

HIV is not a Crime: Exploring Criminalization and Discrimination in a Dual Model of
HIV/AIDS Minority Stress

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ABSTRACT

HIV is not a Crime: Exploring Criminalization and Discrimination in a Dual Model of

HIV/AIDS Minority Stress

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Although scholars have written extensively about the effects of interpersonal HIV stigma on people living with HIV/AIDS (PLWHA), there is a dearth of information about the psychological and behavioral impact of structural HIV stigma. The current study builds on previous work investigating the dual roles of structural and interpersonal minority stressors with a national sample of 234 PLWHA by testing an HIV/AIDS-specific expansion of *minority stress theory* grounded in the *psychological mediation framework*. Through bivariate correlations and structural equation modeling, the study examined relations between four sets of variables: (1) distal stigma-related stressors (i.e., HIV criminalization by state, HIV-related discrimination), (2) general psychological processes (i.e., social support, cognitive reappraisal), (3) group-specific processes (i.e., HIV criminalization belief, HIV stigma), and (4) mental/behavioral health outcomes (i.e., psychological distress, health-related quality of life). Results provide mixed support for a dual, mediated model of HIV/AIDS minority stress. Findings indicate mixed support for hypothesized associations. HIV criminalization by state yielded a significant negative direct and significant positive indirect association with psychological distress. HIV-related discrimination yielded direct and indirect associations with both health outcomes. With the exception of cognitive reappraisal, mediators demonstrated support for the psychological mediation framework among PLWHA. Implications are discussed in support of future HIV/AIDS minority stress research, as well as clinical and policy interventions.

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Chapter I: Introduction

The purpose of this study is to understand the impact of *HIV criminalization* – the use of criminal law to penalize alleged, perceived, or potential transmission of HIV – and *HIV-related discrimination* on the psychological and behavioral wellness of people living with HIV/AIDS (PLWHA). Since the beginning of the epidemic, stigma and fear have played key roles in the mistreatment of PLWHA (Chesney & Smith, 1999; Henkel, Brown, & Kalichman, 2008; Starks, Rendina, Breslow, Parsons, & Golub, 2013). The most systemic manifestation of this stigma is HIV criminalization, or the system of legal punishment for alleged, perceived, or potential HIV transmission. PLWHA not only face HIV-related interpersonal stigma (Berger et al., 2001), but also live with the prospect of criminal prosecution for acts of consensual sex, drug use, and conduct – such as biting and spitting – that typically pose little to no significant transmission risk (Dodds, 2008; Dodds, Bourne, & Weait, 2009; Dodds & Keogh, 2006; Dodds, Weait, Bourne, & Egede, 2015). Although scholars and community organizers have scrutinized these laws for their lack of utility (Bernard, 2010; Cameron, 2009), the psychological associations of structural and interpersonal HIV stigma with mental/behavioral health has yet to be fully investigated.

The call for this line of inquiry is justified given that 32 states, two territories, and the federal government have statutes criminalizing HIV transmission risk and, thus, criminalizing PLWHA (Lehman et al., 2014); see Appendix A for an outline of a state-by-state legislation. HIV criminalization is typically enacted in three ways: (1) through the creation of HIV-specific exposure and transmission laws, (2) through the application of general laws (e.g., homicide, assault, and attempt laws) in ways that target people for HIV transmission, and (3) through requiring HIV-positive people to register as sex offenders based on the interaction of their crime and their HIV status (Cameron, 2009; Mykhalovskiy, 2011, 2015). Laws in the first category –

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those imposing specific penalties on PLWHA for actual or potential transmission – are commonly referred to as *HIV criminal laws*, and exist in 33 states in the US. Laws in the second category – those enhancing penalties for ‘risk’ behavior when an offender is HIV-positive – are typically referred to as *sentence enhancement statutes*. These laws specify stricter penalties or a higher grade of offense when certain criteria are met (Lehman et al., 2014; Mykhalovskiy, 2011). In Ohio, for example, sex work by an HIV-negative or HIV-unknown person is graded as a misdemeanor. Sex work by an HIV-positive person, however, is graded as a felony punishable by an additional five years imprisonment. The majority of these laws were passed before 2000, during an era before it was identified that PLWHA who are medication adherent are virtually unable to transmit HIV to others (Cameron, 2009; Lazzarini, Bray, & Burris, 2002). The surface goals behind HIV criminal laws are to encourage HIV status disclosure and minimize sex and drug-related behavior that poses a high risk of transmission (Lehman et al., 2014; Marks, Crepaz, & Janssen, 2006). The deeper goals, as argued in this paper, may be to further isolate and control PLWHA: a diverse, often-minority population disproportionately made up of already criminalized, marginalized groups.

Activists and scholars typically define HIV criminalization as *overly broad* use of criminal law. HIV, after all, is the only medical condition in the United States that, when undisclosed, can result in a felony conviction and up to 60 years of prison time. HIV criminalization leads in many cases to decreases in HIV testing and disclosure, and increases in stigma, shame, and the incarceration of PLWHA for up to 65 years (Lazzarini et al., 2002; Lehman et al., 2014). HIV criminal laws, after all, are rooted in a complicated history of HIV stigma. During the early years of the epidemic, a number of states instituted HIV-specific legislation imposing criminal penalties on PLWHA who knew their status and potentially

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exposed others to HIV (CDC, 2015b). In 1990, the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act was instituted. This Act set aside federal funding for states to provide AIDS treatment and care. In order for states to receive this funding, however, there was a mandate that each institute criminal laws adequate enough to prosecute PLWHA who knowingly put others 'at risk.' By 2011, a total of 67 laws across 32 states were instituted that explicitly prosecuting PLWHA. These laws vary regarding what behavior is criminalized or result in additional penalties. Twenty-four states had instituted laws requiring people who were aware they had HIV to disclose their status to sex partners; 14 instituted similar laws requiring disclosure to needle-sharing partners. Twenty-five states instituted laws criminalizing behaviors that pose low or negligible risk for transmission (e.g., spitting and biting) (CDC, 2015b).

Although these laws were established to prevent HIV transmission, their utility has come under intense scrutiny in recent years (Lehman et al., 2014). Studies, for example, have demonstrated that HIV criminal laws exacerbate HIV stigma (Horvath, Meyer, & Rosser, 2016), interfere with public health and community-based HIV prevention (Dodds, 2008; Dodds et al., 2009; Dodds & Keogh, 2006; Dodds et al., 2015), and impact the well-being of PLWHA (O'Byrne, Bryan, & Woodyatt, 2013). Additionally, HIV criminal laws tend not take risk reduction measures into account, including the use of condoms, clean needles during intravenous drug use, treatment as prevention, or pre-exposure prophylaxis (PrEP) (Bernard, 2010; CDC, 2015b; Grant, 2013; Mykhalovskiy, 2011; Symington, 2009). Of note, HIV criminal laws assign full responsibility for non-transmission on the person living with HIV, without also assigning responsibility for the HIV-negative or -unknown person to use preventative methods (Schulman, 2016).

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The criminalization of PLWHA has been historically grounded in and influenced by racism, misogyny, and heterosexism (Schulman, 2016). The first high-profile case in the US is demonstrative of the racist manner through which primarily men of color living with HIV/AIDS have been prosecuted for potential HIV transmission. In 1997, NuShawn Williams, a 19-year old Black drug dealer from Brooklyn, was accused of infecting numerous White women with HIV. Although the women reported in court their sex was consensual and occurred before Williams was aware of his HIV status, he was characterized a ‘sexual predator’ who preyed on ‘innocent’ women (Buchanan, 2015). The racialized sexual dynamics of this case were explicit. However, the centuries-old cultural production of Black men as rapists and White women as virgins – described by Angela Davis (1981) as the “myth of the black rapist” – was implicit.

Due to the severity of the convictions over the years, many cases became high profile examples of the damaging impact of HIV criminalization. Nick Rhoades, for example, is a White gay HIV-positive man living in Iowa. In 2008, he had anal sex *with* condoms with another man, though did not disclose his HIV status. Several days later, that man called the police after learning that Rhoades was HIV-positive. Despite the fact that the Rhoades had an undetectable viral load, the men used condoms, and the accuser did not contract HIV, the police arrested Rhoades in September 2008 and charged him with intentionally exposing the man to HIV. On the advice of his legal counsel, Rhoades pled guilty, and was convicted and sentenced to 25 years in prison and lifetime registration as a sex offender. After Rhoades spent six years in prison, the Iowa Supreme Court set aside his conviction due to evolving science and policy (Young, 2012).

Perhaps the most highly publicized case is that involving Michael L. Johnson, a then 23-year old Black man living in Missouri. In 2014, he was arrested and accused of not disclosing his HIV status before sex. After a five-day trial and two hours of jury deliberation, Johnson received

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a 60-and-half-year sentence recommendation: 30 years on the felony conviction of recklessly transmitting HIV without disclosure; and a concurrent 30-and-a-half years on the four lesser convictions of recklessly exposing another to HIV without disclosure. This sentence is equivalent to a homicide conviction in the state of Missouri (Thrasher, 2015). Scholars and activists have critiqued HIV criminalization as disproportionately affecting people who belong to groups that are otherwise already criminalized. Black people, after all, are incarcerated more than 5.1 times the rate of White people in the US, and 12 states still have sodomy laws on the books (Buchanan, 2015; Mogul, Ritchie, & Whitlock, 2011; Symington, 2009).

These dynamics manifest in disproportionate applications of HIV criminal laws, particularly by gender and race. In Arkansas, for example, the average HIV-related conviction for Black men is 23 years, twice the average among White men (Lehman et al., 2014). In California, women and people of color are disproportionately affected by HIV criminal laws, with women making up 43% of HIV-related convictions despite representing only 13% of PLWHA across the state (Lehman et al., 2014). Additionally, while about 51% of PLWHA in California are Black or Latino, they represent 67% of HIV-related criminal convictions in the state. The application and roll out of these laws is uneven, mirroring other aspects and systems of marginalization that persist in the US. Although the psychological impact of criminalization *in general* has been documented among these groups, scholars have yet to model specific psychological effects of HIV criminal laws in a diverse sample of PLWHA.

In joining with scholarly and policy critiques of HIV criminal laws, the current study investigated ways that HIV criminalization and HIV-related discrimination interact with two general psychological processes (i.e., social support, cognitive reappraisal), and two group-specific processes (i.e., HIV criminalization belief, HIV stigma) to affect mental and behavioral

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health among PLWHA. The manuscript includes a review of the literature, method of inquiry, and the analyses. Specifically, Chapter Two contextualizes the study's aims by providing a review of literature on the ongoing crisis of HIV/AIDS. The literature review aims to position HIV/AIDS within *minority stress theory* (Meyer, 1995, 2003), and each variable is defined and contextualized within this theoretical framework. The purpose of the study and hypotheses are explored. Chapter Three includes information about the method of the study, such as participant and recruitment procedures. Each instrument is defined and contextualized within minority stress and/or HIV/AIDS research. Lastly, Chapter Four details the analyses, providing information about the exploration of descriptive statistics, correlation analysis, and latent variable structural equation modeling. As the aim of the study is to further understand and mitigate the impact of HIV/AIDS minority stressors in the lives of PLWHA, Chapter Five explores potential clinical/policy in support of interventions to buffer HIV/AIDS minority stress.

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CHAPTER II: LITERATURE REVIEW

Chapter Two offers an integrative summary of the literature on the role of criminalization and discrimination in the lives of PLWHA. This literature review begins with an overview of the ongoing crisis of HIV/AIDS in the United States. Within this review, HIV/AIDS is defined, and PLWHA are contextualized as a minority group with particular psychosocial stressors related to their chronic illness and intersecting minority identities. HIV stigma and the intimately related history of HIV criminalization are explored. The review then aims to contextualize HIV criminalization and discrimination within *minority stress theory* (Meyer, 1995, 2003), a model describing the unique role discrimination plays in causing disproportionate levels of stress faced by individuals in stigmatized minority groups. Particular attention is given to the psychological mediation framework posited by Hatzenbuehler (2009) in order to build rationale for the current study's theoretical approach. Following a review of this theory, each tenet of the study is operationalized and explored within the nuanced context of HIV/AIDS minority stress.

Ongoing Crisis of HIV/AIDS

HIV/AIDS. *Human immunodeficiency virus*, commonly known as HIV, is a virus that compromises the body's immune system. Although its origins are unclear, scientists have identified a particular type of chimpanzee in Central America as the source of the virus. Humans were first infected with a chimpanzee-affecting strand known as simian immunodeficiency virus, or SIV, when people started hunting the animals for meat in the late 1800s. The virus spread over continents over the next two decades, and was first identified in the United States in the mid- to late-1970s. According to the World Health Organization (WHO), there were approximately 36.9 PLWHA at the end of 2014 (WHO, 2016). The vast majority live in low- to middle-income countries, primarily in Sub-Saharan Africa. According to the Centers for Disease Control (CDC),

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there were approximately 1.2 million PLWHA in the United States at the end of 2014, with approximately 44,073 new infections in the same year (CDC, 2016).

HIV is a type of lentivirus, meaning it causes deficiency in its host's immune system. It spreads through certain body fluids (e.g., breast milk, semen, and blood), and attacks immune cells named *CD4 cells* that typically fight infection. HIV is particularly dangerous because it uses CD4 cells to make copies of itself, mutating into new, complicated strains. Over time, HIV can destroy so many CD4 cells that a person's immune system is no longer strong enough to fight off diseases – and people are left vulnerable to opportunistic infections and cancers. There is no cure. Unlike with many other viruses, once a person is infected with HIV, they are unable to remove HIV from their system completely.

Although there is no cure for HIV, treatment has advanced tremendously since the early days of the epidemic. Medications used to treat HIV are called *highly active antiretroviral therapy*, or HAART. These medications do not cure HIV; rather, they prevent the virus from multiplying (i.e., making copies of itself), reducing the amount of HIV in a person's body (i.e., viral load) and increasing the amount of CD4 cells (i.e., CD4 count). HAART prevents progression of HIV, and reduces the likelihood of transmission to others. Treated, the effect of the virus on one's immune system can be controlled.

Untreated, HIV can be fatal. Without medical intervention, PLWHA tend to progress through three stages of the disease: (1) acute HIV infection, (2) clinical latency, or HIV dormancy, and (3) acquired immunodeficiency syndrome, or AIDS (CDC, 2015a). The first stage, *acute HIV infection*, occurs within the first two to four weeks after a person is infected. In this stage, people tend to experience flu-like symptoms for a number of weeks; they typically have a high viral load, or elevated amount of virus in their blood, and are highly infectious. The

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second stage, *clinical latency*, can last from one to over ten years. During this stage, people may or may not be asymptomatic. HIV during this time typically still mutates and reproduces, though at significantly lower levels than before. At the end of this stage, viral load spikes, and CD4 count drops dramatically. The third stage, *AIDS*, is the most severe. During this time, one's immune system has become so compromised that it can no longer fight off infections or diseases. People who are untreated typically survive three years in this stage, and suffer from symptoms including fever, sweats, chills, swollen lymph glands, weight loss, and weakness. People with AIDS are highly infectious due to the elevated viral load. With treatment, people may be able to move from stage three to stage two, and HIV becomes a chronic, manageable disease. Without treatment, most people who die during this stage die from opportunistic infections.

HIV/AIDS incidence, prevalence, and health outcomes disproportionately impact multiply marginalized communities. As researcher Whiteside writes, "The burden of HIV is not borne equally" (2008, p. xii). In the US, for example, Black Americans face the most severe burden across racial/ethnic groups, accounting for the highest proportion of new HIV diagnoses (i.e., incidence), those living with HIV (i.e., prevalence), and those ever diagnosed with AIDS (CDC, 2015a). In 2014, 44% (19,540) of new HIV diagnoses were among Black Americans, who make up 12% of the US population. Amongst all Black Americans diagnosed in 2014, an estimated 57% (11,201) were men who have sex with men and 39% (4,321) were young men between 13 and 24 years old (CDC, 2015a). Amongst the US population of PLWHA, one in four is a woman; two of every three women with HIV is Black (CDC, 2015a).

HIV-related health outcomes are also worse for Black people living with HIV than for any other racial/ethnic group. Of Black Americans living with HIV in a 2013 national survey, for example, 79% were linked to HIV services within the first three months of diagnosis; this

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dropped to a 51% retention rate in ongoing care (CDC, 2015a). These numbers are staggering, though unsurprising given the impact of racism and heterosexism on the health of Black and/or LGBT people (Arnold, Rebchook, & Kegeles, 2014). Indeed, Cargill and Stone call HIV/AIDS a *minority health issue*, writing:

The disproportionate impact of HIV infection on racial and ethnic minorities has affected communities already struggling with many social and economic challenges, such as poverty, substance abuse, homelessness, unequal access to health care, and unequal treatment once in the health care system (2005, p. 908).

Complex structural forces, including poverty, misogyny, and social exclusion of LGBT people, have been shown to contribute to the disparate incidence and prevalence rates of HIV amongst minority populations (Thomas & Quinn, 1991). Embedded in each of these forces is stigma.

HIV stigma. Since the beginning of the epidemic, HIV stigma has had a deleterious effect on the lives of PLWHA, as well as efforts to curb and/or prevent the spread of the virus. *Stigma* is commonly defined as the marginalization or devaluation of an individual marked with an ‘undesirable’ characteristic (Dovidio, Major, & Crocker, 2000; Goffman, 1963; Link & Phelan, 2001). People are stigmatized based on a number of traits, including race, social class, ability status, sexual orientation, religious belief, and – as is the case for the present study – chronic illness (Berger et al., 2001; Goffman, 1963). Much of the literature on the concept stems from the early work of Goffman (1963, p. 3), who described stigma as “an attribute that is deeply discrediting,” or a “mark” that is socially devalued. Drawing on research with people suffering from chronic or mental illness, possessing physical deformities, or engaging in socially ‘deviant’ behavior such as homosexuality or criminal behavior, Goffman (1963) argued that people are stigmatized because they deviate from prescribed social norms. The person with a stigmatized

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health status, identity, or behavioral characteristic possesses a ‘spoiled identity.’ They have broken some societal rule or sanction, and thus must be isolated, purified, or exterminated (Goffman, 1963; Parker & Aggleton, 2003).

Stigma is not created in a vacuum. Rather, it is a social construction dependent on the interplay between interpersonal and systemic imbalances in power. Scholars who have written about stigma in the context of the HIV/AIDS epidemic link interpersonal experiences of stigma (e.g., being rejected, denied service, or incarcerated) to structural manifestations of stigma and inequality. Link and Phelan (2001), for example, conceptualize stigma as a social process that exists when labeling, stereotyping, status loss, and discrimination co-occur. Parker and Aggleton (2003) write similarly that stigma occurs at the intersection of culture, power, and difference. Without institutional oppression against PLWHA, for example, PLWHA may not be seen as ‘spoiled’ or ‘deviant.’ Positioning stigma as a social process is critical, as it highlights the interplay between structural and interpersonal discrimination.

With this definition in mind, *HIV stigma* can be thought of as the marginalization or devaluation of PLWHA. Although the deviation of HIV/AIDS has been uniquely constructed, it is not the only stigmatized disease; illness and stigma are tied in unique, persistent ways (Goffman, 1963). Societies have several ways of controlling deviant behavior or pejoratively regarded individuals, and *medicine* is a primary body of control (Alonzo & Reynolds, 1995). Medicine as an institution and a cultural production provides a judgment as to the origin of deviant diagnoses, and potentially cures or controls the outbreak or transmission of an infectious disease. When people turn themselves over to doctors and medical professionals, their deviations become medicalized and reconstructed as ‘disease’ – a socially constructed aberration emerging from the value of life and health as normalcy. Disease is a deviation from health, from what

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medical institutions value. Disease, then, not only infects its host, but mars society. It exposes us to the truth that humans are close to death – that even the healthiest person can become ill, can become the abject other (O'Connor & Yalom, 1997).

Some diseases – psychiatric disorders, HIV/AIDS, venereal diseases, leprosy, and skin conditions, for example – are more heavily laden with projections of fear, danger, and evil than others. Stigmatized illnesses are connected to deviant behavior in two ways: either by (1) producing it – in the case of mental illness such as schizophrenia; or by (2) being a product of it – as is the case with sexually transmitted diseases (Conrad, 1989). People with stigmatized illnesses are devalued, shunned, or otherwise lessened in their life opportunities because their disease discredits any claim of being a moral character or ‘one of us’ (Conrad, 1989). As Sontag (2001) writes, a stigmatized illness becomes no longer simply a myriad of infected cells or unhealthy symptoms, but a mark of deviance: “Illness is the night-side of life, a more onerous citizenship” (2001, p. 3). HIV, Sontag writes, takes on metaphors with science fiction flavor, as if the virus itself were a space invader contaminating the human race with alien toxicity. The non-infected are human, and the infected are alien. When HIV is synonymous with stigma, it becomes no longer simply a lentivirus. It is a harbinger of death: “The generic rebuke to life and to hope is AIDS” (Sontag, 2001, p. 112).

HIV stigma exists in many forms, including the rejection, isolation, blaming, or shaming of PLWHA (Sontag, 2001). Early in the epidemic, the effects of stigma were so severe that the former head of the World Health Organization Jonathan Mann described stigma as a standalone “third epidemic,” following (1) the original acceleration of viral transmission, as well as (2) the subsequent spike in AIDS cases among Black Americans and/or gay men (USAID). Mann claimed that stigma, discrimination, blame, and denial were the most difficult symptoms of

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HIV/AIDS to address – more so than the haunting effects of immunosuppression: fever, fatigue, weight loss, and recurrent infections. Eliminating HIV stigma was identified early in the epidemic as the key to preventing HIV transmission and mitigating the impact of the disease (Pulerwitz, Michaelis, Weiss, Brown, & Mahendra, 2010). HIV stigma is considered a “deeply rooted social process with different manifestations at various levels of society” – with criminalization its highest level of institutionalization (Pulerwitz et al., 2010, p. 273).

Like any other, HIV stigma occurs at multiple levels, across interpersonal, institutional, community, and legislative domains (Pulerwitz et al., 2010). Its effects take many forms, including isolation, verbal and physical abuse, and denial of services, housing, and employment. Experiences of HIV stigma differ by gender, sexual orientation, class, ability status, and race. HIV stigma tends to ‘compound’ with preexisting stigmas, such as those against people of color, queer people, sex workers, and injection drug users; these groups then must face the burdens of intersecting oppressions due to their multiple minority statuses. Common stigma-reducing strategies, however, tend to focus on fighting its effects on an individual level, rather than targeting the structural mechanisms of marginalizing PLWHA (Pulerwitz et al., 2010).

HIV stigma has such an enormous resonance in the lives of PLWHA that there are tens of models outlining its precursors and outcomes. A particularly useful example for the current project is the three-step model proposed by Berger and colleagues (2001), which led to the HIV Stigma Scale utilized for this study. This model outlines the complicated processes through which PLWHA experience, integrate, and respond to perceived stigma – or the awareness of actual or potential social disqualification due to one’s serostatus. In their model, PLWHA are first exposed to *precursors to HIV stigma*. This may mean experiencing perceptions of negative societal attitudes toward PLWHA, as well as knowledge of self as HIV-positive. These

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precursors lead to *perceived stigma of having HIV*; this perceived stigma manifests in awareness of actual or potential social disqualifications, limited opportunities, and negative change in one's social identity. Lastly, PLWHA engage in numerous *possible responses* to integrating HIV stigma. These responses include a change of self-concept, emotional reactions toward those who are stigmatized (i.e., internalized HIV stigma), use of techniques to avoid stigma, challenges to stigmatization (e.g., engaging in HIV/AIDS activism, denial of serostatus, disclosure concerns), and redefined worldviews or priorities. The process of being exposed to, internalizing, and responding to HIV stigma is complex and often has tremendous consequences in people's lives.

HIV-positive as a minority identity. As the literature suggests, receiving a diagnosis of HIV has an enormous impact on people's lives. When individuals are diagnosed, they tend to undergo HIV-related identity development processes similar to those amongst racial and ethnic minorities (E. J. Smith, 1991) and LGBT individuals (Bilodeau & Renn, 2005). Importantly, they often also *are*, in fact, racial/ethnic minorities and/or LGBT individuals. These processes often include cognitive and emotional shifts, renegotiations of self-concept, and immersion into HIV/AIDS-related communities. This process of identity development often leads individuals to actively claim being HIV-positive as a core aspect of their self-concepts: a process often referred to as developing HIV identity centrality (Baumgartner, 2007; Dozier, 1997; Gurevich, 1995; J. Lewis, 1994; Sandstrom, 1990).

Given the aforementioned impact of HIV stigma, a significant component of the HIV identity centrality process is the internalization of stigma. Once diagnosed with HIV, many individuals tend to become hyperaware of their disease, especially its transmittable, devalued properties (Baumgartner, 2007; J. Lewis, 1994). The impact of stigma tends to shift over time and due to situational changes in people's lives; its impact is often buffered when PLWHA

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develop coping strategies and a sense of mastery of their illness (Baumgartner, 2012). Regardless of its variability, the ubiquity of stigma in the identity development process illuminates its impact. With these HIV-related identity development processes in mind, being HIV-positive can be understood as an identity unto itself. Taken one step further, being HIV-positive can be understood as a marginalized, or *minority*, identity.

The following sections thus position HIV/AIDS within the context of *minority stress theory*, a useful framework for understanding the associations of discrimination with health disparities among marginalized groups (Meyer, 1995, 2003). First, the theoretical framework is defined, with particular attention to recent expansions including a *psychological mediation framework* of minority stress (Hatzenbuehler, 2009). Following this definition, predictor, mediator, and outcomes variables are operationalized and contextualized in the lives of PLWHA.

Positioning HIV/AIDS within Minority Stress Theory

Minority stress theory. *Minority stress theory* (MST) is a potential framework for understanding the psychological impacts of HIV-related stressors among PLWHA. Most often conceptualized with lesbian, gay, and bisexual (LGB) populations, MST posits that individuals who embody socially stigmatized identities report poorer psychological functioning and compromised well-being as a result of contending with discrimination (Brooks, 1981; Meyer, 1995, 2003; Moritsugu & Sue, 1983). Minority stress was first defined by Brooks as “a state intervening between the sequential antecedent stressors of culturally sanctioned, categorically ascribed inferior status, resultant prejudice and discrimination, the impact of these forces on the cognitive structure of the individual, and consequent readjustment or adaptational failure” (1981, p. 84). Brooks (1981) wrote early on about the impact of minority stressors on the lives of lesbians, expanding on previous research that explored the relationship between minority identity

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and mental/behavioral health outcomes. Rather than simply making connections between having a marginalized identity and such outcomes, Brooks argued that discrimination experiences predict disproportionate distress. Mortisugu and Su (1983) built on this argument by linking discrimination to elevations in stress, adjustment issues, and adverse health outcomes.

MST has held enormous utility in illustrating the processes through which discrimination elevates rates of distress among oppressed groups. In addition to experiencing general stressors, such individuals also experience unique, *group-specific minority stressors* that are chronic and socially bound. Building on work by Lazarus and Folkman (1984), Meyer (1995, 2003) proposed a model of sexual minority stress with LGB people illustrating that both distal stressors (i.e., stressors *external* to the person, such as experiences of rejection or heterosexist discrimination) and proximal stressors (i.e., stressors *internal* to the person, such as rejection sensitivity or LGB stigma consciousness) coalesce in disproportionately high rates of psychological distress. For LGB people, experiences of heterosexism and related victimization experiences predict elevated rates of depression, anxiety, suicidal ideation, and decreased health-related quality of life (Brooks, 1981; Burns, Kamen, Lehman, & Beach, 2012; DiPlacido, 1998). In one study with 74 bereaved gay men, for example, minority stress experiences directly predicted elevations in HIV risk behavior, substance use, and depressive symptoms (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008). Minority stressors have also been shown to predict elevations in body image issues amongst LGB (Kimmel & Mahalik, 2005) and transgender (Velez, Breslow, Brewster, Cox, & Foster, 2016) adults, further demonstrating its impact on mental/behavioral health.

Evidence for the associations of minority stressors – both structural and interpersonal – has been documented extensively across diverse minority groups. Although the bulk of research has been conducted amongst LGB individuals, the associations of group-specific discrimination

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with psychological distress has been found amongst people of color (Alamilla, Kim, & Lam, 2009; Saldaina, 1994; Williams, Yu, Jackson, & Anderson, 1997), transgender people (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Breslow et al., 2015; Gamarel, Reisner, Laurenceau, Nemoto, & Operario, 2014), people with obesity (Sikorski, Luppia, Luck, & Riedel-Heller, 2015), and those living in poverty (Gamarel, Reisner, Parsons, & Golub, 2012). Minority stressors may be structural (e.g., employment discrimination against transgender women) or interpersonal (e.g., rejection, harassment, and discrimination against people living in poverty). Importantly, structural and interpersonal stressors compound each other in complicated ways. Scholars have thus recently called for minority stress research to investigate the roles of stigma at multiple levels (Bockting et al., 2013; Hatzenbuehler et al., 2014; Pachankis et al., 2014).

In a meta-analysis of 134 samples, Pascoe and Richman (2009) demonstrated that perceived discrimination has a significant negative association with both mental and physical health outcomes. Also clear from their analysis is the role of a heightened stress response evident across samples. Across studies, the authors found that the relationship between perceived discrimination and health outcomes was at least partially mediated by some internal stress response – such as increased negative emotion, rumination, or cardiovascular reactivity – to a discriminatory event. These findings shone light on the importance not only of group-specific processes of stress, but also the role of *general psychological processes*. This meta-analysis led to the development of the *psychological mediation framework* (Hatzenbuehler, 2009) – a nuanced exploration of the role of stress responses in the lives of stigmatized individuals.

Psychological mediation framework. Missing from early minority stress literature was an understanding of the roles general psychological processes play in facilitating stigma-related stressors. In order to address these gaps, Hatzenbuehler (2009) expanded on Meyer's application

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of minority stressors amongst LGB people by proposing a *psychological mediation framework*. Grounded in minority stress theory as well as Monroe's (2008) transactional definition of stress, this framework explicates the multiple pathways through which stigma-related stress manifests in disproportionate mental/behavioral health outcomes.

The psychological mediation framework proposes three hypotheses outlining the mechanisms through which minority stressors influence disproportionate rates of psychopathology amongst sexual minority individuals. In the first step, (1) sexual minority individuals confront *distal stigma-related stressors*, or objective prejudice events such as discrimination and violence. In the second step, (2) this stigma-related stress leads to elevations in *general psychological processes*, including elevations in coping/emotion dysregulation, social/interpersonal problems, and cognitive processes; these elevations (as compared to general psychological processes among heterosexual individuals) promote risk for psychopathology. In the third step, (3) these processes mediate the relationship between stigma-related stress and psychopathology. Hatzenbuehler (2009) also proposed that *group-specific processes* (akin to proximal stressors), such as expectations of rejection, concealment, and internalized stigma, mediate the relationship between stigma-related stressors and psychopathology. This integrative framework holds great utility because it allows for research into the potential "bidirectional relations between the various predictors, mediators, moderators, and outcomes" (Hatzenbuehler, 2009, p. 723). Elevations in general psychological processes may impact rates of group-specific processes, and vice versa. These theoretical relations are depicted in Figure 1 below:

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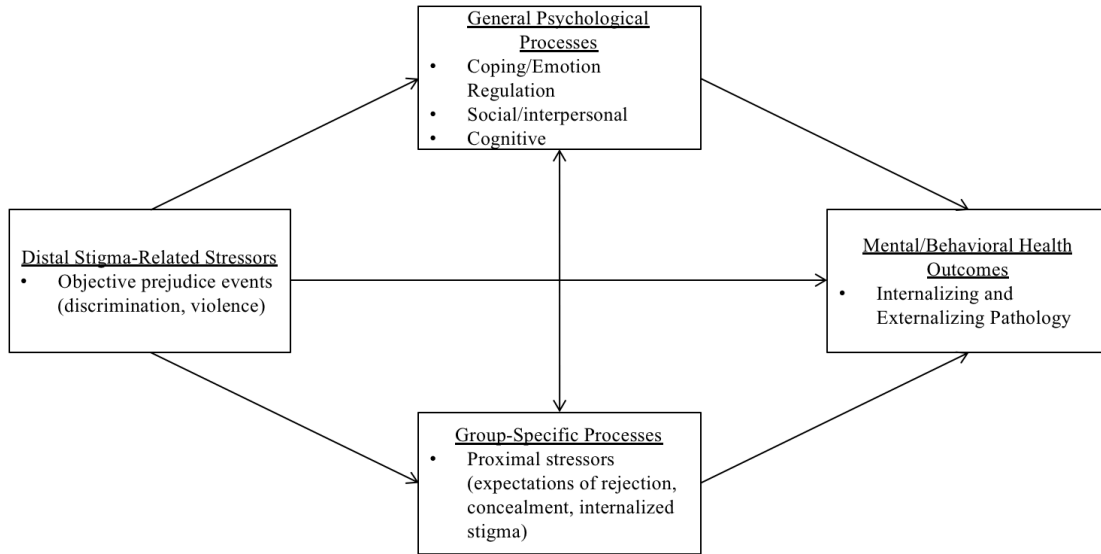


Figure 1. Psychological mediation framework (Hatzenbuehler, 2009)

Numerous studies have explored the roles of *general psychological processes* as facilitators (or inhibitors) of minority stress. Hatzenbuehler (2009) noted that sexual minority individuals engage in three types of general psychological processes: (1) coping/emotion regulation, (2) social/interpersonal, and (3) cognitive processes. In terms of coping/emotion regulation, in a study with 761 sexual minority women, for example, rumination mediated the association between discrimination events and psychological distress (Szymanski, Dunn, & Ikizler, 2014). R. J. Lewis and colleagues (2009) similarly found that rumination and brooding about one's life situation mediated the association between lesbian minority stressors and psychological distress. As an example of social/interpersonal processes, Plöderl and Fartacek (2005) found that social support from family mediated the association between sexual minority status stress and suicidality. In terms of cognitive processes, Savin-Williams and Ream (2003) found that self-esteem mediated the association between gay-related stressors and suicide attempts.

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Additionally, numerous studies have found evidence for the mediating roles of *group-specific processes*. These are psychological and behavioral processes that are not universal; they are informed by one's belonging to a minority group. In a study with 218 lesbians and 249 gay men, for example, two group-specific processes (i.e., internalized homonegativity, rejection sensitivity) mediated the association between experiences of discrimination and symptoms of anxiety and depression (Feinstein, Goldfried, & Davila, 2012). Amongst people with obesity, group-specific processes such as body dissatisfaction and self-esteem tend to mediate the association between obesity stigma and psychopathology (Sikorski et al., 2015). In a study with 552 transgender adults, transgender stigma awareness mediated the association between anti-transgender discrimination and psychological distress (Breslow et al., 2015). PLWHA may undergo similar psychological processes, and thus the following section explicates a full, adapted model of HIV-related minority stress.

HIV/AIDS minority stress. Despite the documented relations between HIV stigma and adverse outcomes for PLWHA, it was not until recently that scholars began to apply minority stress theories to understand the complex roles of discrimination in the lives of PLWHA (Hatzenbuehler et al., 2008; Rendina et al., 2016). The need for such investigation is called for given both high rates of stigma experienced by PLWHA as well as disproportionate elevations in mental and behavioral health outcomes amongst diverse HIV-positive populations.

Empirical models of MST have only recently been tested with samples of PLWHA. Rendina and colleagues (2016), for example, tested tenets of MST with a sample of 138 HIV-positive highly sexually active gay and bisexual men. They found that HIV-related stressors (i.e., internalized HIV stigma) and gay-related stressors (i.e., internalized homonegativity) both significantly predicted mental health and sexual health outcomes through the mediating role of

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emotion dysregulation. Despite the robust findings of this study, it was tested exclusively with gay and bisexual men, and did not include findings about the roles of distal stigma-related stressors. Despite the proliferation of information about the impact of HIV stigma on the lives of cisgender *men*, few studies have captured the roles of HIV-related stressors amongst gender-diverse samples including cisgender women (Catz, Gore-Felton, & McClure, 2002) and transgender or gender-nonconforming people (Logie, James, Tharao, & Loutfy, 2012).

Additionally, there is scant psychological inquiry investigating the potential roles of structural stigma (i.e., HIV criminalization) in the disparate rates of psychological distress among PLWHA. Multiple studies have shown that structural stigma impacts health outcomes amongst sexual and racial minorities, indicating potential for such investigation with PLWHA. Hatzenbuehler and colleagues (2014), for example, demonstrated that living in communities with high levels of anti-gay prejudice predicted increased risk of mortality for sexual minorities. Pachankis and colleagues (2014) found that living in a state either lacking equal opportunities or populated by people holding net-negative attitudes toward sexual minorities predicted higher rates of smoking and rejection sensitivity. Gee (2002) similarly found that structural forms of racism (i.e., segregation and redlining) were significantly associated with impacted health status in a sample of 1503 Chinese Americans. In order to establish a nuanced understanding of the relationships of HIV criminalization and discrimination with psychological distress, the current study tested an adapted model reflecting the unique distal and proximal minority stressors often experienced by PLWHA.

First, PLWHA are exposed to institutional stigma (i.e., *HIV criminalization in their state, hereafter referred to as 'HIV criminalization by state'*) and interpersonal prejudice and harassment (i.e., *HIV-related discrimination*). Such distal stressors directly predict symptoms of

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psychological distress, including suicidal ideation, anxiety, and depression (Heckman, 2003), as well as declines in *health-related quality of life* (Bird, Bogart, & Delahanty, 2004). Second, PLWHA may incorporate society's negative evaluations of them into their self-concept; this proximal stressor is referred to as *HIV stigma*, a construct reflecting the internalization of stigma, disclosure concerns, and stigma consciousness, or concerns with public attitudes toward PLWHA. HIV stigma can lead to elevated psychological distress and decreased health-related quality of life (Berger et al., 2001). Third, PLWHA may incorporate the belief that they are criminalized into their self-concept; this proximal stress is referred to as *HIV criminalization belief*, a construct reflecting the belief that one's behavior is criminal due to one's HIV status, regardless of the potential statutes in that person's state (Galletly, Glasman, Pinkerton, & DiFranceisco, 2012). The current study aimed to build upon these limited data by examining multiple manifestations of minority stress simultaneously as predictors of mental health among PLWHA.

The current study also proposed to expand upon Hatzenbuehler's (2009) extension of minority stress by testing the potential mediating role of two *general psychological processes* (i.e., social support, cognitive reappraisal) as well as two *group-specific processes* (i.e., HIV criminalization belief, HIV stigma) in the relations between distal stigma-related stressors (i.e., HIV criminalization, HIV-related discrimination) and mental/behavioral health outcomes (i.e., psychological distress, health-related quality of life). See Figure 2 below for an adapted model of HIV-related minority stress tested by the current study:

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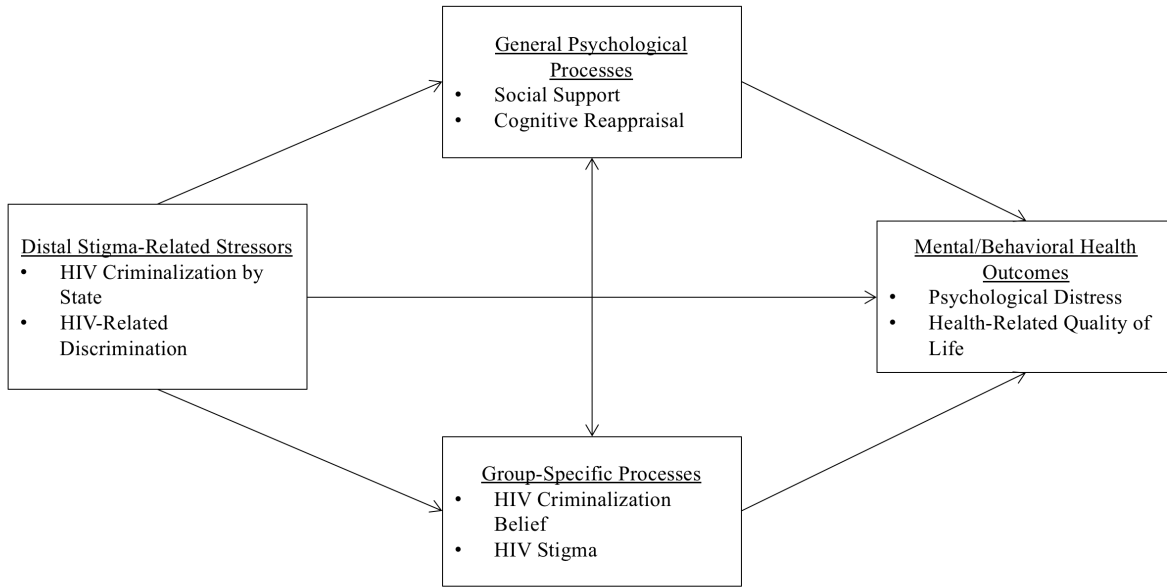


Figure 2. Psychological mediation framework adapted for HIV/AIDS minority stress (current study)

The following section defines each variable in the model and contextualizes its potential role in an adapted model of HIV/AIDS minority stress. First, distal stigma-related stressors are discussed and operationalized, followed by general psychological processes, group-specific processes, and finally mental/behavioral health outcomes.

Distal Stigma-Related Stressors

In order to explore minority stress theory amongst PLWHA, the current study measured the roles of two *distal stigma-related stressors*: (1) HIV criminalization by state, and (2) HIV-related discrimination. In his framework of minority stress amongst LGB individuals, Meyer (2003) writes that minority stress involves both external and internal processes. These external processes are called distal stigma-related stressors, commonly defined as prejudice-inspired events such as violence, victimization, and discrimination. Distal stressors occur ‘outside’ the individual, with examples including heterosexist events amongst gay and bisexual men (Szymanski, 2009), anti-transgender harassment amongst transgender adults (Breslow et al., 2015), socioeconomic discrimination amongst poor gay and bisexual men (Gamarel et al., 2012),

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and racism amongst Latino/a adults (Alamilla et al., 2009). Across studies and populations, these stressors have been shown to powerfully shape people's lives by affecting their interpersonal relationships and intrapsychic health in difficult, nuanced ways.

Despite the documentation of these distal stigma-related stressors in the lives of PLWA (Parker & Aggleton, 2003), few have tested the full minority stress model with this diverse population in mind (Rendina et al., 2016). Additionally, no study known to the author has incorporated HIV criminalization in its test of minority stress theory. This inquiry is warranted given mounting evidence that structural stigma has been shown to significantly impact minority individuals (Hatzenbuehler, Keyes, & Hasin, 2009; Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010; Pachankis et al., 2014), including PLWHA (Galletly, Glasman, Pinkerton, & DiFranceisco, 2012a; Galletly, Pinkerton, & DiFrancesco, 2012b; Lehman et al., 2014). As such, the current study proposed to test the associations of HIV criminalization by state and HIV-related discrimination with mental/behavioral health outcomes of PLWHA.

HIV criminalization by state. The first distal group-related stressor explored in this study is *HIV criminalization by state*, or the extent to which a participant's state of residence criminalizes HIV risk behavior. After participants reported their state of residence, each was coded according to three criteria: (1) whether their state has HIV-specific laws, (2) whether their state has applied general felony laws to prosecute HIV risk behavior, and (3) whether their state requires PLWHA register as sex offenders as part of punishment under HIV-specific laws (for scoring instructions, see Appendix A). HIV criminalization in general is defined as the system of legal punishment for alleged, perceived, or potential HIV transmission. Within criminology scholarship, criminalization is defined as "the process by which behaviors and individuals are transformed into crime and criminals" (Michalowski, 1985, p. 6). Institutionally, criminalization

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renders people and their behaviors illegal, marking them as immoral, unjustified, and dangerous. Interpersonally, criminalization has social and psychological consequences for the people whose identities or behaviors are made illegal. Criminalization often manifests through a particular form of stereotyping that characterizes people as suspicious and immoral – dangerous for the continued safety and structure of society. When individuals are members of criminalized groups (e.g., people of color, LGBTQ people, PLWHA), we tend to fear them and view them through a lens of stigma, derision, and disgust (Michalowski, 1985).

The success and utility of HIV criminalization has come under intense scrutiny in recent years by non-governmental organizations, AIDS services organizations, PLWHA, legal scholars, and public health professionals (Lehman et al., 2014). A significant critique is that the majority of these laws are not based in current science on HIV risk (Galletly & Pinkerton, 2006). They do not account for protective factors PLWHA may be utilizing to reduce the risk of transmission; after all, the majority were passed before the turn of the century, after which studies began to demonstrate that full adherence to antiretroviral therapy reduces the likelihood of HIV transmission to an almost negligible level (CDC, 2016). HIV criminal laws typically do not account for condom use, ART, or pre-exposure prophylaxis (PrEP), a daily pill that significantly reduces the risk of HIV infection amongst HIV-negative people.

A second major critique is that HIV criminal laws do not work. Rather, scholars argue that such legislation exacerbates the ongoing HIV crisis. Studies, for example, have demonstrated that HIV criminal laws have a negative impact on public health and community-based HIV prevention and care efforts. Recent activist movements (characterized by the slogan, “Get Tested, Get Arrested”) as well as empirical studies demonstrate that fear of being arrested leads to decreased rates of HIV testing (Jürgens, Csete, Amon, Baral, & Beyrer, 2010). This is

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primarily true for Black men who have sex with men, who are dually criminalized for their racial identities *and* sexual behaviors. Why know your HIV status if it is this *knowing* will land you in a prison cell (O’Byrne, Bryan, & Roy, 2013)? In a recent study with 2013 men who have sex with men in 16 states, men who believed their states had HIV criminal laws reported higher frequency of condomless anal sex than men who were unsure about the laws in their states (Mykhalovskiy, 2011). Further, Galletly and colleagues (2012a, 2012b) found that living in a state with HIV criminal laws (e.g., Michigan and New Jersey) was not significantly associated with HIV status disclosure or a reduction in high-risk sexual behavior. These findings suggest that HIV criminal laws have little and/or counterproductive effects on rates of high-risk sexual behavior. Importantly, HIV criminalization also limits access to clean needles for users of intravenous drugs, thus inflating the inherent risk in injection substance use (Blankenship & Koester, 2002).

Finally, studies have begun to demonstrate that HIV criminalization is harmful to PLWHA. HIV criminalization by state has been shown to exacerbate HIV stigma (Horvath et al., 2016), interfere with HIV testing (Dodds, 2008; Dodds et al., 2009; Dodds & Keogh, 2006; Dodds et al., 2015), and compromise clinical relationships between PLWHA and health care providers (O’Byrne et al., 2013). Despite the mounting evidence that HIV criminal laws lack public health utility and affect mental and behavior health of PLWHA, the processes through which HIV criminalization may precipitate such outcomes remain understudied. Although researchers have long argued that structural stigma affects health, there is a dearth of evidence on the ways structural stigma – including criminalization – contributes to unequal health outcomes (Link, Yang, Phelan, & Collins, 2004). MST may be a promising framework for exploring HIV criminalization given the recent exploration of structural stigma (e.g., anti-gay policies by state)

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on the wellbeing of sexual and gender minority individuals (Hatzenbuehler et al., 2014; Hatzenbuehler et al., 2009; Hatzenbuehler et al., 2010).

The current study estimated the direct associations of HIV criminalization by state with two health outcomes (i.e., psychological distress, health-related quality of life), as well as potential indirect associations through two general psychological processes (i.e., social support, cognitive reappraisal) and two group-specific processes (i.e., HIV criminalization belief, HIV stigma).

HIV-related discrimination. A second distal stressor is *HIV-related discrimination*, or perceived experiences of unjust or prejudicial treatment (e.g., stereotyping, harm, and exclusion) on the basis of one's HIV status. HIV-related discrimination is typically a function of stigmatizing attitudes or beliefs about PLWHA, or about populations or activities associated with the behaviors, practices, or symptoms of the disease. It can include both overt expressions of stigma (e.g., loss of friendships or social support after disclosing one's HIV status) or subtler forms (e.g., microaggressions or daily hassles) (Bunn, Solomon, Miller, & Forehand, 2007). Discrimination in the context of HIV intersects with unjust or prejudicial treatment of other marginalized populations. These include HIV-positive people such as women, people of color, queer people, LGBT people, sex workers, people who inject drugs, transgender people, men who have sex with men, and people who are incarcerated (Dworkin, 2005; Logie et al., 2011).

Numerous studies have shown that HIV-related discrimination negatively affects people living with or vulnerable to HIV infection (e.g., Bird et al., 2004; Bogart, Landrine, Galvan, Wagner, & Klein, 2013; Heckman, 2003; Heckman, Somlai, Kalichman, Franzoi, & Kelly, 1998; Parker & Aggleton, 2003). HIV-related discrimination tends to predict three major types of outcomes, with consequences related to (1) psychological health, (2) medical health, and (3)

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behavioral health. In terms of psychological health, HIV-related discrimination has been shown to be positively correlated with indicators of distress such as anxiety, depression, loneliness, panic, social conflict, and feelings of shame (Berger et al., 2001), and negatively correlated with indicators of well-being such as healthy body image, self-esteem, personal control, social support, and social integration (Emlert, 2005; Galvan, Davis, Banks, & Bing, 2008; Golub, Tomassilli, & Parsons, 2009; Grov, Golub, Parsons, Brennan, & Karpiak, 2010; Henkel et al., 2008; Lelutiu-Weinberger et al., 2013; Rao et al., 2012; Sevelius, 2013; Siegel, Lune, & Meyer, 1998; Starks et al., 2013; Stutterheim et al., 2009; Swendeman, Rotheram-Borus, Comulada, Weiss, & Ramos, 2006; Venable, Carey, Blair, & Littlewood, 2006).

HIV-related discrimination also has implications for medical and behavioral health. In terms of medical health, commonly reported associations with HIV-related discrimination include low medication adherence, increased symptom frequency, decreased health-related quality of life, and decreased physical health in general (Berger et al., 2001; Buseh, Kelber, Stevens, & Park, 2008; Fife & Wright, 2000; Hatzenbuehler et al., 2008; Holzemer et al., 2007; Sayles et al., 2008; Visser, Kershaw, Makin, & Forsyth, 2008). In terms of behavioral health, experiences with HIV-related discrimination include increased disclosure concerns and decreased disclosure, increased high-risk sex (e.g., condomless anal sex), and high levels of sexual compulsivity (Buseh et al., 2008; Holzemer et al., 2007; Kalichman et al., 2009). Fear of potential HIV-related discrimination has also been shown to decrease people's likelihood to get tested, which in turn interferes with HIV treatment and care – and increases chances of HIV transmission (Rendina, Golub, Grov, & Parsons, 2012; Venable et al., 2006).

Experiences of interpersonal HIV-related discrimination have been operationalized in numerous, often-conflicting ways. For this study, it was operationalized in line with Szymanski's

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(2006) feminist framework of the effect of heterosexist discrimination on lesbians. Building on emerging theoretical notions about the relationship between heterosexist discrimination and psychopathology amongst gay men (Meyer, 2003), Szymanski (2006) proposed a framework attending to the personal and political intersections of minority stressors. This framework echoes a core feminist ethic that ‘the personal is political’ – that personal stressors are influenced by the social and political climates in which people live. Szymanski claims that stress responses amongst “persons with limited power in society” can be thought of as healthy reactions to oppression (Szymanski, 2006, p. 227). This framework holds promise for considering the roles of HIV-related discrimination in predicting disproportionate mental and behavioral health outcomes. Specifically, it frames discrimination as embedded in individual, interpersonal, and cultural practices. It may be applicable amongst PLWHA because it attends to the intersections of harassment and rejection, workplace and school discrimination, and other discrimination. No study to the author’s knowledge has collected data on such varied, intersecting forms of discrimination in the lives of PLWHA.

As such, the current study estimated the direct associations of HIV-related discrimination with two outcomes (i.e., psychological distress and health-related quality of life), as well as potential indirect associations through two general psychological processes (e.g., social support, cognitive reappraisal) and two group-specific processes (i.e., HIV criminalization belief, HIV stigma). The following section explores the potential roles of general psychological processes in the psychological mediation framework of HIV/AIDS minority stress.

General Psychological Processes

The current section explores the potential role of *general psychological processes*: the inner cognitive, affective, and social mechanisms necessary for everyday life (Broome, 2013;

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Ryan, 1995). Although general psychological processes are not unique to minority groups (everyone must manage their feelings, thoughts, and behaviors), these mechanisms may play a nuanced role in the ways minority individuals process stress and manage their health. Thus, in order to fully understand elevations in distress among minority groups, minority stress theory proposes that proximal stressors negatively impact health outcomes *through* general psychological processes, or intra-personal mechanisms, which are often elevated among people who are marginalized (Hatzenbuehler, 2009; Meyer, 1995, 2003). Put simply: distal, stigma-related stressors → general psychological processes → health outcomes.

In addition to contending with stigma, minority individuals must manage general, or nonspecific, processes that may either exacerbate or buffer the impact of discrimination in their lives. For example, a gay man who has experienced gay-related harassment may fare better than others if he has developed abilities to change his thoughts, manage his mood, and/or engage with a network of friends and family. These processes are not minority-specific; they are universal human ways of balancing stress and self-care. However, contending with stigma makes these things harder to do; minority individuals may manage stress in riskier, less adaptive ways, in part due to the heavy load of carrying a stigmatized identity (for a review, see Hatzenbuehler, 2009).

Recent minority stress literature has begun to explore the roles of general psychological processes in the lives of other minority populations. To date, however, few studies have examined the ways such mechanisms impact PLWHA. As such, the current study explored the roles of two processes – *social support* and *cognitive appraisal* – in a dual model of HIV/AIDS minority stress.

Social support. The first general psychological process explored in the current study is *social support*, defined as the extent to which individuals engage in social interactions that are

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helpful, consistent, and emotionally validating (Turner-Cobb et al., 2002). There is robust evidence for the importance of social support among minority groups, in particular given the positive association between social support and health (Hatzenbuehler, 2009). After all, people who engage more often in support-seeking behaviors with friends, family, peers, or colleagues tend to fare better when faced with daily stressors such as anxiety, irritability, difficult work and relationship demands, and financial instability (Cohen & Willis, 1985; Kawachi & Berkman, 2001). The same can be said for those who must contend with stigma-related stressors. Many minority individuals, however, report social isolation and limited engagement with peers. Recent studies have thus begun to explore the mediating role of social support in the association between stigma-related stressors and adverse health outcomes (Earnshaw et al., 2013).

In the minority stress literature, social support has been shown to be positively associated with adaptive responses to stigma, including emotion regulation, healthy emotional expression, cognitive reappraisal, and adaptive problem solving (e.g., Earnshaw et al., 2013). Social support has demonstrated associations with cognitive reappraisal after experiencing stigma and discrimination, making it clear that friends, family, and peers help individuals reappraise their thoughts about negative events (Earnshaw et al., 2013). Social support networks often encourage targets of discrimination to talk through distress, process events constructively, and even avoid maladaptive coping strategies such as avoidance and use of substances or alcohol (Hatzenbuehler, 2009).

After contending with a heterosexist event, for example, a gay or bisexual man with high levels of engagement in social support may utilize a community network for increased interactions, assurance, and validation of his experiences. These resources may help him deal with the elevated stress associated with a heterosexist event, and may also thus mediate

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associations between stigma-related stressors and mental/behavioral health outcomes (Szymanski, 2009). The process may be similar for people of color; amongst Black adolescents, for example, diminished social support has been shown to mediate the association between racial discrimination and adverse health outcomes including substance abuse and psychological distress, with lower levels of social support corresponding with higher positive associations between adverse events and adverse health outcomes (Gibbons et al., 2010).

It is no surprise that social support plays a significant role in the lives of PLWHA (Burnham et al., 2016; Collins, 1994; Kalichman, DiMarco, Austin, Luke, & DiFonzo, 2003; Lam, Naar King, & Wright, 2007). Similar to its role for people with other diseases, it is an important psychological resource for a community that often feel isolated and rejected as a result of a stigmatized diagnosis (Kalichman et al., 2003). When utilized effectively, social support has been shown to mediate associations between HIV-related discrimination and self-esteem and self-regulation (Qiao, Li, & Stanton, 2014). Other studies demonstrated significant direct positive associations between social support and medication adherence among PLWHA (Catz, Kelly, Bogart, Benotsch, & McAuliffe, 2000; Gordillo, del Amo, Soriano, & González-Lahoz, 1999). Low levels of social support have been shown to mediate the positive indirect association between HIV-related discrimination and psychological distress among PLWHA, thus perhaps playing a role in the ways stigma-related stressors are internalized or ineffectively managed (for a review, see Bekele et al., 2013).

Social support has been shown in numerous studies to mediate the association between stigma, life stressors, and health outcomes among PLWHA (e.g., Friedland, Renwick, & McColl, 1996; Poindexter & Shippy, 2008). However, full models of HIV-related minority stress with social support as a mediator have yet to be explored. As such, the current study measured the

extent to which social support explained the relationship between two predictor variables (i.e., HIV criminalization by state, HIV-related discrimination) and two outcome variables (i.e., psychological distress, health-related quality of life). The bidirectional associations between social support and another general psychological process (i.e., cognitive reappraisal) as well as two group-specific processes (i.e., HIV criminalization belief, HIV stigma) were tested as well. The following section explores the potential role of a second general psychological process: cognitive reappraisal.

Cognitive reappraisal. The second general psychological process explored in the current study is *cognitive reappraisal*: a process defined as the conscious adjustment of one's thoughts in response to a cue in order to change its emotional impact (Lazarus & Alfert, 1964). A helpful framework for understanding cognitive reappraisal is emotion-generative process theory (Gross & John, 2003). This theory posits that emotional experiences begin with a set of cues, or external and internal stimuli (e.g., a spider walking on someone's desk while they are working). These cues trigger a complex, coordinated set of response tendencies that may involve experiential, behavioral, or physiological systems (Lazarus & Alfert, 1964).

Emotion-generative process theory posits that we often do not choose our automatic responses to cues; however, we *can* control the ways we respond to these automatic responses. The ways we respond to these automatic responses is thought of as emotion regulation: the demonstrated ability to self-manage experiential, behavioral, and physiological response. This study focused in particular on the cognitive mechanism of this process – cognitive reappraisal – in order to understand how the thought-related processes of PLWHA may mediate the associations between distal stigma-related stressors and adverse health outcomes.

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Cognitive reappraisal is typically considered to be an adaptive strategy. However, according to the psychological mediation framework (Hatzenbuehler, 2009), it may be impacted by ongoing experiences of distal stigma-related stressors. Long-term exposure to stigma may lead to cognitive processes that in turn “exacerbate, maintain, or prolong” psychological distress and diminished health-related quality of life (p. 718). Numerous studies have shown that individuals exposed to chronic discrimination have a difficult time with cognitive reappraisal, even in response to daily life stressors (e.g., Hatzenbuehler, McLaughlin, & Nolan-Hoeksema, 2008; Matthews, Hughes, Johnson, Razzano, & Cassidy, 2002). When an individual is vigilant about avoiding discrimination, for example, that person’s ability to regulate cognitive responses to daily life stressors may be diminished. Discrimination may make cognitive reappraisal difficult, in turn exacerbating psychological and behavioral health outcomes (for a review, see Hatzenbuehler, 2009). People who exhibit difficulty with cognitive reappraisal may experience longer, more severe periods of distress, which may increase likelihood of developing anxiety, depression, eating disorders, alcohol/substance abuse disorders, and high-risk sexual behavior (for a review, see Aldao, Nolen-Hoeksema, & Schweizer, 2010).

Recent studies have demonstrated that PLWHA exhibit difficulty with cognitive reappraisal and similar emotion regulation processes (Brandt, Bakhshaie, Zvolensky, Grover, & Gonzalez, 2015; Brandt, Gonzalez, Grover, & Zvolensky, 2013; Rendina et al., 2016; Turner-Cobb et al., 2002). Such processes may play an important role in mediating HIV-related distal stressors and health outcomes. In a study with 176 PLWHA, for example, cognitive reappraisal and emotion dysregulation mediated the association between distress tolerance and anxiety (Brandt et al., 2013). Another study with 115 PLWHA demonstrated a complex interplay between cognitive reappraisal, emotion dysregulation, and depressive symptoms; this interplay

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caused elevations in HIV symptoms, medication non-adherence, and difficulty in self-regulatory processes such as avoidant coping and distress tolerance (Brandt et al., 2015). A cognitive-behavioral intervention trial with HIV-positive gay and bisexual men found cognitive reappraisal skills mediated the association between cognitive coping and depressed affect (McIntosh, Seay, Antoni, & Schneiderman, 2013).

To bolster these findings, the current study examined the potential role of cognitive reappraisal as a second general psychological process in a dual model of HIV-related minority stress. In particular, the current study estimated the potential role of cognitive reappraisal in mediating the relationship between two predictor variables (i.e., HIV criminalization by state, HIV-related discrimination) with two outcome variables (i.e., psychological distress, health-related quality of life). The bidirectional associations between cognitive reappraisal and another general psychological process (i.e., social support) as well as two group-specific processes (i.e., HIV criminalization belief, HIV stigma) were tested as well. The following section explores the potential role of *group-specific processes* unique to PLWHA that may also mediate these associations.

Group-Specific Processes

The psychological mediation framework (Hatzenbuehler, 2009) proposes that *group-specific processes* mediate the relationship between distal minority stressors and mental/behavioral health outcomes. These processes are often thought of as ‘proximal’ stressors. In contrast to ‘distal’ stressors, proximal stressors explain how people’s identities become salient. Similar to the way common, difficult life events leads to an elevation in stress mechanisms, experiences of stigma create several unique demands that prove to be especially stress-inducing for members of marginalized groups (Hatzenbuehler, 2009). Experiences of

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discrimination, for example, may lead to the group-specific process of internalized stigma, or the internalizing of negative views about one's group. Being frequently arrested, or living in a state with HIV criminal laws, may lead to the group-specific process of criminalization belief, or the internalizing of society's views that one belongs to a criminal group. These group-specific processes, in turn, predict elevations in psychological and behavioral health issues among stigmatized populations. Within the psychological mediation framework, group-specific processes are 'activated, set off, or caused by' a stressor, and may subsequently explain the relation between that stressor and the outcome.

Using LGB people again as an example, heterosexist discrimination may lead to gay-related rejection sensitivity, which may in turn activate disproportionate levels of depression and anxiety. Although marginalized individuals may possess some of these mediating characteristics regardless of their experiences with discrimination, experiencing distal stigma-related stressors may exacerbate rejection sensitivity (Pachankis, Goldfried, & Ramrattan, 2008). In the case of LGB people, individuals may experience rejection sensitivity regardless of their objective exposure to heterosexist discrimination. According to the psychological mediation framework, however, subsequent exposure may exacerbate gay-related sensitivity. This sensitivity may, in turn, account for the relation between exposure to discrimination and subsequent psychopathology. The current study aimed to extend this framework by exploring the potential role of (1) HIV criminalization belief and (2) HIV stigma as group-specific processes potentially mediating HIV/AIDS minority stress.

HIV criminalization belief. The first group-specific process explored in the current study is *HIV criminalization belief*, or the perception that one's state of residence has laws criminalizing HIV risk behavior (Galletly et al., 2012a, 2012b). HIV criminalization belief is a

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construct distinct from HIV criminalization by state, the latter of which is defined by the existence of legislation in one's state of residence. The distinction is an important one. *Belief* indicates that a PLWHA understands themselves to hold criminal potential. Perhaps equally as impactful as de facto legislation, HIV criminalization belief indicates that PLWHA have incorporated criminalization into their self-concept. They have come to understand their bodies, behavior, and patterns of disclosure as inherently, biological threatening to an otherwise healthy society (Sykes, Hoppe, & Maziarka, 2016). Social psychology literature has demonstrated that *belief* one is being criminalized or discriminated against may have psychological impact above and beyond the effects of 'actual', or observable, discrimination (Chung, 2001). Scholars have begun to explore the potential psychological consequences of observable HIV criminalization (i.e., HIV criminalization by state), which may include social isolation, internalized stigma, and internalization of negative stereotypes (Schulman, 2016; Sykes et al., 2016). However, no study known to the author has compared the differing impacts of actual versus perceived HIV criminalization (i.e., HIV criminalization by state versus HIV criminalization belief).

For the current study, HIV criminalization belief is conceptualized as a group-specific process similar to internalized homonegativity among LGB people (Mayfield, 2001), internalized transphobia among transgender people (Hendricks & Testa, 2012), and internalized criminality among Black men (Cokley, 2002). Recent studies have demonstrated that it functions similarly, and may impact health-related outcomes above and beyond HIV criminalization by state. In a national US study with 1725 men who have sex with men (many of whom were HIV-positive), 65% reported HIV criminalization belief (Horvath, Weinmeyer, & Rosser, 2010). However, HIV criminalization belief among HIV-positive participants was not associated with HIV status disclosure, condom use, number of recent sex partners, or HIV criminalization by state. These

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results suggest that PLWHA who endorse HIV criminalization belief are not more likely to follow HIV criminal laws than those who do not, though may be more likely to report higher levels of internalized HIV stigma (Burris, Beletsky, Burleson, & Case, 2007; Galletly et al., 2012a; Horvath et al., 2010). HIV criminal laws thus seem effective in propagating stigma, though not necessarily protecting public health (Mykhalovskiy, 2015).

The current study aimed to expand this understanding of HIV criminalization belief by testing its potential role as a mediator in the association between two distal stigma-related stressors (i.e., HIV criminalization by state, HIV-related discrimination) and two health outcomes (i.e., psychological distress, health-related quality of life). This inquiry is further justified given the documented mental and behavioral impact of criminalization on individuals from other marginalized groups. Being criminalized – even the *perception* of being in a criminalized social group – has been shown to alter individuals' personalities, cognitive processes, self-schemas, and general psychological processes (Forbes, Schmader, & Allen, 2008; Haney, Banks, & Zimbardo, 1973; Inzlicht, McKay, & Aronson, 2006). As such, the study also explored potential bidirectional associations between HIV criminalization belief and both general psychological processes, as well as HIV stigma.

HIV stigma. The second group-specific process explored in the current study is *HIV stigma*: the marginalization or devaluation of PLWHA (Berger et al., 2001). For the current study, HIV stigma is conceptualized as a combination of three distinct, though interrelated processes by which marginalization impacts the psychological functioning of PLWHA: (1) internalized HIV stigma, (2) disclosure concerns, and (3) stigma consciousness. Each mechanism was measured and combined into a single *HIV stigma* variable (see Appendix F).

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The first mechanism of HIV stigma captured by the current study is *internalized HIV* stigma (Berger et al., 2001). Numerous studies have demonstrated that chronic exposure to negative societal attitudes about HIV leads PLWHA to internalize such negativity. This integration of negative messages into one's self-concept describes the degree to which PLWHA "endorse the negative feelings and beliefs associated with HIV about themselves" (Earnshaw et al., 2013, p. 1163). Internalized HIV stigma has been shown to be associated with a range of mental health outcomes, including depression and anxiety, psychological distress, low self-esteem, sexual compulsivity, and poor psychological well-being (Kalichman et al., 2009; Mak, Poon, Pun, & Cheung, 2007; Sayles et al., 2008). In a survey with 202 PLWHA, for example, Sayles and colleagues (2008) found that internalized HIV stigma was positively associated with shame, and negatively associated with social support and general mental health. Fife and Wright (2000), in a survey with 130 PLWHA as well as 76 persons living with cancer, found that internalized HIV stigma was negatively associated with self-esteem, positive body image, and a sense of personal control.

Internalized HIV stigma has also been shown to be associated with a range of *behavioral health outcomes*, including suboptimal antiretroviral adherence, poor adherence to medical care, condomless sex, and HIV status concealment (Arnold et al., 2014; Rendina et al., 2012). In a community-based study with 138 highly sexually active, HIV-positive gay and bisexual men, for example, internalized HIV stigma was significantly associated with depression, anxiety, sexual compulsivity, and hypersexuality (Rendina et al., 2016). Associations have also been demonstrated with health-related outcomes including decreased CD4 count and increased rates of co-morbid chronic illness (Earnshaw & Chaudoir, 2009).

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The second mechanism of HIV stigma explored in the study is *disclosure concerns* – anxiety about telling others one’s secret truth – a coping strategy often used by people with nonvisible, marginalized identities to avoid the negative consequences of being exposed (Meyer, 2003; Pachankis, Cochran, & Mays, 2015). As with any secret, PLWHA must engage in information management. As Goffman suggests, stigmatized individualized must ask: “To display or not to display; to tell or not to tell; to let on or not to let on; to lie or not to lie; and in each case, to whom, how, when and where?” (1963, p. 42). Disclosure concerns produce a taxing, often invalidating burden that strips a person of the necessary resources they may otherwise use to buffer the impact minority stressors (Legate, Ryan, & Weinstein, 2012).

The role of disclosure concerns has been explored extensively within the context of minority stress theory, primarily with LGB people. Due to dangers associated with having a minority identity, LGB individuals often conceal their identities in many ways: by claiming a heterosexual identity, altering one’s gendered presentation to meet heterosexist norms, or dating people of a different gender (Cohen, Blasey, Taylor, Weiss, & Newman, 2016). Although sexual orientation concealment may afford an escape from stigma and concomitant psychological distress (D’augelli, Hershberger, & Pilkington, 1998; Ragins, Singh, & Cornwell, 2007), recent studies have demonstrated that the process also takes a psychological toll. It has been shown to be positively associated with shame, guilt, and interpersonal difficulties, as well as depression and anxiety (Beals, Peplau, & Gable, 2009; Frost, Parsons, & Nanín, 2007; Pachankis, 2007; Pachankis et al., 2015). Disclosure concerns may play a mediating role in the relationship between stigma experiences and psychological/behavioral health. In one study with 594 gay men, for example, concealment (a group-specific process similar to disclosure concerns) partially mediated the relationship between stigma and depression (Frost et al., 2007). In a study with 411

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bisexual adults, concealment partially mediated the relationship between antibisexual prejudice and wellbeing, such that higher antibisexual prejudice predicted higher outness, in turn predicating greater well-being (Brewster, Moradi, DeBlaere, & Velez, 2013).

Disclosure concerns play a significant and similarly complicated role in the lives of PLWHA (Derlega, Winstead, Greene, Serovich, & Elwood, 2004; Stutterheim et al., 2011). Since the beginning of the epidemic, PLWHA have had to carefully navigate whom to ‘come out’ to, a process with potential emotional and legal consequences (Mayfield Arnold, Rice, Flannery, & Rotheram-Borus, 2008). Some studies demonstrate that disclosure concerns predict higher psychological distress (Kalichman & Nachimson, 1999; Lam et al., 2007), with others demonstrating psychological consequences of disclosing one’s minority identity (Alonzo & Reynolds, 1995; Black & Miles, 2002; Stutterheim et al., 2011). In a focus group study with 43 HIV-positive women, almost half (45%) reported at least one negative life event as a result of disclosing their HIV status, including the loss of friends, rejection by family members, and emotional, physical, and sexual abuse (Gielen, McDonnell, Burke, & O’Campo, 2000). A study with 145 HIV-positive men and women revealed that individual’s privacy, self-blame, fear of rejection, and protecting others are motivating factors for HIV status concealment (Derlega et al., 2004). Of note, for some PLWHA with visible symptoms (e.g., Kaposi’s Sarcoma, lipodystrophy, or enlarged lymph glands), non-disclosure may not be an option (Stutterheim et al., 2011).

The third mechanism of HIV stigma explored in the current study is *stigma consciousness*: the degree to which members of a minority group are concerned with the negative public attitudes about their stigmatized group or identity (Berger et al., 2001; Pinel, 1999). The role of stigma consciousness has been measured extensively within minority stress literature (Berghe, Dewaele, Cox, & Vincke, 2010; Carvalho, Lewis, Derlega, Winstead, & Viggiano,

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2011; Gates, 2014; R. J. Lewis, Derlega, Griffin, & Krowinski, 2003). It has demonstrated positive associations with depression among LGB adults (R. J. Lewis et al., 2003), negative associations with GPA among Black and Latino students (Brown & Lee, 2005), risk behavior among sex workers (Ross, Timpson, Williams, Amos, & Bowen, 2007), and psychological distress among people living in poverty (Reutter et al., 2009).

PLWHA also tend to report elevated levels of stigma consciousness (Burke et al., 2015; Lekas, Siegel, & Schrimshaw, 2006). It has been shown to have direct and indirect associations with psychological distress, rejection sensitivity, medication non-adherence, and lower CD4 counts among PLWHA (Burke et al., 2015; Earnshaw & Chaudoir, 2009). PLWHA who report high levels of stigma consciousness may avoid or reduce exposure to situations in which stigma may become enacted, such as health care settings, social support networks, or the criminal justice system (Burke et al., 2015).

No study known to the author has measured HIV stigma as a mediator in the association of HIV criminalization and HIV-related discrimination with psychological distress and health-related quality of life. As such, the current study estimated the potential role of HIV stigma in mediating the association between two distal stigma-related stressors (i.e., HIV criminalization by state, HIV-related discrimination) with two outcome variables (i.e., psychological distress, health-related quality of life). The study also explored potential bidirectional associations between HIV stigma and both general psychological processes (i.e., social support, cognitive reappraisal) as well as HIV criminalization belief.

Mental/Behavioral Health Outcomes

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The current study tested a model in which the aforementioned minority stressors coalesce in negative mental/behavioral health outcomes, including (1) elevations in psychological distress and (2) declines in health-related quality of life.

Psychological distress. The first mental/behavioral outcome explored in the current study is *psychological distress*: symptoms of affective distress, somatic distress, and performance difficulty (Green, Walkey, McCormick, & Taylor, 1988). Psychological distress is explored in order to test a key tenet of minority stress theory: that experiences with distal stigma-related stressors have direct and indirect associations with adverse health outcomes (Meyer, 1995, 2003). As previously described, such associations have been well-documented among numerous minority groups, including LGB people (Brewster, Velez, Foster, Esposito, & Robinson, 2016), transgender individuals (Breslow et al., 2015; Szymanski & Owens, 2009; Velez, Moradi, & Brewster, 2013), and people of color (Su, Lee, & Vang, 2005).

Scholars have recently demonstrated similar associations with diverse samples of PLWHA, for whom psychological distress is similarly elevated beyond the general US population (for a review, see Berger et al., 2001). Psychological distress manifests in different ways across samples. Common symptoms include elevated rates of anxiety, depression, loneliness, panic, social conflict, and feelings of shame, as well as difficulties with body image, self-esteem, personal control, social support, and social integration (see literature review above for a comprehensive review.) Across studies, it has been well-documented that HIV criminalization by state and HIV-related discrimination manifest in disproportionate rates of psychological distress among PLWHA (e.g., Grov et al., 2010; Rao et al., 2012; Stutterheim et al., 2009; Venable et al., 2006). However, few studies have tested psychological distress as an outcome in a full model of HIV/AIDS minority stress. In order to explore these relations among

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a gender- and sexuality-diverse population, the current study tested associations between all aforementioned minority stressors and psychological distress.

Health-related quality of life. The second mental/behavioral health outcome explored in the current study is *health-related quality of life*: the extent to which individuals function in relation to their physical, mental, and social well-being (Coons, Rao, Keininger, & Hays, 2000; Hays et al., 2000). Assessing health-related quality of life is important for understanding the associations of both HIV itself and its surrounding stigma with health outcomes. HIV, after all, is a chronic disease with a debilitating course and uncertain effects. Although recent advancements in treatment technology have extended the lives of PLWHA, the effects of such treatment have not been fully explored and are potentially quite impactful to health (Hays et al., 2000). Above and beyond the virus itself, the psychosocial impacts of living with HIV on health-related quality of life are also important to explore.

Minority stressors have been demonstrated to affect health-related quality of life amongst diverse marginalized groups (Stewart & Napoles-Springer, 2000). Amongst LGB people, for example, victimization, discrimination, stigma, and hypervigilance negatively impact mental distress and poor general health (two indicators of health-related quality of life) (Fredriksen-Goldsen, Kim, Barkan, Balsam, & Mincer, 2010). Discrimination and immigration experiences have been shown to impact similar outcomes amongst myriad immigrant populations as well (Daher, Ibrahim, Daher, & Anbori, 2011; Flink et al., 2013; Pantzer et al., 2006). Race-related stress has also been shown to negatively impact health-related quality of life amongst racial/ethnic minority individuals. For example, in a study with 127 elderly African American people, elevations in race-related stress were negatively associated with health-related quality of life (Utsey, Payne, Jackson, & Jones, 2002).

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HIV stigma and discrimination have been shown to be negatively associated with health-related quality of life in numerous samples (Aranda-Naranjo, 2004; Butler et al., 2009; Herrmann et al., 2013; Holzemer et al., 2009; Jia et al., 2004). Across studies, stigma has been negatively associated with health-related quality of life through mediating variables including disclosure concerns, social isolation, and impaired cognitive coping mechanisms (see review above). In a study with 726 PLWHA, for example, stigma independently contributed to 5.3% variance in variability in health-related quality of life, above and beyond the effect of HIV-related symptoms and severity of illness (Holzemer et al., 2009). In an interview with Australian PLWHA, participants who reported lower health-related quality of life also described medical comorbidities and self-reported HIV-related symptoms (Herrmann et al., 2013).

Although similar results have been found in diverse national and international samples of PLWHA (Mekuria, Sprangers, Prins, Yalew, & Nieuwkerk, 2015), no study known to the author has measured health-related quality of life in a full model of HIV/AIDS minority stress. As such, in order to explore these relations amongst a gender- and sexuality-diverse population, the current study tested associations between all aforementioned variables and health-related quality of life. The study also explored potential bidirectional associations between psychological distress and health-related quality of life.

Purpose of Study

Despite enormous evidence of the negative consequences of HIV discrimination, as well as demonstrated lack of utility of HIV criminal laws, there is still a dearth of research on the dual psychological associations of distal stigma-related stressors among gender- and race-diverse samples of PLWHA. This study was designed to expand minority stress theory by including psychosocial factors, such as HIV criminalization by state and HIV-related discrimination, in a

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full model of HIV-related MST. As such, the study aimed to expand recent tests of minority stress theory among PLWHA (Rendina et al., 2016) by investigating associations between structural and interpersonal marginalization among PLWHA.

The study aimed to examine both direct and indirect associations between HIV criminalization by state and HIV-related discrimination with two general psychological processes (i.e., social support, cognitive reappraisal), two group-specific processes (i.e., HIV criminalization belief, HIV stigma), and two mental/behavior health outcomes (i.e., psychological distress, health-related quality of life). Specifically, this study examined the following three sets of hypotheses:

The first set of hypotheses (Hypothesis 1) was theoretically grounded in Meyer's (1995, 2003) conceptual framework of minority stress and mental health, and involved *bivariate correlations* between variables of interest. In terms of distal stigma-related stressors, it was hypothesized that HIV criminalization by state and HIV-related discrimination would be negatively correlated with two general psychological processes (i.e., social support, cognitive reappraisal), positively correlated with two group-specific process (i.e., HIV criminalization belief, HIV stigma), positively correlated with a mental health outcome (i.e., psychological distress), and negatively correlated with a behavioral health outcome (i.e., health-related quality of life). In terms of general psychological processes, it was hypothesized that social support and cognitive reappraisal would be negatively correlated with psychological distress, and positively correlated with health-related quality of life, as well as demonstrate negatively bidirectional correlation with HIV criminalization belief and HIV stigma. In terms of group-specific processes, it was hypothesized that HIV criminalization belief and HIV stigma would be positively correlated with psychological distress and negatively correlated with health-related

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quality of life. Lastly, in terms of mental/behavioral outcomes, it was hypothesized that psychological distress and health-related quality of life would yield negative bidirectional correlation.

The second set of hypotheses (Hypothesis 2) was grounded again in minority stress theory, and involved *direct associations* amongst variables of interest. First, distal stigma-related stressors were expected to yield negative direct associations with both general psychological processes, positive direct associations with both group-specific processes, positive direct associations with psychological distress, and negative direct associations with health-related quality of life. Second, general psychological processes were hypothesized to yield negative bidirectional direct associations with both group-specific processes, negative direct associations with psychological distress, and positive direct associations with health-related quality of life. Third, group-specific processes were hypothesized to yield direct positive associations with psychological distress and negative associations with health-related quality of life. Lastly, psychological distress was hypothesized to yield a negative bidirectional direct associations with health-related quality of life.

The third set of hypotheses (Hypothesis 3) was theoretically grounded in Hatzenbuehler's (2009) psychological mediation framework of minority stress and mental health, and involved *indirect associations* amongst variables of interest. Specifically, it was hypothesized that the general psychological processes (i.e., social support, cognitive reappraisal) as well as group-specific processes (i.e., HIV criminalization belief, HIV stigma) would mediate the aforementioned direct associations between distal stigma-related stressors (i.e., HIV criminalization by state, HIV-related discrimination) with mental/behavioral health outcomes (i.e., psychological distress, health-related quality of life).

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In testing these hypotheses, the aim of the study was two-fold: (1) to determine individual-level clinical and public health interventions for PLWHA suffering from mental and behavioral health problems resulting from minority stress; and (2) to help shape and encourage potential research, clinical, and policy interventions in order to alter environments in which prejudice-inspired stressors develop and/or proliferate. See Figure 3 below for the hypothesized direct associations between variables. Lines with negative signs (-) indicate hypothesized negative associations; lines with positive signs (+) indicate hypothesized positive associations. See Table 4 for the hypothesized relations and results of each of the three aforementioned hypothesis tests.

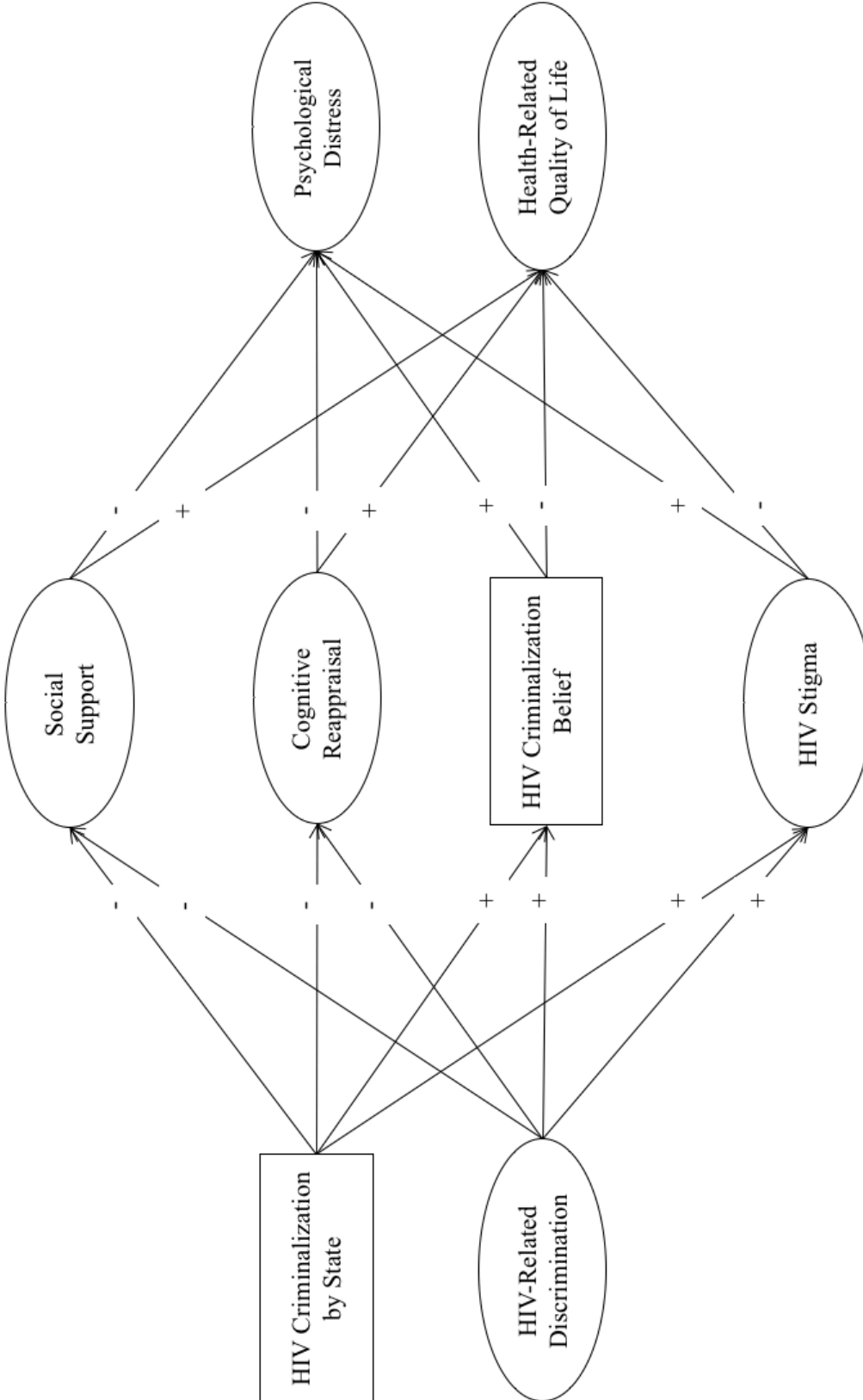


Figure 3. Hypothesized direct associations in dual model of HIV/AIDS minority stress. Not depicted: (1) HIV Crim by State with Psychological Distress (+), HRQoL (-); (2) HIV-Related Discrimination with Psychological Distress (+), HRQoL (-); (3) Social Support with Cognitive Reappraisal (+), HIV Crim Belief (-), HIV Stigma (-); (4) Cognitive Reappraisal with HIV Crim Belief (-), HIV Stigma (-); (5) HIV Crim Belief with HIV Stigma (+); (6) Psychological Distress with HRQoL (-).

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CHAPTER III: METHOD

The current section outlines the method of the study. First, participants and recruitment procedures are discussed, including frequencies of identity- and HIV-related characteristics of the sample. Second, the study's instruments are named and defined in the context of previous research with similar samples and/or theoretical aims. Third, the data analysis plan is outlined.

Participants and Recruitment

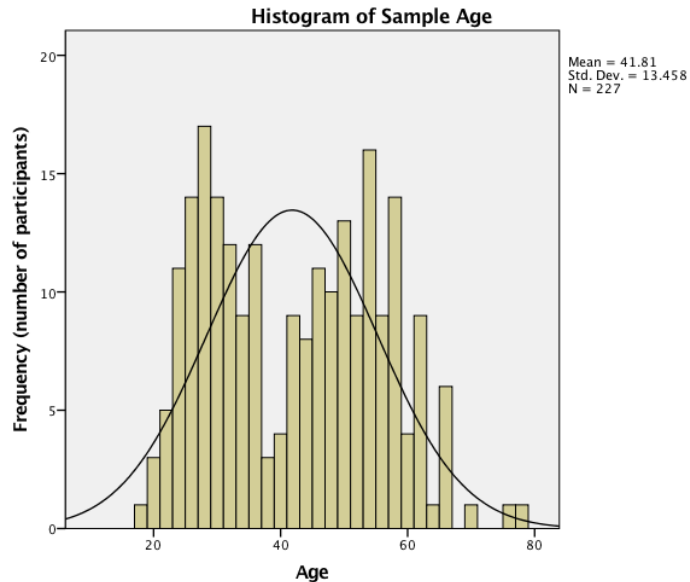
The final sample consisted of data from 234 adults in the United States (US) who had received a diagnosis of HIV and/or AIDS. The sample approximately reflects current national demographics of PLWHA, including but not limited to race, ethnicity, gender, social class, sexual orientation, and ability status. Participants were recruited via email, social networking sites, and online resources for PLWHA. To participate in the online survey, participants confirmed they (1) had received a diagnosis of HIV/AIDS, (2) were 18 years of age or older, and (3) currently lived in the US or a US territory. To maintain confidentiality, no identifying information was recorded aside from an Internet Protocol (IP) address to ensure participants took the survey only once.

A total of 593 individuals initially accessed the online survey link. First, participants were asked whether they consented to the study (Appendix J) and explained rights of participation (Appendix K). Those who consented were screened for inclusion criteria prior to beginning the survey: lifetime HIV-positive diagnosis, 18 years or older, and US residency. During this initial screening phase, 65 people indicated they had never received an HIV-positive diagnosis, and two did not consent to participate in the survey. None were under the age of 18 or resided outside the US. As such, 67 participants were deemed ineligible and were navigated away from the survey. Of the remaining 526 participants, 292 were later removed from the

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dataset because they did not complete at least 80% of the 110 survey items, excluding consent and demographic items or due to falsified/duplicate data. The majority (90%) of dropped participants did not complete more than three items in the questionnaire. The resulting sample consisted of 234 participants.

Identity characteristics of the sample. First, the final sample is described by frequency of identity characteristics. In terms of *age*, participants ranged from 18 to 77 years old ($M = 41.81$, $Mdn = 42$, $SD = 13.46$). Of note, age was not normally distributed, and peaked around 27 and 50 years old, as shown below:



In terms of *gender*, approximately 78% of the sample identified as cisgender men, 18% as cisgender women, 3% as gender nonconforming, and less than 1% as transgender women; none in the sample identified as transgender men or other. In terms of *race*, 59% identified as White, 21% as Black, 9% as Latino/a/x, 6% as Multiracial, 3% as Asian-American/Pacific Islander, and less than 1% as Native American/Indigenous American and other. In terms of *religion*, 37% identified as Christian, 22% Atheist/Not-Religious, 16% other religion, 15% Agnostic, 5% Jewish, 3% Buddhist, and 1% Muslim. In terms of *level of religiosity*, 59% identified as not at all

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religious, 31% as somewhat religious, and 10% as very religious. In terms of *sexual orientation*, 66% identified as gay, 16% as straight, 10% as bisexual, 8% queer, 2% as lesbian, 2% as asexual, and less than 1% as pansexual and other. In terms of *relationship status*, 44% of the sample was single, 28% married/partnered, 15% dating, long-term, 7% dating, casual, and 5% other. In terms of *employment status*, 46% were working full time, 31% unemployed, and 24% part time. In terms of *income* (self-reported by brackets of \$10,000), the mean annual income bracket was between \$40,001 and \$50,000; median income was above \$110,000 (17.4%), followed by \$10,001 and \$20,000 (15.6%). In terms of *social class*, 40% identified as middle class, 29% as working class, 20% as lower class, 8% as upper-middle class, and 4% as upper class. In terms of *geographic location*, participants reported living in 36 different states, with the five most represented being New York (28%), California (15%), Illinois (6%), Texas (5%), and Arizona (4%).

The sample's identity characteristics mirror the US population of PLWHA in numerous ways, include age, gender, sexual orientation, and social class (CDC, 2016). In terms of age, the majority of PLWHA in the US (22%) are 20 to 29 years old, with the second highest age group 50 and older. In terms of gender and sexual orientation, gay and bisexual men account for 67% of diagnoses in the US. In terms of social class, the majority of PLWHA in the US are middle class. The sample's demographic characteristics *diverge* from national rates in other ways, including race and geographic location. In terms of race, the majority of PLWHA in the US are African-American/Black (44%), twice the sample's proportion. In terms of geographic location, southern states account for 45% of HIV prevalence, with the highest incidence rates in Washington, D.C., Georgia, and Louisiana. The sample disproportionately represents New York, California, and Illinois, perhaps due to the relatively large proportion of gay and bisexual men in

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the sample and the large gay/bisexual communities in New York City, San Francisco, and Chicago. There are no national data known to the author outlining the prevalence rates of HIV/AIDS by relationship status, employment status, religion, level of religiosity, income, or social class.

HIV-related characteristics of the sample. Second, the final sample is described by frequency of HIV-related characteristics. In terms of *lifetime AIDS diagnosis*, 62% reported no and 38% reported yes. In terms of *AIDS diagnosis at HIV diagnosis*, 78% reported no and 22% reported yes. In terms of *current viral load*, 92% reported undetectable and 8% reported detectable. In terms of *route of transmission*, 53% reported contracting HIV from receptive anal sex; 15% unknown, 11% insertive anal sex, 10% vaginal sex, 5% oral sex, 3% sharing needles, 2% medical accident, and 1% maternal transmission. In terms of *health insurance*, 93% were insured and 7% were uninsured. In terms of *currently staying in the hospital*, 96% reported no and 4% reported yes. In terms of *connectedness to an HIV/AIDS community*, and 26% reported being connected, 21% neutral, 20% very disconnected, 20% very connected, and 13% disconnected. See Table 1 below for identity- and HIV-related characteristics of the sample:

Table 1

<i>Identity and HIV-Related Demographics of the Sample</i>			
Demographic Variable	Response Categories	<i>n</i>	%
Gender	Cisgender woman	41	18
	Cisgender man	176	78
	Transgender woman	1	<1
	Transgender man	0	0
	Gender nonconforming	7	3
	Other	0	0
Race	African-American/Black	48	21
	Asian-American/Pacific Islander	6	3
	Native American/Indigenous American	2	<1
	Hispanic/Latino/a	21	9
	Multi-Racial	13	6

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	White/Caucasian	133	59
	Other	1	<1
Religion	Christianity	81	37
	Judaism	12	5
	Islam	3	1
	Buddhism	6	3
	Hinduism	2	<1
	Atheism	49	22
	Agnosticism	33	15
	Other	35	16
Level of Religiosity	Very Religious	23	10
	Somewhat religious	69	31
	Not at all religious	131	59
Sexual Orientation	Straight	37	16
	Bisexual	23	10
	Gay	166	66
	Lesbian	4	2
	Queer	19	8
	Asexual	5	2
	Pansexual	2	<1
	Other	1	<1
Relationship Status	Single	100	44
	Dating, casual	16	7
	Dating, long-term	34	15
	Married/Partnered	63	28
	Other	12	5
Employment Status	Full Time	103	46
	Part Time	53	24
	Not employed	69	31
Income	Below \$10,000	26	12
	\$10,001 to \$20,000	35	16
	\$20,001 to \$30,000	18	8
	\$30,001 to \$40,000	19	9
	\$40,001 to \$50,000	20	9
	\$50,001 to \$60,000	13	6
	\$60,001 to \$70,000	13	6
	\$70,001 to \$80,000	17	8
	\$80,001 to \$90,000	12	0
	\$90,001 to \$100,000	7	3
	\$100,001 to \$110,000	5	2
	Above \$110,001	39	17

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Social Class	Lower class	45	20
	Working class	64	29
	Middle class	88	40
	Upper-middle class	18	8
	Upper class	8	4
Lifetime AIDS Diagnosis	Yes	85	38
	No	139	62
AIDS Diagnosis at HIV Diagnosis	Yes	49	22
	No	174	78
Current Viral Load	Undetectable	203	92
	Detectable	17	8
Route of Transmission	Insertive anal sex	24	11
	Receptive anal sex	119	53
	Vaginal sex	23	10
	Sharing needles	6	3
	Maternal transmission	2	1
	Oral sex	11	5
	Medical accident	5	2
	Don't know	34	15
Health Insurance	Yes	210	93
	No	15	7
Currently in the Hospital	Yes	8	4
	No	215	96
Connectedness to HIV/AIDS Community	Very disconnected	45	20
	Disconnected	30	13
	Neutral	47	21
	Connected	58	26
	Very connected	44	20

Note. $N = 234$. Some values do not add to 234 due to missing demographic data.

Procedure

Participants were recruited through multiple strategies including via an emailed survey link, posts on social networking sites including Reddit, Tumblr, and Facebook, and through messages sent to known online coordinators of HIV-related groups (Appendix L). The study was advertised as a survey of the marginalization and empowerment experiences of PLWHA.

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Internet recruitment and data collection are ideal for this study due to the goal of capturing a nationally representative sample, as well as the increased privacy the Internet provides for people who may not be ‘out’ about their HIV status.

The first page of the online study included information about the study, informed consent (Appendix J), participant’s rights (Appendix K), and contact information for the primary investigator (Appendix L). Participants who affirmed they meet study criteria and consented to participation were directed to a survey introduction, then prompted to respond carefully to all items. Subsequent pages of the survey contained the following measures grouped into thematic blocks, then randomized to evenly distribute the order effects that can result from serial positioning and priming: Heterosexist Harassment Rejection and Discrimination Scale (adapted); Scale of Perceived Social Support in HIV; Emotion Regulation Questionnaire; HIV Stigma Scale; Kessler Psychological Distress Scale; Medical Outcomes Study Questionnaire Short Form 12 Health Survey; and a demographics questionnaire. HIV criminalization by state was coded by the author, and HIV criminalization belief was captured by a single-item question. The survey took an average of 24 minutes to complete, with a range from 8 to 72 minutes.

Instruments

The following instruments were used in the study:

HIV Criminalization by State was examined according to HIV criminal laws in the US (Lehman et al., 2014, Appendix A). After participants reported their state of residence, each state was coded based on the following three criteria, with their scores in each summed to create an HIV Criminalization by State score ranging from 0 (*no criminalization*) to 3 (*high criminalization*):

(1) State has HIV-specific laws (0 = No, 1 = Yes),

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- (2) State has applied general felony laws to prosecute PLWHA (0 = No, 1 = Yes), and
- (3) State requires registration as sex offender as part of punishment under HIV-specific laws (0 = No, 1 = Yes).

All three criteria were summed to create an HIV Criminalization by State score. States were coded for each of these aspects according to policies and legislation that were in place during the year of data collection, as documented by the Center for HIV Law & Policy. Similar methods have been utilized to measure the effects of state-level policies on health outcomes amongst marginalized groups (Rostosky, Riggle, Horne, & Miller, 2009). Hatzenbeuhler and colleagues (2009), for example, compared psychiatric morbidity between LGB individuals who lived in states with at least one protective policy for LGB people versus those living in states with no protective policies. In another study, Hatzenbeuhler and colleagues (2010) compared the prevalence of psychiatric disorders between LGB individuals who lived in states that passed constitutional amendments in 2004 to 2005 defining marriage as between a man and a woman versus those living states that did not have an amendment on their ballots. In both studies, living in states with discriminatory policies and/or living in states without protective policies was significantly associated with higher levels of psychological distress.

HIV-Related Discrimination was measured with an adapted version of the Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS; Szymanski, 2006; Szymanski & Meyer, 2008) (Appendix B). The original HHRDS is a 14-item self-report measure assessing experiences of heterosexist discrimination. For the present study, the HHRDS was adapted to assess participants' experiences with experiences of HIV-related discrimination. The original HHRDS was sent to four expert reviewers in the field of HIV/AIDS research and activism, who screened and adapted items. For example, the item, 'In the past year, how many times have you

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been verbally insulted because you are a lesbian?’ was modified to ‘In the past year, how many times have you been verbally insulted because you are HIV-positive?’ Participants indicated the frequency of discrimination in the past year on a 6-point continuum, from 1 (*never*) to 6 (*almost all of the time*). Item ratings were averaged, with higher scores signifying higher levels of HIV-related discrimination. Reliability for HHRDS items have not been assessed specifically with samples consisting of PLWHA, but has been reported for other stigmatized groups within similar investigations of minority stress theory. Cronbach’s alpha for HHRDS items was .90 with lesbian women (Szymanski, 2006), .91 with gay and bisexual men (Szymanski, 2009), and .89 with a national sample of transgender adults (Breslow et al., 2015). Support for the scale’s validity is evidenced by its positive relation to psychological distress amongst sexual minority women of color (Szymanski & Meyer, 2008) and transgender people (Breslow et al., 2015). Cronbach's alpha for adapted HHRDS items was .96 in the present study.

Social Support was measured with the Scale of Perceived Social Support in HIV (PSS-HIV; Cortes, Hunt, & McHale, 2014) (Appendix C). The PSS-HIV is a 12-item measure assessing perceived social support for PLWHA, with factors including belonging, esteem, and self-development. Participants rated the extent to which they agreed with items such as “I can freely express my opinion to my partner or group of friends” and “My friends have been able to give me affection when I have needed it” on a 5-point, Likert-type scale, from 1 (*strongly disagree*) to 5 (*strongly agree*). Validity of the PSS-HIV has been demonstrated with numerous samples of PLWHA (for a review, see Engler, Lessard, & Lebouché, 2017). The PSS-HIV scale has been demonstrated to have negative correlations with anxiety and depression as well as positive association with resilience (Garrido-Harnansaiz & Alonso-Tapia, 2017). The PSS-HIV

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yielded Cronbach's alphas of .89 with a Chilean sample of PLWHA and .83 with a UK sample (Cortes et al., 2014). Cronbach's alpha for the current study was .91.

Cognitive Reappraisal was measured with Cognitive Reappraisal subscale of the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) (Appendix D). The ERQ is a 10-item self-report measure assessing individual differences in the use of two separate emotion regulation strategies: (1) cognitive reappraisal and (2) expressive suppression. The scale's original authors (Gross & John, 2003) recommend scoring each subscale separately, and finding an average score of items for each subscale, rather than a full-scale score for all 10 items. The current study utilized the cognitive reappraisal subscale. For the 6-item subscale, participants rated their tendencies to reappraise their thoughts (e.g., "When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm") on a 7-point, Likert type scale, from 1 (*strongly disagree*) to 7 (*strongly agree*). Item ratings were averaged, with higher scores signifying higher levels of cognitive reappraisal. Reliability for ERQ items have been established in numerous diverse samples; Cronbach's alpha was .75 with individuals suffering from PTSD (Boden et al., 2013) and .88 with patients with major depression (Beblo et al., 2012). Support for the scale's validity amongst PLWHA is evidenced by its elevated rates amongst an Indian sample of PLWHA (Tiwari, 2015), as well as its mediating role in the relation between external shame experiences and anxiety (Martins, Canavarro, & Pereira, 2017). Cronbach's alpha for the cognitive reappraisal subscale items in the present study was .87.

HIV Criminalization Belief was measured with a single-item question (Appendix E): "To the best of your knowledge, for the state in which you live, which of the following best describes the law on HIV status and unprotected sex?" Participants chose one of four options indicating their belief about whether there were laws in their state criminalizing sexual behavior

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without disclosing one's HIV-positive status, include the option of clicking "I don't know." A dichotomous variable was created, comparing participants who believed their states had HIV criminal laws (62.2%, $n = 145$, coded as 1 = *Yes*) with respondents who either believed their state had such laws or indicated they did not know (37.8%, $n = 88$, coded as 0 = *No*). This question has been utilized in previous studies to measure HIV criminalization belief with multiple US samples of PLWHA (Galletly et al., 2012a, 2012b).

HIV Stigma was measured by combining items from three subscales of the HIV Stigma Scale (Berger et al., 2001), a 40-item self-report measure assessing experiences of personalized and enacted HIV stigma (Appendix F). The scale captures multiple domains of HIV stigma, with sample items including: personalized stigma (e.g., "People seem afraid of me because I have HIV"); disclosure concerns (e.g., "I am very careful whom I tell"); negative self-image (e.g., "I feel guilty because I have HIV"); and concern with public attitudes toward people with HIV (e.g., "Most are uncomfortable around someone with HIV.") The three mechanisms described in the literature review were captured by the following subscales: (1) disclosure concerns (captured by the Disclosure Concerns subscale), (2) internalized HIV stigma (captured by the Negative Self-Image subscale), and (3) stigma consciousness (captured by the Concern with Public Attitudes subscale). Subscale items were combined with redundancies removed to create a single, full-scale score. Participants indicated their agreement with each statement on a 4-point continuum, from 1 (*completely disagree*) to 4 (*completely agree*). Item ratings were averaged, with higher scores signifying higher levels of HIV stigma. Reliability has been demonstrated with use with numerous samples of PLWHA. For example, Cronbach's alpha for the HIV Stigma Scale and/or subscale items was .93 with HIV-positive urban African American men (Berger et al., 2001), .94 with young HIV-positive men who have sex with men (Buseh et al., 2008), and

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.96 with HIV-positive men and women 50 and older (Dowshen & Garofalo, 2009). Cronbach's alpha for the HIV Stigma Scale items in the present study was .94.

Psychological Distress was measured with the six-item Kessler Psychological Distress Scale (K6; Kessler et al., 2002) (Appendix G). The scale screens for and captures the severity of psychological distress, asking respondents how frequently they experienced symptoms of mood and life disturbance due to mental health over the past 30 days. Participants rated the extent to which they have experienced certain feelings (e.g., “nervous,” “hopeless,” “worthless”) on a 5-point continuum, from 1 (*all of the time*) to 5 (*none of the time*). Item responses were reverse coded and averaged to derive a scale score, with higher scores indicating greater psychological distress. The K6 was developed for use with two of the largest ongoing national health tracking surveys in the US (the CDC Behavioral Risk Factors Surveillance Survey and the SAMHSA National Household Survey), and demonstrated robust structural and construct validity via significant correlations with other distress measures (Cairney, Veldhuize, Wade, Kurdyak, & Steiner, 2007; Mitchell & Beals, 2011; Slade, Grove, & Burgess, 2011). The Kessler Psychological Distress Scale has yielded high Cronbach's alphas with multiple samples of PLWHA, including .87 (Spies et al., 2009) and .92 (Louw et al., 2012) in separate South African samples and .87 in a Canadian sample (Choi et al., 2015). Cronbach's alpha for the K6 items in the present study was .92.

Health-Related Quality of Life was measured with the Medical Outcomes Study Questionnaire Short Form 12 Health Survey (SF-12; Ware Jr, Kosinski, & Keller, 1996), a brief version of the Medical Outcomes Study Questionnaire Short Form 36 Health Survey (SF-36; Ware Jr & Sherbourne, 1992) (Appendix H). Physical and Health Composite Scores were computed using the scores of twelve questions and range from 0 to 100, where a 0 score

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indicates the lowest level of health and a 100 score indicates the highest level of health. The SF-12 captures the following subdomains of health: general health, physical functioning, role functioning (physical), bodily pain, vitality, role functioning (emotional), mental health, and social functioning. The SF-12 is a generic measure for use across age or disease group, and its validity and reliability for use with PLWHA has been demonstrated in tens of studies (e.g., Cooper et al., 2011; Delate & Coons, 2000; Han, Pulling, Telke, & Hullsiek, 2002; Hickman, Glass, Arnkoff, & Falloot, 2013). Cronbach's alpha for the SF-12 items in the present study was .92.

Demographic Information was measured with a questionnaire (Appendix I) asking participants to identify their age, gender identity, race, ethnicity, religious affiliation, sexual orientation, relationship status, social class status, income, level of education, zip code (in order to determine state of residence), and HIV-related health information including year of diagnosis, route of transmission, symptoms, most recent CD4 count and viral load, and treatment regimen (Appendix I). Results are outlined in the following chapter.

CHAPTER IV: RESULTS

The current chapter explores the data cleaning and analysis process, and reports the results of the study. For an explanation and results of each hypothesis, see Table 4 at the end of the results section. This table outlines each set of hypotheses (i.e., bivariate correlations, direct associations, and indirect associations), and reports whether the data demonstrate support for each.

Data analyses were conducted and are thus described here in two phases: (1) *preliminary analyses*, which included data cleaning procedures, normality assumptions, descriptive statistics, and correlation analysis; followed by (2) *primary analyses*, which included test of model fit, direct associations, and indirect associations. Each of these steps is outlined below, along with results as compared to the study's three sets of hypotheses.

Preliminary Analyses

In the first phase, *preliminary analyses* were performed to prepare the dataset for primary analysis and describe the makeup of the sample. To outline these processes, the current section describes data cleaning procedures, normality assumptions, descriptive statistics, and correlation analyses.

Data cleaning procedures. First, data were cleaned in SPSS to ensure results were accurate and relevant. These procedures were conducted after removing ineligible participants from the study, as described in the previous chapter. Additionally, participants who reported falsified and/or duplicate data were removed, as discussed in the limitations section of the discussion below. The remaining 234 participants were missing an average of .86 items, with the majority (82.1%, $n = 192$) missing zero. Little's Missing Completely at Random (MCAR; Little & Rubin, 2014) test was used to determine whether data were missing at random or in a

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systematic way. This was done to determine whether missing data should be replaced by expectation-maximization (if missing at random) or multiple imputation through logistic regression (if missing systematically). Results of the MCAR test demonstrated that data were missing completely at random, rather than due to a systematic bias ($\chi^2 = 581.542$, $df = 536$, $p = .085$). Missing data were thus replaced with predicted values through use of the expectation-maximization (EM) algorithm. After missing values were imputed, the sample was tested to determine whether normality assumptions were met.

Normality assumptions. Second, after missing values were imputed, data were screened to determine whether they met guidelines for univariate normality (i.e., skewness < 3.0 , kurtosis < 10.0 ; Weston & Gore, 2006). All variables of interest met benchmarks for univariate normality. The data were then tested for outliers. Because no case had a significant value of Mahalanobis D^2 ($p < .001$), no outliers were identified, and the data met multivariate normality assumptions.

Descriptive statistics. Third, SPSS was used to compute descriptive statistics (e.g., the ranges of scores, means, medians, modes, and standard deviations for all items). Internal consistencies were also computed for all scales used in the study. These results are reported in Table 2. All scales demonstrated acceptable internal consistency reliabilities (Ponterotto & Ruckdeschel, 2007), with alpha values ranging from .87 (cognitive reappraisal) to .96 (HIV-related discrimination).

Correlation analysis. Hypothesis 1 was tested by exploring bivariate correlations in SPSS 23.0. Bivariate correlation analysis measures the strength of relationships between two variables, and produces a correlation coefficient ranging from absolute 0 to 1, with a stronger relationship approaching absolute value of 1. Bivariate correlations can be positive or negative.

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Positive relationships indicate that, when one variable increases, the other increases as well. In a negative relationship, when one variable increases, the other decreases. These relations were examined before conducting analysis by using benchmarks for small ($r = .10$), medium ($r = .30$), and large ($r = .50$) effect sizes (Cohen, 1992). Results were mixed in terms of consistency with Hypothesis 1. All bivariate correlations can be seen in Table 2, and described below in the following order: distal stigma-related stressors, general psychological processes, group-specific processes, and mental/behavioral health outcomes.

In terms of distal stigma-related stressors, (1) *HIV criminalization by state* yielded a significant small positive correlation with HIV criminalization belief ($r = .14$), and a significant small negative correlation with psychological distress ($r = -.18$), though non-significant correlations with all other variables. (2) *HIV-related discrimination* demonstrated a significant small negative association with social support ($r = -.16$), significant small positive association with HIV criminalization belief ($r = .19$), significant large positive association with HIV stigma ($r = .50$), significant medium positive association with psychological distress ($r = .43$), and significant medium negative association with health-related quality of life ($r = -.42$), though a non-significant correlation with cognitive reappraisal.

In terms of general psychological processes, (3) *social support* yielded a significant medium positive correlation with cognitive reappraisal ($r = .38$) and health-related quality of life ($r = .37$), and significant negative small correlations with HIV stigma ($r = -.24$) and psychological distress ($r = -.24$), though a non-significant correlation with HIV criminalization belief. (4) *Cognitive reappraisal* yielded a significant small positive correlation with health-related quality of life ($r = .16$), though non-significant correlations with HIV criminalization belief, HIV stigma, and psychological distress.

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In terms of group-specific processes, (5) *HIV criminalization belief* yielded a significant small positive correlation with HIV stigma ($r = .13$), though non-significant correlations with psychological distress and health-related quality of life. (6) *HIV stigma* yielded a significant large positive correlation with psychological distress ($r = .52$) and a significant medium negative correlation with health-related quality of life. Lastly, in terms of mental/behavioral health outcomes, (7) *psychological distress* yielded a significant large negative correlation with health-related quality of life ($r = -.73$). These results are discussed in terms of support for their hypothesized correlations in the Summary of Findings section. See Table 2 below for bivariate correlations, descriptive statistics, and Cronbach's alphas for variables of interest:

Table 2
Bivariate Correlations, Descriptive Statistics, and Cronbach's Alpha for Variables of Interest

Variable	1	2	3	4	5	6	7	Possible Range	M	SD	α
1. HIV Criminalization by State	--							0-3	1.45	.75	--
2. HIV-Related Discrimination	-.07	--						1-6	1.57	.87	.96
3. Social Support	-.07	-.16*	--					1-5	3.80	.82	.91
4. Cognitive Reappraisal	.00	-.03	.38***	--				1-7	4.75	1.23	.87
5. HIV Criminalization Belief	.14*	.19**	.11	.07	--			0-1	.62	.49	--
6. HIV Stigma	-.08	.50***	-.24***	-.08	.13*	--		1-4	2.42	.56	.94
7. Psychological Distress	-.18**	.43***	-.24***	-.12	.12	.52***	--	1-5	1.37	1.00	.92
8. HRQoL	.04	-.42***	.37***	.16*	-.07	-.43***	-.73***	1-6	3.53	.75	.92

Note. N = 234. HRQoL = Health-Related Quality of Life. α = Cronbach's alpha reliability coefficient.

* $p < .05$; ** $p < .01$; *** $p < .001$

Primary Analyses

The current section outlines the study's primary analyses. First, the procedures and results of the path analysis are explained. This is followed by a description of model fit, direct associations, and indirect associations. Finally, a summary of findings is provided.

Path analysis. The study used a path analysis design – a particular form of structural equation modeling – to analyze the model's goodness of fit with the data. Path analysis is a group correlational design in which the independent variables (e.g., HIV criminalization by state, HIV-related discrimination) are not manipulated, and have a potential causal association with dependent variables. The hypothetical relationships between these variables and all other variables in the model are represented in a path model. The purpose of the model is to account for variation and covariation of the variables.

First, a measurement model was tested with factor analysis, identifying how accurately the observed variables measured hypothetical constructs. This was tested by conducting item parceling for each scale: combining items to develop unique subsets (or parcels) within a particular scale. Each latent variable was split into three parcels, generating greater variance and reliability than simply testing the scale as a single item. Second, a structural model was tested to specify the hypothesized relationships among variables. SEM is conducted in six steps, as outlined by Weston and Gore (2006): model specification, identification, data preparation and screening, estimation, evaluation of fit, and modification. The first two steps are explained in the chapters above, as the model for the current study was specific and identified in the context of minority stress theory and literature on processes particular to PLWHA. SEM describes *direct associations*: for example, the strength and direction of the relationship between HIV-related

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discrimination and psychological distress. It also describes *indirect associations*: for example, the role of social support as a mediator between these two variables.

There are two types of variables in a path analysis model: (1) *exogenous variables*, or those whose variances are not explained by other variables in the model, and (2) *endogenous variables*, or those whose variances are considered in part to be explained by other variables in the model. Paths are drawn between variables to represent their relationships. These paths are either unidirectional, such that a variable exerts causality in one direction on another, or bidirectional, such that variables exert causality on each other in both directions. The strength of path analysis lies in its ability to explain complex relationships and determine the most significant relationships within a constellation of variables.

Mplus (Muthén & Muthén, 2000) was used to conduct a path analysis for the current study. The study's model was developed by the primary investigator based on existing literature. It represents hypothetical relations between two exogenous variables (HIV criminalization by state, HIV-related discrimination) and six endogenous variables (social support, cognitive reappraisal, HIV criminalization belief, HIV stigma, psychological distress, and health-related quality of life). Each of the rectangular boxes in the path diagram represents a measured variable; circular borders represent latent variables (i.e., variables that are inferred, rather than directly observed). Straight lines symbolize direct associations, indicating that variance in a predictor variable (e.g., HIV criminalization by state) may explain variance in an outcome variable (e.g., psychological distress). To describe support for hypotheses, the following results are reported: (1) model fit indices, indicating whether the model is a good fit to the data, (2) direct associations, or the interrelations between two variables; and (3) indirect associations, or the interrelations between two variables mediated through a third variable in the model.

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Model fit. Model fit was determined with a two-stage modeling strategy: (1) first, the fit of the measurement model was tested, then (2) the fit of the structural model was tested. Model fit for each was evaluated in Mplus using maximum likelihood estimation (ML). The following fit indices were used to determine fit, in accordance with guidelines suggested by Weston & Gore (2006) for studies with samples < 500: Chi-square test of model fit (χ^2), Root Mean Square Error Of Approximation (RMSEA), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and Standardized Root Mean Square Residual (SRMR). The first, χ^2 , indicates misspecifications of the model; smaller values indicate better fit. *RMSEA* is a fit index which corrects for the complexity of a model; values < .10 are widely considered to indicate acceptable fit. *CFI* and *TLI* are incremental fit indices comparing the model's fit with a null model in which no relationships exist between variables; values range from 0 to 1.0, with values > .90 widely considered to indicate acceptable fit. *SRMR* is based on covariance residuals, and estimates the difference between the model and the observed data; values < .10 are widely considered to indicate acceptable fit.

First, the *measurement model* was tested. Prior to analysis, multi-item latent variables (i.e., HIV-related discrimination, social support, cognitive reappraisal, HIV stigma, psychological distress, and health-related quality of life) were parceled by entering the measure into a principal axis factor analysis in SPSS, constrained to produce one factor. Item factor loadings were assigned to three parcels for each latent variable in order from highest to lowest magnitude, parceled in countervailing order. In addition to these latent variables, two manifest variables (i.e., HIV criminalization by state, HIV criminalization belief) were included in the measurement model. Above hypothesized associations were tested with correlating variables allowed to covary. The measurement model was deemed to be a reasonable fit to the data:

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$\chi^2(157) = 413.01, p < .01$; CFI = 0.936; RMSEA = 0.084 (95% CI = 0.074, 0.094); SRMR = .058. Additionally, all item parcels loaded onto their intended latent constructs at $p < .001$.

Because the measurement model was deemed to be a reasonable fit, the fit of the *structural model* was then evaluated in accordance with guidelines suggested by Weston & Gore (2006) for studies with samples with $n < 500$. The structural model was also determined to be a good fit to the data: $\chi^2(145) = 363.599, p < .01$; CFI = 0.945; RMSEA = 0.081 (95% CI = 0.070, 0.091); SRMR = 0.045. Because the structural model fit the data, direct and indirect associations were estimated.

Direct associations. Hypothesis 2 was tested in Mplus 8 by exploring direct associations between variables of interest. Significant direct associations are described below; see Figure 4 below for standardized path coefficients of significant and non-significant direct associations.

In terms of distal stigma-related stressors, (1) *HIV criminalization by state* yielded a significant negative direct association with psychological distress ($\beta = -.15, p < .05$) and significant positive direct association with HIV criminalization belief ($\beta = .30, p < .01$). (2) *HIV-related discrimination* yielded significant direct negative associations with social support ($\beta = -.10, p < .05$) and health-related quality of life ($\beta = -.26, p < .01$), as well as significant direct positive associations with HIV criminalization belief ($\beta = .17, p < .001$) and HIV stigma ($\beta = .49, p < .001$).

In terms of general psychological processes, (3) *social support* yielded a significant direct positive association with health-related quality of life ($\beta = .20, p < .05$), significant positive bidirectional associations with cognitive appraisal ($\beta = .42, p < .001$) and HIV criminalization belief ($\beta = .21, p < .01$), and a significant negative bidirectional association with HIV stigma ($\beta =$

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-.22, $p < .01$). (4) Cognitive reappraisal yielded non-significant direct associations with remaining variables.

In terms of group-specific processes, (5) HIV criminalization belief yielded a non-significant bidirectional association with HIV stigma. (6) HIV stigma yielded a significant positive direct association with psychological distress ($\beta = .38, p < .001$), and a significant negative direct association with health-related quality of life ($\beta = -.23, p < .01$). In terms of mental/behavioral health outcomes, (7) *psychological distress* yielded a significant bidirectional negative association with health-related quality of life ($\beta = -.70, p < .001$).

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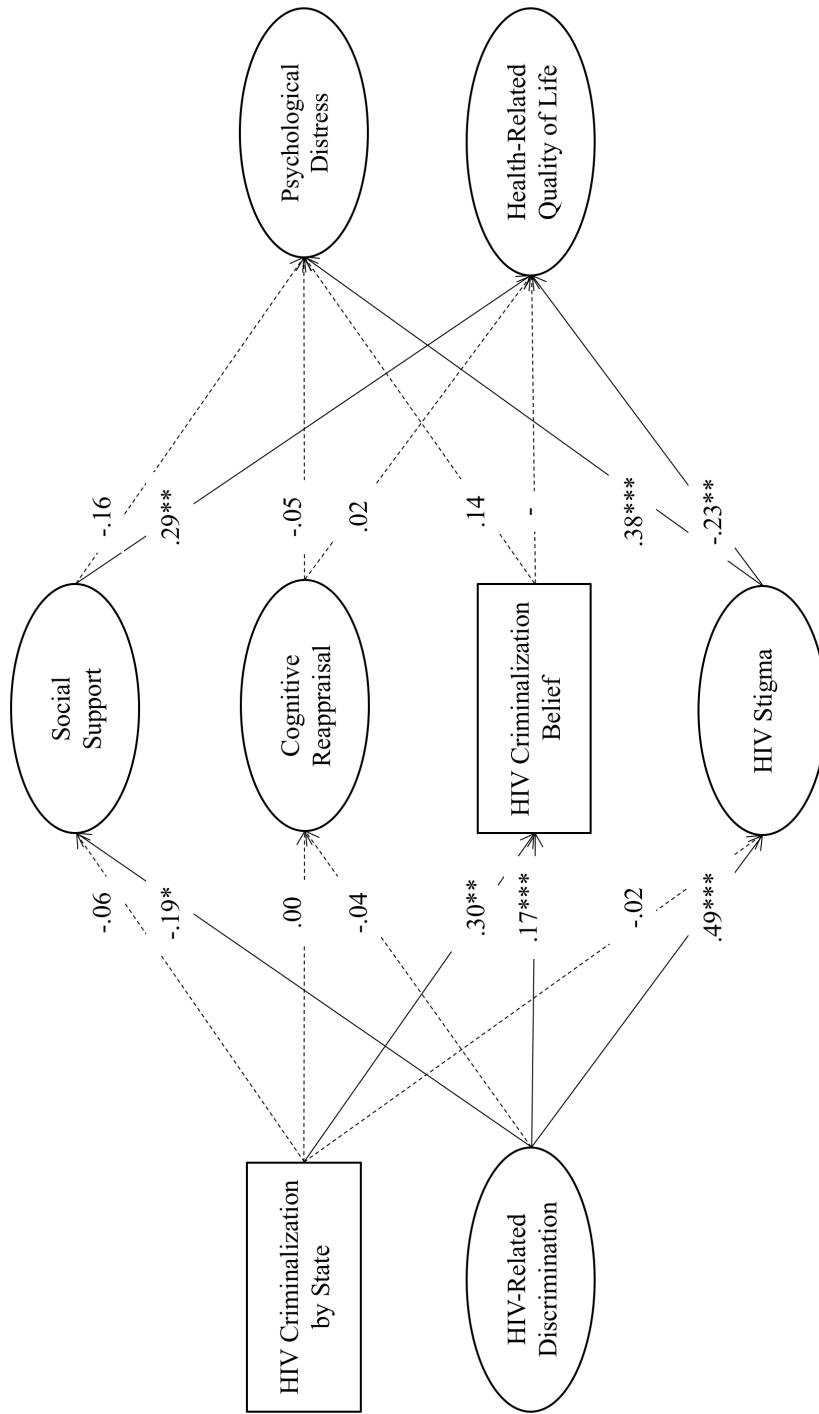


Figure 4. Final dual model of HIV/AIDS minority stress. Values reflect standardized coefficients; dashed lines indicate nonsignificant paths. The following parameters were estimated, though are not depicted for sake of parsimony:
 (1) HIV Criminalization by State to Psychological Distress: (-.15*), Health-Related Quality of Life (.04).
 (2) HIV-Related Discrimination to Psychological Distress, (.16), Health-Related Quality of Life (-.26**).
 (3) Social Support with Cognitive Reappraisal (.42***), HIV Criminalization Belief (.21**), HIV Stigma (-.22**).
 (4) Cognitive Reappraisal with HIV Criminalization Belief (.07), HIV Stigma (-.07).
 (5) HIV Criminalization Belief with HIV Stigma (.03).
 (6) Psychological Distress with Health-Related Quality of Life (-.70***)
 * $p < .05$; ** $p < .01$; *** $p < .001$.

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Indirect associations. Hypothesis 3 was tested by exploring indirect associations between variables of interest. Indirect associations were tested in Mplus 8 through partial mediation in line with the psychological mediation framework of minority stress (Hatzenbuehler, 2009). A path analysis included tests of the potential roles of two general psychological processes (i.e., social support, cognitive reappraisal), as well as two group-specific processes (i.e., HIV criminalization belief, HIV stigma), as mediators of the relationships between both distal stigma-related stressors (i.e., HIV criminalization by state, HIV-related discrimination) and both mental/behavioral health outcomes (i.e., psychological distress, health-related quality of life). To determine the significance of indirect associations, 95% confidence intervals (CIs) were examined; if the unstandardized CI did not contain zero, the indirect association was considered to be significant at least at the $p < .05$ value (Mallinckrodt, Abraham, Wei, & Russell, 2006). There were six significant indirect associations, each demonstrating support (though limited) for Hypothesis 3. Significant indirect associations are described below; see Table 3 for parameters of significant and non-significant indirect associations.

First, *HIV criminalization by state* yielded a significant positive indirect association with psychological distress (1) through HIV criminalization belief ($B = .054$ [95% CI: .002, .184], $\beta = .042$). Second, *HIV-related discrimination* yielded significant positive indirect associations with psychological distress (2) through social support ($B = .036$ [95% CI: .001, .114], $\beta = .030$), through (3) HIV criminalization belief ($B = .017$ [95% CI: .002, .075], $\beta = .023$), and (4) through HIV stigma ($B = .055$ [95% CI: .128, .343], $\beta = .186$). Third, *HIV-related discrimination* yielded significant negative indirect associations with health-related quality of life (5) through social support ($B = -.043$ [95% CI: -.109, -.006], $\beta = -.055$) and (6) through HIV stigma ($B = -.087$ [95% CI: -.151, -.030], $\beta = -.113$).

Table 3
Magnitude and Significance of Total Indirect Effects for the model depicted in Figure 4

Predictor	Mediator(s)	Criterion	β	Standardized Indirect Relation		Unstandardized Indirect Relation		95% CI, Unsat. Indirect Relation	
				β	SE	B	SE	Lower Bound	Upper Bound
HIV Criminalization by State	Social Support	Psychological Distress	.009	.013	.012	.017	-.009	.062	
	Social Support	HRQoL	-.017	.021	-.014	.018	-.058	.014	
	Cognitive Reappraisal	Psychological Distress	.000	.006	.000	.008	-.018	.018	
	Cognitive Reappraisal	HRQoL	.000	.005	.000	.004	-.010	.008	
	HIV Crim Belief	Psychological Distress	.042	.036	.054	.044	.002	.184*	
	HIV Crim Belief	HRQoL	-.018	.019	-.015	.015	-.056	.007	
HIV-Related Discrimination	HIV Stigma	Psychological Distress	-.011	.024	-.014	.031	-.079	.044	
	HIV Stigma	HRQoL	.007	.015	.006	.013	-.017	.035	
	Social Support	Psychological Distress	.030	.021	.036	.026	.001	.114*	
	Social Support	HRQoL	-.055	.031	-.043	.025	-.109	-.006*	
	Cognitive Reappraisal	Psychological Distress	.002	.008	.003	.010	-.007	.046	
	Cognitive Reappraisal	HRQoL	-.001	.007	-.001	.006	-.021	.006	
HIV Crim Belief	HIV Crim Belief	Psychological Distress	.023	.014	.028	.017	.002	.075*	
	HIV Crim Belief	HRQoL	-.010	.011	-.008	.008	-.028	.006	
	HIV Stigma	Psychological Distress	.186	.045	.222	.055	.128	.343*	
	HIV Stigma	HRQoL	-.113	.040	-.087	.032	-.151	-.030*	

Note. For CIs that do not contain 0, the indirect associations is significant at least $p < .05^*$. HRQoL = Health-Related Quality of Life.

Summary of Findings

The findings of the final model were mixed in terms of their support for the author's three sets of hypotheses. Overall, however, the model demonstrated a good fit to the data, indicating that minority stress theory (Meyer, 1995, 2003) is an acceptable and useful framework for understanding the psychological and health-related impact of HIV criminalization by state and HIV-related discrimination. HIV-related discrimination played a major role, yielding positive indirect associations with psychological distress, as well as negative direct and indirect associations with health-related quality of life, as hypothesized. The role of HIV criminalization by state was mixed in terms of support for hypotheses. HIV criminalization by state, contrary to hypotheses, yielded a significant negative direct association with psychological distress. However, it yielded a significant positive indirect association when mediated by HIV criminalization belief, perhaps demonstrating that HIV criminalization impacts psychological functioning when it becomes internally salient above and beyond its codification into state law. Given that the model demonstrated a good overall fit, specific results of each set of hypotheses were tested, with mixed results.

Results provide further support for application of the psychological mediation framework (Hatzenbuehler, 2009) with PLWHA. As described above, there were six significant indirect associations between distal stigma-related stressors and mental/behavioral health outcomes, indicating that psychological mediation through general psychological processes and group-specific processes plays an important role in HIV/AIDS minority stress. The study's findings also demonstrate robust bidirectional correlations and direct associations between general psychological processes and group-specific processes. These findings provide mixed support for

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the author's hypotheses, as well as the bidirectional associations between mediators posited by the original psychological mediation framework of minority stress.

Overall, the study's results support extending minority stress theory to further understand the stigma-related experiences of PLWHA. Though limited, they provide further evidence that dual dimensions of HIV/AIDS minority stressors impact people's lives through direct and indirect mechanisms of stress. Table 4 specifies which hypothesized relations provided support for each set of hypotheses, including (1) Hypothesis 1, bivariate correlations, (2) Hypothesis 2, direct associations, and (3) Hypothesis 3, indirect associations. The following chapter provides a discussion of the results in the context of clinical practice, research, and policy.

Table 4
Results of Tests of Three Sets of Hypotheses: Bivariate Correlations, Direct Associations, Indirect Associations

Set	Predictor	Outcome	Mediator	Hypothesized Relation	Support: Yes	Support: No	
Hypothesis 1: Bivariate Correlations	HIV Criminalization by State	HIV Discrimination		+ Correlation		✓	
		Social Support		- Correlation		✓	
		Cognitive Reappraisal		- Correlation		✓	
		HIV Crim Belief		+ Correlation	✓		
		HIV Stigma		+ Correlation		✓	
		Psychological Distress		+ Correlation		✓	
			HRQoL		- Correlation		✓
	HIV-Related Discrimination	Social Support			- Correlation	✓	
		Cognitive Reappraisal			- Correlation		✓
		HIV Crim Belief			+ Correlation	✓	
		HIV Stigma			+ Correlation	✓	
		Psychological Distress			+ Correlation	✓	
			HRQoL		- Correlation	✓	
Social Support	Cognitive Reappraisal			+ Correlation	✓		
	HIV Crim Belief			- Correlation		✓	
	HIV Stigma			- Correlation	✓		
	Psychological Distress			- Correlation	✓		
		HRQoL		+ Correlation	✓		

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Hypothesis 2: Direct Associations	Cognitive Reappraisal	HIV Crim Belief HIV Stigma Psychological Distress HRQoL	- Correlation - Correlation - Correlation + Correlation	✓ ✓ ✓ ✓
	HIV Criminalization Belief	HIV Stigma Psychological Distress HRQoL	+ Correlation + Correlation - Correlation	✓ ✓ ✓
	HIV Stigma	Psychological Distress HRQoL	+ Correlation - Correlation	✓ ✓
	Psychological Distress	HRQoL	- Correlation	✓
	HIV Criminalization by State	Social Support Cognitive Reappraisal HIV Crim Belief HIV Stigma Psychological Distress HRQoL	- Association - Association + Association + Association + Association - Association	✓ ✓ ✓ ✓ ✓ ✓
	HIV-Related Discrimination	Social Support Cognitive Reappraisal HIV Crim Belief HIV Stigma Psychological Distress HRQoL	- Association - Association + Association + Association + Association - Association	✓ ✓ ✓ ✓ ✓ ✓

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Social Support	Cognitive Reappraisal HIV Crim Belief HIV Stigma Psychological Distress HRQoL		+ Bidirectional - Bidirectional - Bidirectional - Association + Association	✓ ✓ ✓	✓ ✓ ✓
Cognitive Reappraisal	HIV Crim Belief HIV Stigma Psychological Distress HRQoL		- Bidirectional - Bidirectional - Association + Association	✓ ✓ ✓	✓ ✓ ✓
HIV Criminalization Belief	HIV Stigma Psychological Distress HRQoL		+ Association + Association - Association	✓ ✓ ✓	✓ ✓ ✓
HIV Stigma	Psychological Distress HRQoL		+ Association - Association	✓ ✓	✓ ✓
Psychological Distress	HRQoL		- Association	✓	✓
HIV Criminalization by State	Psychological Distress HRQoL Psychological Distress HRQoL Psychological Distress HRQoL Psychological Distress HRQoL Psychological Distress	Social Support Social Support Cognitive Reappraisal Cognitive Reappraisal HIV Crim Belief HIV Crim Belief HIV Stigma	+ Indirect - Indirect + Indirect - Indirect + Indirect - Indirect + Indirect	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓

Hypothesis 3:
Indirect
Associations

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	HRQoL	HIV Stigma	- Indirect		✓
HIV-Related Discrimination	Psychological Distress	Social Support	+ Indirect	✓	
	HRQoL	Social Support	- Indirect	✓	
	Psychological Distress	Cognitive Reappraisal	+ Indirect		✓
	HRQoL	Cognitive Reappraisal	- Indirect		✓
	Psychological Distress	HIV Crim Belief	+ Indirect	✓	
	HRQoL	HIV Crim Belief	- Indirect		✓
	Psychological Distress	HIV Stigma	+ Indirect	✓	
	HRQoL	HIV Stigma	- Indirect	✓	

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CHAPTER V: DISCUSSION

The current chapter elaborates on the results, implications, and limitations of this dissertation. Overall, the study's findings suggest that dual HIV/AIDS minority stressors (Meyer, 1995, 2003) – both structural and interpersonal – play important roles in the lives of PLWHA. The impacts of these stressors may also be mediated by internal processes – both general and group-specific – which affect how marginalization is felt, appraised, and internalized (Hatzenbuehler, 2009). As hypothesized, HIV-related discrimination yielded direct and indirect associations with psychological distress and health-related quality of life. HIV criminalization by state, however, yielded more nuanced associations. Specifically, it yielded a negative *direct* association with psychological distress, though a positive *indirect* association when internalized through HIV criminalization belief.

This final chapter contextualizes the results of the current study, which aimed to explore a dual model of HIV/AIDS minority stress with a national sample of gender- and race-diverse PLWHA. First, a *summary of the research study* is provided, followed by an *overview of findings*, including a discussion of support for each set of hypotheses. *Implications for practice, research, and policy* are discussed, followed by an exploration of the study's *limitations and directions for future research*. Lastly, a *summary and conclusions* section will outline the purpose and greater context of the study's findings for PLWHA.

Summary of the Research Study

The purpose of this dissertation was to test and expand *minority stress theory* (Meyer, 1995, 2003) – in particular the *psychological mediation framework* (Hatzenbuehler, 2009) – by examining the dual roles of structural and interpersonal stigma among PLWHA. In particular, the study aimed to build on previous literature demonstrating the impact of structural and

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interpersonal discrimination with LGBT individuals (Bockting et al., 2013; Hatzenbuehler et al., 2014; Pachankis et al., 2014) by examining the associations of HIV criminalization by state and HIV-related discrimination with mental/behavioral outcomes for PLWHA. Results suggest that minority stress theory, including the psychological mediation framework, is a useful framework for understanding dual minority stress processes for PLWHA. Three mediators – HIV criminalization belief, social support, and HIV stigma – played key roles in the indirect associations between distal stigma-related stressors and mental/behavioral health. These findings highlight valuable implications for treating with PLWHA, and begin to highlight future directions for HIV/AIDS practice, research and policy.

The study examined associations between two predictor variables (e.g., HIV criminalization by state, HIV-related discrimination) with two outcome variables (e.g., psychological distress, health-related quality of life), as mediated by two general psychological processes (e.g., social support, cognitive reappraisal) and two group-specific process (e.g., HIV criminalization by state, HIV stigma). Results were mixed in terms of support for hypotheses, though demonstrated overall support for a dual model of HIV/AIDS minority stress.

Overview of Findings

The current section provides an overview of findings in terms of their statistical significance and theoretical implications. The aim of the study was to expand minority stress theory by exploring the complex relationships between distal and proximal stressors, as well as mental/behavioral health outcomes for PLWHA. Given that the hypothesized HIV/AIDS minority stress model depicted in Figure 3 provided a good fit to the data, the study then aimed to test specific relations within the model. The following correlations and associations were tested, as summarized below: bivariate correlations between variables of interest (hypothesis 1),

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direct associations (hypothesis 2), and indirect associations (hypotheses 3). Each set of hypotheses was grounded in minority stress literature, as well as literature about complex roles of HIV and its related stigmas in people's lives.

Hypothesis 1, bivariate correlations. The correlation patterns among variables of interest provided mixed support for a dual, expanded model of HIV/AIDS minority stress. First, in terms of distal stigma-related stressors, (1) *HIV criminalization by state* yielded a significant positive correlation with HIV criminalization belief, in support of hypotheses. This is consistent with previous literature indicating that PLWHA tend to be aware of the existence of their state's HIV criminal laws (Galletly et al., 2012a, 2012b). Contrary to hypotheses, HIV criminalization by state yielded a significant negative correlation with psychological distress, and non-significant correlations with other variables of interest. Multiple studies have demonstrated that structural stigma by state may yield positive associations with adverse health outcomes (Hatzenbuehler et al., 2014; Pachankis et al., 2014); as such, this was a surprising result, and may be indicative of a geographically skewed sample and/or confounding state-level variables.

Correlations between (2) *HIV-related discrimination* and variables of interest were aligned with prior minority stress literature (Meyer, 1995, 2003) and research on the psychological processes of internalizing experiences of HIV-related discrimination (Link & Phelan, 2001; Parker & Aggleton, 2003). In particular, when HIV-related discrimination was high, HIV criminalization belief, HIV stigma, and psychological distress were high as well. When it was low, social support and health-related quality of life were high. These results suggest an important relation between more frequent discrimination experiences and difficulties with regard to general psychological processes, group-specific processes, and mental/behavioral health outcomes. The foundational assumption of MST is that these distal experiences of stigma

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may lead to proximal stressors and, in turn, adverse health outcomes; correlations with HIV-related discrimination align with such findings in similar studies (e.g., Berger et al., 2001; Buseh et al., 2008; Hatzenbuehler et al., 2008).

Second, in terms of general psychological processes, (3) *social support* yielded positive correlations with cognitive reappraisal and health-related quality of life, as well as negative correlations with HIV stigma and psychological distress, in support of hypotheses. These results provide further support for previous literature documenting the adaptive role of social support among PLWHA (Burnham et al., 2016; Kalichman et al., 2003; Lam et al., 2007). Unlike social support, remaining correlations with (4) *cognitive reappraisal* were unremarkable (though it was correlated with social support), suggesting that the ability to adjust one's thoughts may not play as pivotal a role in the minority stress model as social support. These findings provide mixed support for the psychological mediation framework (Hatzenbuehler, 2009).

Third, (4) *HIV criminalization belief* was positively correlated with HIV stigma, demonstrated support for Hatzenbuehler's (2009) suggestion of bidirectional correlations between group-specific processes. This is an important finding for the study, as it suggests that higher levels of HIV stigma are correlated with a belief that one is criminalized for living with HIV. This supports social psychology and criminology theories (Michalowski, 1985; West, Vayshenker, Rotter, & Yanos, 2015), which posit that individuals who internalize stigma also tend to internalize criminality. It also provides further support for recent findings in both policy and public health demonstrating correlations between HIV stigma and HIV criminalization belief in states with HIV criminal laws (e.g., Galletly et al., 2012a, 2012b). It is important to note that HIV criminalization belief, though *not* HIV criminalization by state, was correlated with HIV stigma. This may suggest that intra-personal processes play a crucial role above and beyond de

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facto legislation. The second group-specific process, (5) *HIV stigma*, demonstrated support for hypotheses and previous literature (Burke et al., 2015; Earnshaw & Chaudoir, 2009) through correlations with both mental/behavioral health outcomes. Lastly, (6) psychological distress yielded a negative correlation with (7) health-related quality of life, demonstrating support for the theory of intra-personal correlations between different health outcomes (Hatzenbuehler, 2009).

Hypothesis 2, direct associations. After testing for bivariate correlations, similar relations between variables of interest were hypothesized, tested, and demonstrated in a path model (Figure 4). Both the measurement and structural model provided a good fit to the data, suggesting further evidence for the utility of expanding models of HIV/AIDS minority stress. Clear in the results are direct associations between distal stigma-related stressors and mental/behavioral health outcomes, supporting foundational claims of MST as well as recent expansions with PLWHA (Hatzenbuehler et al., 2008; Rendina et al., 2016). In particular, direct associations tended to mirror the aforementioned bivariate correlations, with HIV-related discrimination and HIV stigma again yielding the highest number of direct effects.

Of note, similar to bivariate correlations, the path model demonstrated support for bidirectional associations between general psychological processes (i.e., social support, cognitive reappraisal) and group-specific processes (i.e., HIV criminalization belief, HIV stigma). Social support, remarkably, yielded positive bidirectional associations with cognitive reappraisal and HIV criminalization belief, as well as a negative bidirectional association with HIV stigma. These findings support the theoretical claim that intra-personal processes may be “reciprocal and dynamic in nature,” influencing each other in nuanced, mutual ways (Hatzenbuehler, 2009, p. 723). The psychological mediation framework posits not only unidirectional associations, but also

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the notion that some intra-personal processes potentiate others. The bidirectional nature between social support and all other mediating variables demonstrates not only how important community may be for PLWHA, but also how closely tied social support is to our thought processes, conceptions of ourselves in society, and experiences negotiating our more abject traits both externally and internally.

Hypothesis 3, indirect associations. After testing for direct associations, indirect associations were explored, demonstrating partial support for hypotheses. There were six significant indirect associations in the model, highlighting multiple pathways through which distal stigma-related stressors may impact mental/behavioral health for PLWHA. First, *HIV criminalization by state* yielded a significant positive indirect association with psychological distress (1) through HIV criminalization belief. This is an important finding, given that the direct association between HIV criminalization by state and psychological distress was positive. It suggests that HIV criminalization by state may be an important pathway through which de facto legislation becomes negatively salient for PLWHA (West et al., 2015; Burris et al., 2007; Horvath et al., 2010). Second, *HIV-related discrimination* yielded significant positive indirect associations with psychological distress through (2) social support, (3) HIV criminalization belief, and (4) HIV stigma. Third, *HIV-related discrimination* yielded significant negative indirect associations with health-related quality of life through (5) social support and (6) HIV stigma. These results provide support for the theory that general psychological processes and group-specific processes are crucial pathways through which HIV/AIDS minority stressors ‘get under the skin’ (Hatzenbuehler, 2009; Rendina et al., 2016).

Implication for Practice, Research, and Policy

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Implications for practice. The study's findings present theoretical and practical implications for clinical work with PLWHA. Given the disproportionate co-morbidities of mood, substance use, cognitive, and psychotic disorders among PLWHA, it is essential for clinicians to take a culturally-affirming, nuanced, and scientifically-informed approach to clinical work (O'Connor, 1996). This is, of course, no easy task. Cognitive-behavioral therapists, for example, write about the adherence issues common to work with PLWHA (Safren et al., 2009; Safren et al., 2012). Psychodynamic therapists describe themes of loss, identity diffusion, and death anxiety that often arise with HIV-positive clients, illuminating the existential dimensions of living with – and dying from – HIV (Machado, 2012; Schönnesson, 2002). Despite common issues, PLWHA seek and deserve quality care, and the study's findings support and perhaps extend clinical guidelines.

First, the study's findings highlight the importance of *processing and facilitating adaptive responses to distal stigma-related stressors* (Dentato, 2012; Hatzenbuehler, 2009). HIV criminalization by state and HIV-related discrimination have demonstrated direct and indirect associations with psychological distress and health-related quality of life, as well as mediating processes. It is thus recommended that clinicians target the roles of societal stressors in their clients' lives, above and beyond chief complaints or diagnostic symptoms (Farber, Shahane, Brown, & Campos, 2014). These findings reveal that psychological distress is strongly informed not only by *living with HIV*, but also by the contending with its psychosocial complications. Thus, practitioners are encouraged to utilize interventions that validate stigma-related stressors and concomitant, often maladaptive coping styles. Particular responses to stigma-related stressors may include hypervigilance, rejection sensitivity and enactment (Cole, Kemeny, & Taylor, 1997), and internalized stigma (Katz & Tsai, 2015). HIV criminalization may have a

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dehumanizing, ostracizing impact, which can be discussed and ameliorated in treatment (Velez, 2012; Wolf & Vezina, 2003). Each of these processes may be informed by a person's experience of HIV identity centrality, and thus this concept can be discussed with clients.

Given the demonstrated challenges in adjusting to criminalization and discrimination, another important focus for treatment is *buffering stress-ameliorative processes* (Garrido-Hernansaiz et al., 2017; Earnshaw, Lang, Lippitt, Jin, & Chaudoir, 2015; Emler et al., 2010). In the current study, social support and cognitive reappraisal yielded positive bidirectional associations, suggesting that social and cognitive strategies may buffer the impact of HIV/AIDS minority stress. Clinicians may thus encourage PLWHA to seek and foster social support. Given the key role of social support in the study's model, group treatment may be indicated for work with PLWHA. More precisely, the current study revealed that for PLWHA, seeking social support may help increase cognitive reappraisal skills and decrease multiple mechanisms of HIV stigma. These findings support the literature, including randomized-control trials, demonstrating the positive impact of group psychotherapy in decreasing isolation and fostering hope for PLWHA (Bar-Lev, 2008; Bernstein & Klein, 1995; Kalichman, Sikkema, & Somlai, 1996; Kelly, Murphy, Bahr, & Kalichman, 1993). Given the demonstrated negative association of HIV-related discrimination with social support, it may be important for clinicians to discuss how reactions to discrimination may 'get in the way' of adaptive responses to stigma.

Lastly, clinicians are encouraged to take a *biopsychosocial approach* when working with PLWHA. Findings of the current study included a large, negative correlation as well as a direct negative bidirectional association between psychological distress and health-related quality of life. This suggests that clinicians working with PLWHA may improve psychological distress by encouraging patients to improve their medical care, and vice versa. Living with HIV is inherently

psychologically distressing, due in part to the difficulty of managing a life-threatening illness, though also due to ancillary stigma and adjustment after diagnosis (Berger et al., 2001). Long courses of untreated HIV infection may also damage subcortical areas of the brain and produce HIV dementia, resulting in depression-like symptoms. Thus, clinicians are encouraged to facilitate health-seeking behaviors with HIV-positive patients, which may lead to a ‘happy side-effect’ of helping PLWHA feel better. In terms of social health, clinicians may engage with clients about their thoughts and feelings related to HIV criminalization, as well as the legal and practical implications of criminality, confidentiality, and disclosure (Ficorrotta, 2016).

Implications for research. The current study holds implications for future research. First, it provides justification and support for future studies to continue to expand knowledge of the nuanced processes of *HIV/AIDS minority stress*. Full models of HIV/AIDS minority stress have been tested primarily with samples of HIV-positive gay and bisexual men (Hatzenbuehler et al., 2008; Rendina et al., 2016), and thus the author encourages future research with identity-diverse samples of PLWHA. Additionally, the findings of the current study provide a structural model that can be expanded on in future studies by exploring (1) dual structural/interpersonal minority stressors, (2) HIV/AIDS minority stress, and (3) the minority stress-related implications of criminalization of marginalized groups.

Second, future studies have the opportunity to clarify and refine the potential *psychological mediation processes* of HIV/AIDS minority stress. The current study investigated two general psychological processes and two group-specific processes, with mixed though promising results. Future work can continue to expand on the psychological mediation framework (Hatzenbuehler, 2009) with this population by exploring additional mechanisms through which stigma is internalized. Although social support behaved as expected, cognitive

reappraisal was relatively non-significant in the model. Thus, future studies may explore sub-processes of emotion regulation and cognitive reappraisal that may be more relevant for PLWHA. Future studies may also incorporate time-series and/or longitudinal designs in order to produce more robust findings with regard to causal and directional pathways and indirect associations.

Third, future studies may explore the potential roles of *stress-ameliorating processes* that may buffer from the impact of HIV/AIDS minority stress. Minority stress literature has called for scholars to explore individual- and group-level characteristics that may promote psychosocial functioning despite the impact of discrimination (Meyer, 1995, 2003; Russell, 2005). This work has been done across minority groups, documenting stress-ameliorating processes including resilience and collective action among transgender adults (Breslow et al., 2015), cognitive flexibility among bisexual individuals (Brewster et al., 2013), and cultural strengths among Mexican American women (Bettendorf & Fischer, 2009). Recent studies have begun to explore these important processes in the lives of PLWHA as well, which may similarly include resilience (Emlet, Tozay, & Raveis, 2010), posttraumatic growth (Calhoun & Tedeschi, 2014; Siegel & Schrimshaw, 2000), coping (Ferreira, 2006), and collective action for the rights of PLWHA (Cornish, 2004). However, the majority of these studies identify processes that ameliorate stress associated with interpersonal discrimination and stigma. No studies known to the author have tested HIV/AIDS minority stress models with the inclusion of stress-ameliorating processes that may buffer against structural stigma, such as employment and housing discrimination, barriers to competent health care, and HIV criminalization.

Limitations and Directions for Future Research

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Findings from the current study must be interpreted within the limitations of the data. First, although online recruitment and data collection have advantages (e.g., broad geographical access to diverse participants, reducing oversaturation of local venues, and reducing in-person liability and disclosure for PLWHA who may not be ‘out’), Internet research has clear limitations (King, O’Rourke, DeLongis, 2014). Participation is limited to adults with a computer or mobile device and Internet access, thus perhaps skewing the sample more middle and upper class. Indeed, the average participant was a gay cisgender White man in his early 40s, thus limiting the generalizability of the study’s results. Online research may also result in premature termination and/or falsification or duplication of data (Wilkerson, Iantaffi, Grey, Bockting, & Rosser, 2014). For the current study, out of 593 individual clicks on the survey link, 234 (39.46%) resulted in full completions. This may have been due to the length of the survey, and can be improved through shortening survey length and/or increasing the incentive for participants. Additionally, of importance given the topic of this study, social contracts are often not upheld online. This was evident in occasional ‘trolling’ of the survey through data falsification and/or inclusion of aggressive language toward PLWHA (e.g., “I punked your fag-AIDS survey”) in open text fields. Although unwelcome, such comments reinforce the importance of persisting in the pursuit of HIV/AIDS-affirming research. In order to ensure data were accurate, the writer followed the guidelines of Wilkerson and colleagues (2014) to minimize the risk of fraud when collecting data online with ‘hard-to-reach’ populations. In particular, the author established a data collection and participation verification protocol including a comparison of Internet Protocol address, zip codes, and relevant demographic information. Falsified and duplicate data were deleted.

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A second, important limitation of the study is the cross-sectional nature of the data, which cannot conclusively address temporal or causal hypotheses (Weston & Gore, 2006). Although a one-time survey can provide meaningful insight about a constellation of variables related to HIV/AIDS minority stress, one cannot claim that a particular variable ‘causes’ another, nor can one make temporal claims about mediators. This poses limitations especially for claims about indirect associations. Relations between sets of variables are hypothesized based on theory and evidence in the literature, though their directionality cannot be fully ‘confirmed’ by cross-sectional data. Thus, the study’s findings cannot make claims about which came first: HIV-related discrimination or HIV stigma. This particular analytic limitation may be resolved through time-series and longitudinal designs, thus informing directions for future research.

A third, key limitation was the utilization of adapted instruments to capture certain mechanisms of HIV/AIDS minority stress. In particular, the author was unable to identify standardized instrument designed to capture (1) HIV criminalization by state, (2) HIV-related discrimination, or (3) HIV criminalization belief. As a result, the author modified an existing scale aimed to capture discrimination with LGB people, and developed an imperfect coding system to capture both HIV criminalization by state and HIV criminalization belief. In terms of HIV criminalization belief, there was significant utility in understanding participants’ beliefs about whether HIV criminal laws were codified in their states. However, a more ideal, standardized instrument may capture the psychological processes through which HIV criminalization is internalized (akin to a measure of internalized homonegativity, for example). Future research may include the development of an internalized HIV criminalization scale.

Lastly, it is important to acknowledge that the current study does not sufficiently address HIV/AIDS minority stress from an intersectional perspective (Cho, Crenshaw, & McCall, 2013).

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Although the path model explores dual mechanisms of HIV/AIDS minority stress, it does not adequately capture the impact of race, gender, ability status, social class, or other identity characteristics in its analysis or results. This is an important limitation given the aforementioned discussion of disproportionate incidence, prevalence, and criminalization of HIV among young Black men who have sex with men as well as Black women. In a recent editorial in the *Psychology and AIDS Exchange Newsletter* of the American Psychological Association, AIDS activist Robert Suttle described HIV criminalization as “a form of state-sponsored discrimination [...] simply as another way to incarcerate black people.” Future studies on HIV/AIDS criminalization and related minority stressors may thus investigate the particular ways these processes manifest among young Black men. Additionally, they may follow recent expansions of minority stress theory that aim to capture intersectional dimensions of stress resilience (e.g., McConnell, Janulis, Phillips II, Truong, & Birkett, 2018).

Summary and Conclusions

The current study joined with scholarly and community critiques of HIV criminalization by testing a dual model of HIV/AIDS minority stress. The purpose of the current study was to expand and test the application of minority stress theory (Meyer, 1995, 2003), in particular the psychological mediation framework (Hatzenbuehler, 2009), with a national sample of PLWHA. Through bivariate correlations and structural equation modeling, the study explored associations between distal stigma-related stressors (i.e., HIV criminalization by state, HIV-related discrimination), general psychological processes (i.e., social support, cognitive reappraisal), group-specific processes (i.e., HIV criminalization belief, HIV stigma), and mental/behavioral outcomes (i.e., psychological distress, health-related quality of life).

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Results provided support for the expansion and application of minority stress theory as a helpful framework for understanding the dual roles of structural/interpersonal stigma-related stressors in the lives of PLWHA. In particular, HIV criminalization yielded a negative direct and positive indirect association with psychological distress. HIV-related discrimination yielded positive direct associations with HIV criminalization belief and HIV stigma, as well as negative direct associations with social support and health-related quality of life. The study also demonstrated support for bidirectional associations between general psychological processes and group-specific processes, as well as negative bidirectional associations between psychological distress and health-related quality of life. The study provided support for expansions of the psychological mediation framework in a model of HIV/AIDS minority stress. In particular, HIV criminalization belief, social support, and HIV stigma played key roles in mediating associations between distal stigma-related stressors and mental/behavioral health outcomes.

The current study is the first known exploration of dual structural/interpersonal HIV/AIDS minority stress including HIV criminalization and psychological mediation. This study adds a psychological perspective to the literature describing the negative biopsychosocial outcomes of HIV criminalization in the US. It outlines research and clinical implications in support of finding ways to buffer the dual impact of structural/interpersonal stigmas in the lives of PLWHA.

Given the study's results, the author posits that HIV criminalization, discrimination, and stigma-related processes play critical roles in the propagation of the ongoing epidemic. Individual and state-sponsored discrimination has clear links with elevations in general psychological processes, group-specific processes, and adverse health outcomes. These associations have been documented and rallied against since we first published news articles

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about a foreign disease killing off urban gay men. We must continue to target HIV-related discrimination at individual and structural levels. HIV criminalization, when internalized, yields negative associations for health among PLWHA. Thus, the validity, efficacy, and impact of this state-sponsored program of stigma must continue to be critiqued.

HIV, after all, is simply a virus. Transmitted through bodily fluids, it infects people's cells. It leads to chronic, yet manageable illness. Without the trappings of racialized stigma, removed from the insidious nature of heterosexism and a national culture of sex-negativity, HIV is a lentivirus that is both preventable and remarkably easy to treat. PLWHA must be taken care of and supported, not sentenced to 60-and-a-half years in prison, which is arguably the worst place for someone who is immunosuppressed.

In considering the cultural production of HIV as a criminal threat in Canada and the US, lesbian writer and HIV/AIDS activist Sarah Schulman writes powerfully in defense of the surprisingly radical stance that HIV is not a crime:

If HIV criminalization dissuades people from getting tested, further stigmatizes the HIV-positive, and makes them afraid to disclose; incarcerates people who are made more ill by being in prison; blames individuals instead of institutions; overly targets immigrants and Aboriginal people; and jeopardizes women and others who are biologically unable to infect anyone, then what purpose does it serve? (2016, p. 104).

Arguable, HIV criminalization serves a viral class of people who are *not* living with HIV. In doing so, it imbues PLWHA with criminal potential, reinforcing the notion, as Sontag writes, that "the general rebuke to life and to hope is AIDS" (2001, p. 122).

Yet the virus itself is *not* the constellation of stigmas, assumptions, or biases that propagate its epidemic. It is *not* the rebuke to life, or at least it does not have to be. We know

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after decades of research that HIV is a threat to one's immune system. It enters a cell, making its way to the nucleus to unload the viral genome without triggering cellular defense mechanisms. As a culture, we have responded – defended ourselves – by codifying stigma into law. We have assembled legal defense mechanisms to protect ourselves from a foreign, abject virus. Surely, we need to protect ourselves from HIV, though stigma and criminalization will not protect us. HIV is a chronic illness, a cultural scapegoat, and an opportunity to shift how we treat people who are sick. HIV may be all of these things. But HIV is not a crime.

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APPENDICES

APPENDIX A

HIV Criminalization by State Scoring Key (Lehman et al., 2014)

Author's note: After participants reported their state of residence, each was coded according to the following criteria. Criteria are separate, though not mutually exclusive, as some states fall into none, one, or multiple categories:

1. State has HIV-specific laws (0 = No, 1 = Yes)
2. State has applied general felony laws to prosecute PLWHA (0 = No, 1 = Yes)
3. State requires registration as sex offender as part of punishment under HIV-specific laws (0 = No, 1 = Yes)

All three criteria were summed to create an HIV Criminalization by State score, as depicted in the right-most column, ranging from 0-3:

State	1. HIV-Specific Statute	2. HIV-Related Prosecutions	3. Mandated Sex Offender Registry	HIV Criminalization by State Score
Alabama	1	0	0	1
Alaska	1	0	0	1
Arizona	0	0	0	0
Arkansas	1	0	1	2
California	1	1	0	2
Colorado	1	1	0	2
Connecticut	0	0	0	0
Delaware	1	0	0	1
Florida	1	1	0	2
Georgia	1	1	0	2
Hawaii	0	0	0	0
Idaho	1	0	0	1
Illinois	1	0	0	1
Indiana	1	1	0	2
Iowa	1	0	0	1
Kansas	1	0	0	1
Kentucky	1	1	0	2
Louisiana	1	1	1	3

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Maine	0	0	0	0
Maryland	1	1	0	2
Massachusetts	0	1	0	1
Michigan	1	1	0	2
Minnesota	1	1	0	2
Mississippi	1	0	0	1
Missouri	1	1	0	2
Montana	1	0	0	1
Nebraska	1	0	0	1
Nevada	1	0	0	1
New Hampshire	0	1	0	1
New Jersey	1	1	0	2
New Mexico	0	0	0	0
New York	0	1	0	1
North Carolina	1	1	0	2
North Dakota	1	0	0	1
Ohio	1	1	1	3
Oklahoma	1	0	0	1
Oregon	0	1	0	1
Pennsylvania	1	1	0	2
Rhode Island	1	0	0	1
South Carolina	1	0	0	1
South Dakota	1	0	1	2
Tennessee	1	1	1	3
Texas	0	1	0	1
Utah	1	0	0	1
Vermont	0	0	0	0
Virginia	1	1	0	2
Washington	1	1	1	3
Washington, DC	0	0	0	0
West Virginia	1	0	0	1
Wisconsin	1	0	0	1
Wyoming	0	0	0	0

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APPENDIX B

Heterosexist Harassment, Rejection, and Discrimination Scale (adapted for use with PLWHA)
(Szymanski, 2009)

INSTRUCTIONS: Please think carefully about your life as you answer the questions below. Read each question and then circle the number that best describes events in the PAST YEAR, using these rules:

RESPONSE OPTIONS:

Click 1 –If the event has NEVER happened to you

Click 2 –If the event happened ONCE IN A WHILE (less than 10% of the time)

Click 3 – If the event happened SOMETIMES (10-25% of the time)

Click 4 – If the event happened A LOT (26% -49% of the time)

Click 5 – If the event happened MOST OF THE TIME (50-70% of the time)

Click 6 – If the event happened ALMOST ALL OF THE TIME (more than 70% of the time)

ITEMS:

1. In the past year, how many times have you been treated unfairly by teachers or professors because you are HIV-positive?
2. In the past year, how many times have you been treated unfairly by your employer, boss or supervisors because you are HIV-positive?
3. In the past year, how many times have you been treated unfairly by your co-workers, fellow students or colleagues because you are HIV-positive?
4. In the past year, how many times have you been treated unfairly by people in service jobs (by store clerks, waiters, bartenders, waitresses, bank tellers, mechanic and others) because you are HIV-positive?
5. In the past year, how many times have you been treated unfairly by strangers because you are HIV-positive?
6. In the past year, how many times have you been treated unfairly by people in helping jobs (by doctors, nurses, psychiatrists, caseworkers, dentists, school counselors, therapists, pediatricians, school principals, gynecologists, and others) because you are HIV-positive?
7. In the past year, how many times were you denied a raise, a promotion, tenure, a good assignment, a job, or other such thing at work that you deserved because you are HIV-positive?
8. In the past year, how many times have you been treated unfairly by your family because you are HIV-positive?
9. In the past year, how many times have you been called a name like dirty, unclean, House in Virginia, slut, or other names because you are HIV-positive?
10. In the past year, how many times have you been made fun of, picked on, pushed, shoved, hit, or threatened with harm because you are HIV-positive?
11. In the past year, how many times have you been rejected by family members because you are HIV-positive?
12. In the past year, how many times have you been rejected by friends because you are HIV-positive?

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13. In the past year, how many times have you heard negative remarks from family members because you are HIV-positive?
14. In the past year, how many times have you been verbally insulted because you are HIV-positive?

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APPENDIX C

Scale of Perceived Social Support in HIV (PSS-HIV) (Cortes, Hunt, & McHale, 2014)

INSTRUCTIONS: Please indicate how much you agree with the following questions.

RESPONSE OPTIONS:

1 = Strongly Disagree

2 =

3 = Neutral

4 =

5 = Strongly Agree

ITEMS:

1. I can freely express my opinion to my partner or group of friends
2. I feel I can count on my closest friends or partner when I need to be listened to
3. I feel emotionally sheltered by my family
4. If I ask for it, my friends can give me good advice for my personal development
5. To be part of a group of friends allows me to know myself better
6. I think that my friends give me possibilities for growth
7. If I want to talk to somebody, I can turn to a friend/or my partner and he/she will listen to me
8. Most of the time, solutions to problems presented by my group of friends are useful
9. If I have problems my friend/partner would help me
10. If something is for my own good, my family will support me
11. Among my friends, conflicts are promptly resolved
12. My friends have been able to give me affection when I have needed it

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APPENDIX D

Emotion Regulation Questionnaire (Gross & John, 2003)

INSTRUCTIONS: We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside.

The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

RESPONSE OPTIONS:

- 1 = Strongly Disagree
- 2 =
- 3 =
- 4 = Neutral
- 5 =
- 6 =
- 7 = Strongly Agree

ITEMS:

1. When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*.
2. I keep my emotions to myself.
3. When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.
4. When I am feeling *positive* emotions, I am careful not to express them.
5. When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.
6. I control my emotions by *not expressing them*.
7. When I want to feel more *positive* emotion, I *change the way I'm thinking about the situation*.
8. I control my emotions by *changing the way I think about the situation I'm in*.
9. When I am feeling *negative* emotions, I make sure not to express them.
When I want to feel less *negative* emotion, I *change the way I'm thinking about the situation*.

*

Items 1, 3, 5, 7, 8, and 10 make up the Cognitive Reappraisal subscale.

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APPENDIX E

HIV Criminalization Belief Scoring Key

To the best of your knowledge, for the state in which you live, which of the following best describes the law on HIV status and unprotected sex?

Response Option	HIV Criminalization Belief Score
It is illegal for a person with HIV who knows their HIV status to have unprotected sex without first disclosing their HIV status	1
It is illegal for a person with HIV who knows their HIV status to have unprotected sex regardless of whether HIV status is disclosed or not	1
It is legal for a person with HIV who knows their HIV status to have unprotected sex	0
I don't know	0

Each participant's HIV Criminalization Belief score was coded into one of the following options:

0 = No or Don't Know

1 = Yes

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APPENDIX F

HIV Stigma Scale (Berger et al., 2001)

INSTRUCTIONS: Please indicate how much you agree or disagree with the following items.

RESPONSE OPTIONS:

1 = Strongly Disagree

2 = Disagree

3 = Agree

4 = Strongly Agree

ITEMS:

1. In many areas of my life, no one knows I have HIV
2. I feel guilty because I have HIV
3. People's attitudes make me feel worse about myself
4. Telling someone I have HIV is risky
5. Most people with HIV lose their jobs when employers learn that they have HIV/AIDS
6. I work hard to keep my HIV/AIDS a secret
7. I feel I'm not as good as others because I have HIV/AIDS
8. I never feel ashamed of having HIV/AIDS
9. People with HIV/AIDS are treated like outcasts
10. Most people believe a person who has HIV/AIDS is dirty
11. It is easier to avoid friendships than worry about telling people about my HIV/AIDS
12. Having HIV/AIDS makes me feel unclean
13. I feel set apart and isolated from the rest of the world
14. Most people think that a person with HIV/AIDS is disgusting
15. Having HIV/AIDS makes me feel that I'm a bad person
16. Most people with HIV/AIDS are rejected when others learn that they have HIV/AIDS
17. I am very careful who I tell that I have HIV/AIDS
18. Some people who know that I have HIV/AIDS have grown more distant
19. I worry about people discriminating against me
20. Most people are uncomfortable around someone with HIV/AIDS
21. I never felt that I have to hide the fact that I have HIV/AIDS
22. I worry that people may judge me when they learn that I have HIV/AIDS
23. Having HIV/AIDS is disgusting to me
24. I am hurt by how people reacted to learning I have HIV/AIDS
25. I worry people who know I have HIV/AIDS will tell others
26. I regret having told some people that I have HIV/AIDS
27. As a rule telling others that I have HIV/AIDS is a mistake
28. People avoid touching me if they know I have HIV/AIDS
29. People I care about stopped calling me after learning that I have HIV/AIDS
30. Some told me that HIV/AIDS is what I deserve for how I lived
31. Some people fear that they'll be rejected because of my HIV/AIDS
32. People don't want me around their children once they know that I have HIV/AIDS

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33. People have physically backed away from me because I have HIV/AIDS
34. Some people act as though it's my fault I have HIV/AIDS
35. I have stopped socializing with some people due to their reactions
36. I have lost friends by telling them that I have HIV/AIDS
37. I told people close to me to keep my HIV/AIDS a secret
38. People who know that I have HIV/AIDS ignore my good points
39. People seem afraid of me because I have HIV/AIDS
40. Knowing that you have HIV/AIDS makes others look for flaws in your character.

*

Items 13, 16, 18, 24, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 38, 39, and 40 make up the Personalized Stigma subscale

Items 1, 4, 6, 11, 17, 19, 21, 22, 25, and 37 make up the Disclosure Concerns subscale

Items 2, 3, 6, 7, 8, 11, 12, 13, 15, 23, 27, 38, and 39 make up the Negative Self-Image subscale

Items 2, 3, 6, 7, 8, 11, 12, 13, 15, 23, 27, 38, and 39 make up the Concern with Public Attitudes subscale

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APPENDIX G

Kessler Psychological Distress Scale (K-6) (Kessler et al., 2002)

INSTRUCTIONS: During the last 30 days, how often did you feel like...

RESPONSE OPTIONS:

- 1 = All of the Time
- 2 = Most of the Time
- 3 = Some of the Time
- 4 = A Little of the Time
- 5 = None of the Time

ITEMS:

- 1. nervous?
- 2. hopeless?
- 3. restless or fidgety?
- 4. so depressed that nothing could cheer you up?
- 5. that everything was an effort?
- 6. worthless?

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APPENDIX H

Medical Outcomes Study Questionnaire Short Form 12 Health Survey
(Ware Jr., 1996)

1. In general, would you say your health is:

RESPONSE OPTIONS:

- 1 = Excellent
- 2 = Very Good
- 3 = Good
- 4 = Fair
- 5 = Poor

2. For how long (if at all) has your **health limited** you in **each** of the following activities?
- a) The kinds or amounts of **vigorous** activities you can do, like lifting heavy objects, running or participating in strenuous sports
 - b) The kinds or amounts of moderate activities you can do, like moving a table, carrying groceries, or bowling
 - c) Walking uphill or climbing a few flights of stairs
 - d) Bending, lifting, or stooping
 - e) Waking one block
 - f) Eating, dressing, bathing, or using the toilet

RESPONSE OPTIONS:

- 1 = Limited for more than 3 months
- 2 = Limited for 3 months or less
- 3 = Not limited at all

3. How much **bodily** pain have you had **during the past 4 weeks**:

RESPONSE OPTIONS:

- 1 = None
- 2 = Very mild
- 3 = Mild
- 4 = Moderate
- 5 = Severe
- 6 = Very Severe

4. Does your health **keep** you from working at a job, doing work around the house, or going to school?

RESPONSE OPTIONS:

- 1 = YES, for more than 3 months
- 2 = YES, for 3 months or less

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3 = NO

5. Have you been unable to do **certain kinds or amounts** of work, housework, or schoolwork because of your health?

RESPONSE OPTIONS:

1 = YES, for more than 3 months

2 = YES, for 3 months or less

3 = NO

For **each** of the following questions, please mark the circle for the **one** answer that comes **closest** to the way you have been feeling **during the past month**.

6. How much of the time, during the past month, has you **health limited your social activities** (like visiting with friends or close relatives)?
7. How much of the time, during the past month, have you been a **very nervous person**?
8. During the past month, how much of the time have you felt **calm and peaceful**?
9. How much of the time, during the past month, have you felt **downhearted and blue**?
10. During the past month, how much of the time have you been a **happy person**?
11. How often, during the past month, have you felt so **down in the dumps that nothing could cheer you up**?

RESPONSE OPTIONS:

1 = All of the time

2 = Most of the time

3 = A good bit of the time

4 = Some of the time

5 = A little of the time

6 = None of the time

12. Please mark the circle that **best** describes whether **each** of the following statements is **true** or **false** for you.

- a) I am somewhat ill
- b) I am as healthy as anybody I know
- c) My health is excellent
- d) I have been feeling bad lately

RESPONSE OPTIONS:

1 = All of the time

2 = Most of the time

3 = A good bit of the time

4 = Some of the time

5 = A little of the time

6 = None of the time

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APPENDIX I

Demographics Questionnaire

1. What is your age?
2. What is your preferred gender identity?
 - Woman
 - Man
 - Woman of transgender experience (for example: trans* woman, transsexual woman, MtF)
 - Man of transgender experience (for example: trans* man, transsexual man, FtM)
 - Gender nonconforming (e.g., androgynous, gender queer)
 - My gender is not listed here (*please type your gender identity*): _____
3. What is your race/ethnicity?
 - African-American/Black
 - Asian-American/Pacific Islander
 - Native American/Indigenous American/American Indian
 - Hispanic/Latino/a
 - Multi-Racial
 - White/Caucasian
 - My race/ethnicity is not listed here (*please type your race/ethnicity*).
4. Please select your religious affiliation using BEST descriptor:
 - Christianity
 - Judaism
 - Islam
 - Buddhism
 - Hinduism
 - Atheism
 - Agnosticism
 - My religious affiliation is not listed here (*please type your religious affiliation*).
5. Please indicate your level of religiosity
 - Very Religious
 - Somewhat religious
 - Not at all religious
5. What is your sexual orientation? (*select all that apply*)
 - Straight/heterosexual
 - Bisexual
 - Gay/homosexual
 - Lesbian
 - Queer

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- Asexual
 - Pansexual
 - My sexual orientation is not listed here (*please type your sexual orientation*)
6. What is your current relationship status? Please select the BEST descriptor.
- Single
 - Dating, casual
 - Dating, long-term
 - Married/Partnered
 - Other relationship status (*please describe*)
7. Please select your current employment status
- Employed Full Time
 - Employed Part Time
 - Not employed
8. Please select your yearly household income (the income of those on whom you rely financially, including yourself)
- Below \$10,000
 - \$10,001 to \$20,000
 - \$20,001 to \$30,000
 - \$30,001 to \$40,000
 - \$40,001 to \$50,000
 - \$50,001 to \$60,000
 - \$60,001 to \$70,000
 - \$70,001 to \$80,000
 - \$80,001 to \$90,000
 - \$90,001 to \$100,000
 - \$100,001 to \$110,000
 - Above \$110,001
9. Please select your current social class.
- Lower class
 - Working class
 - Middle class
 - Upper-middle class
 - Upper class
10. We would like to obtain information regarding the geographic location of our sample. This information will remain confidential. What is your zip code?
11. When were you diagnosed with HIV? (*Give your best guess if you are not sure*)
Month: _____
Year: _____

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12. When you were diagnosed with HIV, were you also diagnosed with AIDS?

- Yes
- No

13. Have you ever been diagnosed with AIDS?

- Yes
- No

14. How did you contract HIV?

- Insertive anal sex (“topping”)
- Receptive anal sex (“bottoming”)
- Vaginal sex
- Sharing needles
- From my mother (e.g., while breastfeeding or through birth)
- Being stuck accidentally with an HIV-contaminated needle
- Oral sex
- Blood transfusion
- *I don't know*

15. Are you currently staying in the hospital as a long-term patient?

- Yes
- No

16. Do you have health insurance?

- Yes
- No

17. How connected are you to a community of people with HIV/AIDS?

- Very disconnected
- Disconnected
- Neutral
- Connected
- Very connected

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APPENDIX J

Informed Consent

Teachers College, Columbia University

INFORMED CONSENT

DESCRIPTION OF THE RESEARCH: You are invited to participate in a research study with the purpose of gaining information on your experiences of living with HIV/AIDS. Participation in this study is limited to individuals 18 years old and older who has been diagnosed with HIV and resides in the United States. Aaron Samuel Breslow, a doctoral student in the Counseling Psychology program at Teachers College Columbia University, is conducting the research.

RISKS AND BENEFITS: The risks and discomfort associated with participation in this study are similar to those involved in participating in a discussion about HIV/AIDS. Participation is completely voluntary, and you can refuse to answer any of the questions. You may also stop taking the survey at any point. If you would like to stop taking the survey, you can choose the 'end survey' option at any time.

If you have questions or concerns related to the survey, you are encouraged to contact Aaron Samuel Breslow, the Principal Investigator of this study at [redacted] or via email, [redacted].

There are no direct benefits from this study, although the information you provide may help improve researchers' understanding about the experiences of living with HIV/AIDS.

DATA STORAGE TO PROTECT CONFIDENTIALITY: All survey responses will be confidential. No identifiers (e.g., name, address, email, date of birth, social security number) will be collected using the survey. Data will be saved electronically and will be encrypted and password protected. Only the primary investigator and research staff will have access to the data.

TIME INVOLVEMENT: Your participation will take approximately 15-20 minutes.

HOW WILL RESULTS BE USED: The results of the study may be presented at conferences and/or may be published in journals or articles and used for educational purposes.

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APPENDIX K

Participant's Rights

- I have read the Research Description above and understand that my participation in this study is completely voluntary.
- I may refuse to participate or withdraw from participation at any time without jeopardy to future medical care, employment, student status or other entitlements
- The researcher may withdraw me from the research at his/her professional discretion.
- If, during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue to participate, the investigator will provide this information to me.
- Any information derived from the research project that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- If at any time I have any questions regarding the research or my participation, I can contact the principal investigator – Aaron Samuel Breslow [email removed] -- who will answer my questions.
- If at any time I have comments, or concerns regarding the conduct of the research or questions about my rights as a research subject, I should contact the Teachers College, Columbia University Institutional Review Board /IRB. The phone number for the IRB is (212) 678-4105. Or, I can write to the IRB at Teachers College, Columbia University, 525 W. 120th Street, New York, NY, 10027, Box 151.
- For my personal records, I should print a copy of the Research Description and this Participant's Rights document.

YES, I have read and understand the above, and I agree to participate in this study.

NO, I do not agree to participant in this study.

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APPENDIX L

Recruitment Message

Share your stories about HIV/AIDS, mental health, and empowerment!

Participate in a new study about the marginalization and resilience of people living with HIV/AIDS in the current era. HIV/AIDS continues to affect people's lives in complex ways, and we are interested in hearing from YOU about how you deal with stigma and identity related to the disease.

We are a group of community members and researchers from identityLORE: the Laboratory for Oppression, Resilience, and Empowerment at Teachers College, Columbia University. We are looking to hear from individuals who are interested in participating in a survey about the life experiences of people living with HIV/AIDS. This survey should only take about 20-30 minutes.

After reading below, if you are willing and eligible, please just click on the link below. Thank you in advance for your time and input and for sharing your story! We would really appreciate it if you could pass this message along to anyone else that you think may be eligible and willing to participate, it would be greatly appreciated.

Eligibility Criteria:

- 18 years old
- Diagnosed with HIV and/or AIDS
- Live in the U.S.

If you meet the above criteria and are interested in participating, please click on the link below to begin the short survey.

[Qualtrics Survey Link]

***This study has been approved by the Teachers College, Columbia University Institutional Review Board: Protocol #[redacted]. If you have any complaints, questions, concerns, or would like to know the results, please feel free to contact us via e-mail at [redacted].