is rooted in attitudinal beliefs as opposed to a fear of infection. If the support for coercive policies were associated with a fear of infection, support would presumably decrease as knowledge increased because higher levels of knowledge regarding HIV transmission is positively correlated with lower levels of fears about infection (Locke et al., 2014).

Attributions of anger were reduced when the participants who mistakenly identified the Protected Sex condition as Unprotected Sex - thus failing the manipulation check were removed from the analytic sample. Specifically, greater anger was only attributed to the Unprotected Sex condition and no longer attributed to the Protected Sex condition, and participants who felt greater anger towards the person with HIV no longer supported coercive policies at a significant level. This finding was surprising, because it would seem that unprotected sex due to a condom breaking might be seen as uncontrollable or accidental, and therefore elicit less judgment from participants. One

possibility is that participants responded with anger because, despite the initial use of the condom, the choice to engage in sexual activity with multiple partners was still a controllable activity. Another possibility may be that the participants did not misinterpret the vignette, and instead did not fully read the provided story and assumed no condom was used. In this case, it would be consistent with the results that indicate greater anger is felt towards to people who were perceived to have greater control over their circumstances.

Post-hoc analyses revealed significant relationships between the belief in God and the support for coercive policies as well as a decreased willingness to interact socially with the person with HIV. Additionally, the belief in God had a positive correlation with perceived blame and perceived responsibility for the person with HIV. Johnson (1995) has written about the relationship between HIV/AIDS discrimination and a facet of social traditionalists, specifically religious fundamentalists. According to Johnson (1995), people who ascribe to traditional and religious fundamentalist views are likely to believe that individuals engaging in sinful behaviors must face punishment for deviating from God's rules. Johnson (1995) wrote extensively about the link between homophobic attitudes and attribution of responsibility and blame for acquiring HIV. The current study did not investigate attitudes towards homosexuality; however, post-hoc results regarding attitudes about pre-marital sex offer insight about the potential relationship between religion and attitudes towards perceived promiscuity or sexual deviance that align with Johnson's (1995) research. Post-hoc analyses identified significant relationships between beliefs about premarital sex and stigmatizing attitudes towards PLWHA. Participants

who did not believe that premarital sex is okay were more supportive of coercive policies and were less willing to interact socially with the person with HIV. Furthermore, participants who did not believe that premarital sex is okay perceived that the person with HIV bore more responsibility, was more deserving of blame, and was the subject of greater anger. These results are consistent with Johnson's (1995) assertion that social traditionalism is related to increased discrimination against PLWHA. Granger and Price (2009) have also noted the inverse relationship between sexually permissive attitudes and religiosity, such that greater religiosity is positively associated with conservative sexual attitudes.

Limitations

The participants were recruited using a convenience sample and were lacking in areas of diversity that could have provided greater insight and generalizability to the study, such as race, age, and sexual identity. Additionally, the experiment utilized vignettes to describe specific circumstances of how a person may acquire HIV, which may decrease the generalizability of the results. The vignettes were hypothetical situations to which participants were asked to respond, and therefore only their behavioral intentions were measured as oppose to actual behaviors. It is possible that if confronted with a real-life situation, the reactions from participants may have been different from what was recorded in the experiment. The wording of the vignettes is another limitation that may have influenced the results. The vignettes ascribed agentic language and morally deviant personality characteristics to Brad in the Unprotected Sex and Protected Sex conditions, but not in the Blood Transfusion condition. Participant

attitudes may have been influenced by their reaction to factors in the vignettes other than how Brad acquired HIV.

Conclusion

The current study investigated the attitudes held by undergraduate students towards PLWHA who had acquired HIV in different ways. The results revealed that, overall, student participants perceive PLWHA who acquire HIV from unprotected or protected sex are perceived as having control over their acquisition of HIV. As such, PLWHA who acquire HIV from sexual activity are attributed as more responsible for their HIV, more deserving of blame, and are the recipients of greater anger. Furthermore, the results indicated that participants who felt angry towards PLWHA, perceived PLWHA to be responsible for their HIV, and blameworthy, were also more likely to support coercive policies and were less willing to interact socially with PLWHA. Increased knowledge about HIV was associated with a greater willingness among participants to interact socially with PLWHA; however, increased knowledge about HIV did not have a strong relationship with reduced support for coercive policies.

This research contributes to communication theory by demonstrating attribution theory in a new context: attribution of causal emotions towards PLWHA in a liberal Pacific Northwest city (Feuerherd, 2017), thus indicating the robustness of the revealed effects. Another contribution of this study is the operationalization of stigma as a multidimensional construct, comprised of social interaction and support for coercive policies. Many previous studies have measured stigma with only one scale (Cobb & de Chabert, 2002; Kerr, 2014; Locke et al., 2014; Shapiro, 2005). Additionally, in many

previous studies, stigma has been inconsistently measured as wholly consisting of social distance (Shapiro, 2005; Locke et al., 2014) or including causal emotions themselves in the operationalization of stigma (Cobb & de Chabert, 2002; Herek & Capitano, 1993; Herek & Capitano, 1997). By measuring stigma as a single construct composed of different components, as conceptualized by Link and Phelan (2001), and testing the correlation of each component with the causal emotions, I was able to identify that participants responded differently depending on the stigma component. This operationalization is an important contribution to communication literature because it illuminates the damage that stigmatization can inflict, not only in terms of labels and stereotypes, but also in reference to discrimination and unevenly distributed power. Therefore, the damage that results from stigmatization should not be measured with a single scale, because the outcomes of stigmatization have an effect across a range of variables (Link & Phelan, 2001).

Future research should continue to investigate the beliefs and traits that are associated with stigmatizing attitudes towards PLWHA for the purpose of engaging influential leaders within these belief systems who can help to build a bridge between discrepant views and misaligned values. The post-hoc results suggested a relationship between religiosity and greater stigmatization against PLWHA. The relationship between religiosity and greater stigmatization against PLWHA has been noted in other studies (Blevins et al., 2019); however, the potential that faith-based organizations (FBOs) have for curtailing and redirecting stigmatization into something more positive is an area of research that deserves more attention. Churches and FBOs have the ability to connect

with large amounts of people in order to disseminate information and messages of compassion for PLWHA (Sutton & Parks, 2013). The collaboration of public health agencies and FBOs have been connected to outcome improvements in public health concerns such as teen pregnancy and hypertension, particularly when faith leaders were supportive and part of the intervention effort (Sutton & Parks, 2013).

Foege (2019) emphasizes two lessons that should be considered in campaigns and initiatives directed by FBOs to combat the stigmatization and spread of HIV/AIDS. The first is to promote respect towards PLWHA, rather than tolerance (Foege, 2019). This is because tolerance suggests that, in tolerating another person's lifestyle or beliefs, one's own beliefs are superior (Foege, 2019). The second lesson is the importance of forming networks between FBOs, public health, and cultural groups as a means of mixing beliefs and collaborating to form a solution (Foege, 2019). There are FBOs that have embraced these lessons and led initiatives to challenge the stigmatizing attitudes that exist within their own religious communities and traditions (Blevins, 2019). The Ecumenical HIV and AIDS Initiatives and Advocacy Alliance has campaigned for access to treatment and education, coordination of resources, and the eradication of stigmatizing attitudes towards HIV/AIDS and PLWHA (World Council of Churches, 2019). Initiatives have included faith leaders testing for HIV to challenge HIV test stigmatization and inspire others to be tested (World Council of Churches, 2019). A Framework for Dialogue tool has been used in Africa and Asia to initiate equal and respectful dialogue between PLWHA, stakeholders, and faith institutions (Framework For Dialogue, 2015).

Results from the current study suggest that knowledge about HIV may be insufficient to decrease stigmatization towards PLWHA, particularly regarding support for coercive policies. Instead, stigma reduction campaigns could be strengthened by addressing knowledge about HIV in addition to the causal emotions of responsibility, blame, and anger that correlate with stigmatization. The results from this study indicate the importance of addressing causal emotions to influence stigmatizing attitudes. The circumstances of HIV onset bore no relationship to the attitudes that participants harbored, but statistically significant relationships existed between stigmatizing attitudes and each of the causal emotions examined. Based on these results, a recommendation for future stigma reduction campaigns is to focus efforts on both knowledge about HIV and attribution of causal emotions to broaden the attitudes and perspectives of campaign target populations.

Previous studies have indicated that college students attribute high susceptibility to HIV/AIDS to individuals who match stereotypical characterizations of PLWHA; and that college students believe themselves to be at low risk of acquiring HIV/AIDS despite partaking in high risk behaviors (Lin et al., 2017). This suggests that stigma reduction campaigns would benefit from including characterizations that break stereotypical depictions of PLWHA in order to broaden the conceptualization of who is affected by HIV/AIDS. The use of narratives as channels for stigma reduction has been supported in previous literature (Chung & Slater, 2013; Heley, Kennedy-Hendricks, Niederdeppe, & Barry, 2019). Narratives deliver messages to recipients in a way that promotes emotional immersion in the story and connection with the characters, thus influencing how the

recipient attributes causes and solutions for problems (Heley et al., 2019). Campaigns could use narratives to provide recipients with non-stereotypical portrayals of PLWHA, and use the structure of the narrative to influence attribution of causal emotions to situational factors rather than to the individual.

The current study illuminates the continued existence of stigmatizing attitudes and attributions of responsibility, blame, and anger that are cast onto PLWHA, even in a liberal Pacific Northwest city. Future campaigns that intend to reduce stigmatizing attitudes towards PLWHA should consider that social judgments are deep-seeded and more difficult to influence than knowledge levels (Jain et al., 2013). Yet, it is imperative that all aspects of stigmatization, including knowledge, and social judgments, are addressed for a campaign to effectively combat stigma and discrimination (Jain et al., 2013). This study contributes to the field of communication with the finding that the causal emotions related to stigmatizing attitudes bear much more relevance than the circumstances of HIV acquisition when it comes to stigma reduction campaigns. Campaigns may be strengthened by the inclusion of messages or narratives that invoke causal emotions and transform attribution to the individual into attribution to external and situational factors; and less concern can be placed on how an individual acquired HIV in campaign messaging.

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Appendix A. Survey Instrument

Q1 Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is *true* or *false* as it pertains to you personally.

	True (1)	False (2)
It is sometimes hard for me to go on with my work if I am not encouraged. (1)	<input type="radio"/>	<input type="radio"/>
I sometimes feel resentful when I don't get my way. (2)	<input type="radio"/>	<input type="radio"/>
On a few occasions, I have given up doing something because I thought too little of my ability. (3)	<input type="radio"/>	<input type="radio"/>
There have been times when I felt like rebelling against people in authority even though I knew they were right. (4)	<input type="radio"/>	<input type="radio"/>
No matter who I'm talking to, I'm always a good listener. (5)	<input type="radio"/>	<input type="radio"/>
There have been occasions when I took advantage of someone. (6)	<input type="radio"/>	<input type="radio"/>
I'm always willing to admit it when I make a mistake. (7)	<input type="radio"/>	<input type="radio"/>
I sometimes try to get even rather than forgive and forget. (8)	<input type="radio"/>	<input type="radio"/>
I am always courteous, even to people who are disagreeable. (9)	<input type="radio"/>	<input type="radio"/>
I have never been irked when people expressed ideas very different from my own. (10)	<input type="radio"/>	<input type="radio"/>
There have been times when I was quite jealous of the good fortune of others. (11)	<input type="radio"/>	<input type="radio"/>
I am sometimes irritated by people who ask favors of me. (12)	<input type="radio"/>	<input type="radio"/>
I have never deliberately said something that hurt someone's feelings (13)	<input type="radio"/>	<input type="radio"/>

Q2 Please indicate whether each statement is *true* or *false*, or select *I don't know*.

	True (1)	False (2)	I Don't Know (3)
Coughing and sneezing do NOT spread HIV. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A person can get HIV by sharing a glass of water with someone who has HIV. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pulling out the penis before a male climaxes/cums keeps a person from getting HIV. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A person can get HIV from having anal sex. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Showering or washing one's genitals/private parts after sex keeps a person from getting HIV. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All pregnant females infected with HIV will have babies born with HIV. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People who have been infected with HIV quickly show serious signs of being infected. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a vaccine that can stop people from getting HIV. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People are likely to get HIV by deep kissing, putting their tongue in a partner's mouth, if their partner has HIV and cuts in their mouth. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is possible to get HIV when a person gets a tattoo if the equipment is not properly cleaned. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using a latex condom or rubber can lower a person's chance of getting HIV. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A natural skin [lamb skin] condom works better against HIV than does a latex condom. (12)

A person will NOT get HIV if s/he is taking antibiotics. (13)

Having sex with more than one partner can increase a person's chance of being infected with HIV. (14)

Taking a test for HIV one week after having sex will tell a person if she or he has HIV. (15)

A person can get HIV by sitting in a hot tub or a swimming pool with a person who has HIV. (16)

A person can get HIV from oral sex. (17)

Using Vaseline or baby oil with [latex] condoms lowers the chance of getting HIV. (18)

(Protected Sex Condition)

Q3 Please carefully read the excerpt below before continuing on to the next page:

Brad is a 25-year-old heterosexual male who attends Portland State University and enjoys spending time with his friends. Brad has engaged in sexual intercourse with many different women over the course of the last couple years, but always uses condoms as protection. Brad also loves to party, and Brad vaguely recalls his condom breaking during a "hook up" at a party. Because it has been a while since Brad's last physical check-up, he decides to visit his doctor. At Brad's appointment, his doctor asks him if he has ever been tested for HIV. Brad replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, Brad's test results come back. Brad's doctor tells him that he has been infected with HIV, the virus that leads to AIDS.

(Blood Transfusion Condition)

Q4 Please carefully read the excerpt below before continuing on to the next page:

Brad is a 25-year-old heterosexual male who attends Portland State University and enjoys spending time with his friends. A little over one year ago, Brad was involved in a serious car accident. Police ruled that the accident was not Brad's fault. Brad needed to have a blood transfusion in order to survive. At the time of Brad's blood transfusion, it was possible to be infected with HIV because donor blood could not be screened for the virus. Brad fully recovered from his accident. Because it has been a while since Brad's last physical check-up, he decides to visit his doctor. At Brad's appointment, his doctor asks him if he has ever been tested for HIV. Brad replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, Brad's test results come back. Brad's doctor tells him that he has been infected with HIV, the virus that leads to AIDS.

(Unprotected Sex Condition)

Q5 Please carefully read the excerpt below before continuing on to the next page:

Brad is a 25-year-old heterosexual male who attends Portland State University and enjoys spending time with his friends. Brad has been engaging in unprotected sexual intercourse with many different women over the course of the last couple years. Brad also loves to party, and vaguely recalls having "hooked-up" without using a condom several times while attending parties. Because it has been a while since Brad's last physical check-up, he decides to visit his doctor. At Brad's appointment, his doctor asks him if he has ever been tested for HIV. Brad replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, Brad's test results come back. Brad's doctor tells him that he has been infected with HIV, the virus that leads to AIDS.

Q12 In the excerpt you read, how did Brad contract HIV?

- A blood transfusion. (1)
- Sex without using a condom. (2)
- The condom broke during sex. (3)
- Injection drug use. (4)

Q13 Please indicate the degree to which you agree or disagree with the following statements:

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
It is okay to engage in premarital sex. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My belief in God guides my every day life decisions. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 How likely are you to get tested for HIV in the next 6 months?

- Extremely likely (1)
- Somewhat likely (2)
- Neither likely nor unlikely (3)
- Somewhat unlikely (4)
- Extremely unlikely (5)

Q15 Do you have any friends or family who are affected by HIV/AIDS?

- Yes (1)
- No (2)

Q16 What is your sexual orientation?

- Heterosexual (1)
- Homosexual (2)
- Other (3)
- Prefer not to say (4)

Q17 What ethnicity do you identify as?

- White/Caucasian (1)
- African American/Black (2)
- Latino/a (3)
- Asian (4)
- Other/Unlisted (5)

Q18 What year were you born?

▼ 2000 (1) ... 1900 (101)

Q19 What gender do you identify as?

- Male (1)
- Female (2)
- Other (3)

Appendix B. Vignettes

Unprotected Sex Condition

Please carefully read the excerpt below before continuing on to the next page:

Brad is a 25-year-old heterosexual male who attends Portland State University and enjoys spending time with his friends. Brad has been engaging in unprotected sexual intercourse with many different women over the course of the last couple years. Brad also loves to party, and vaguely recalls having "hooked-up" without using a condom several times while attending parties. Because it has been a while since Brad's last physical check-up, he decides to visit his doctor. At Brad's appointment, his doctor asks him if he has ever been tested for HIV. Brad replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, Brad's test results come back. Brad's doctor tells him that he has been infected with HIV, the virus that leads to AIDS.

Protected Sex Condition

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Brad is a 25-year-old heterosexual male who attends Portland State University and enjoys spending time with his friends. Brad has engaged in sexual intercourse with many different women over the course of the last couple years, but always uses condoms as protection. Brad also loves to party, and Brad vaguely recalls his condom breaking during a "hook up" at a party. Because it has been a while since Brad's last physical check-up, he decides to visit his doctor. At Brad's appointment, his doctor asks him if he has ever been tested for HIV. Brad replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, Brad's test results come back. Brad's doctor tells him that he has been infected with HIV, the virus that leads to AIDS.

Blood Transfusion Condition

Please carefully read the excerpt below before continuing on to the next page:

Brad is a 25-year-old heterosexual male who attends Portland State University and enjoys spending time with his friends. A little over one year ago, Brad was involved in a serious car accident. Police ruled that the accident was not Brad's fault. Brad needed to have a blood transfusion in order to survive. At the time of Brad's blood transfusion, it was possible to be infected with HIV because donor blood could not be screened for the virus. Brad fully recovered from his accident. Because it has been a while since Brad's last physical check-up, he decides to visit his doctor. At Brad's appointment, his doctor asks him if he has ever been tested for HIV. Brad replies that he has never been tested and gives the doctor permission to draw his blood to test for HIV. One week later, Brad's test

results come back. Brad's doctor tells him that he has been infected with HIV, the virus that leads to AIDS.