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Intersectional Approach to Understand Condom Use Behavior Between Black and Latinos MSM and Transgender Women

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Walden University
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Abstract

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Dissertation Submitted in Partial Fulfillment

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Abstract

Men who have sex with men (MSM) and transgender women has been a focus of scholars since the early 1990s. Researchers have demonstrated that individuals in these communities are at greater risk for adverse health outcomes such as sexually transmitted infections (STIs) and Human Immunodeficiency Virus (HIV). This study examined the relationship between macrosocial structural factors (i.e., housing stability) and the acceptance of risky sexual behavior (RSB) (i.e., condom use) between Black and Latino MSM, and transgender women guided by the health belief model and intersectionality theory. Using a quantitative approach, primary data were collected from MSM and transgender women using an online survey (n=1591). Multiple regression and path coefficients for mediation analyses were estimated using Hayes's PROCESS macro for SPSS 27, Version 3.5 to test research questions. The primary data collected from the research participants demonstrates that housing status is positively, and significantly associated with condom use behavior (b=.028, R^2 =.016, *p*=.036 95%CI [.002, .055) and explains 1.6% of the variance in the behavioral outcome between Black and Latino MSM and transgender women. Health educators and public health professional will benefit from this research as it will contribute to positive social change in the lives of Black and Latino MSM and transgender women. Professionals in this field will better understand how to incorporate the unique life experiences using an intersectional lens in the development of health behavior programs and informational material for Black and Latino MSM and transgender women.

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Dedication

This dissertation is dedicated to my family. To my little people: Reyana, Melanie, Mia, Andy, and Randys Gonzalez; Delilah Avila; Larymal and Adrian De la Cruz, Rome, and Valerie Simmons; and my Goddaughter Lysandra: The world is yours, you can and will accomplish all that you manifest into this universe.

I also dedicate this to the special individuals who are no longer on this earth but remain in spirit: my Stepfather Anderson (Andy) Munro, Abuela Josefa Almonte, Great grandmother Amancia De la Cruz, and my cousin Charles Reynoso.

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The glory to God! Without my universal guidance, I could not have been where I am today. I am proud of myself! My doctoral journey was more than my fear of roller coasters, with steady commitment and learning discipline. I want to thank my parents Kenia De La Cruz and Miguel A. Mejia Sr. for always pushing me forward and being present from near and far ─for you, I am great; Los amo con todo mi ser. My siblings and in-laws, thank you for always rooting for me; your check-ins were some of the most important. I appreciate your presence and the soothing space you all provide for me; every day is a better day. My Liaise girls! Thank you for always checking in, for our sisterly retreats, and for allowing my laptop while we wine. To every person who showed love towards my journey, thank you for being with me EVERY step of the way.

To my committee: Dr. Langley and Dr. Spaulding, the both of you came on board at full force with expertise, resources, and an open mind of guidance; thank you.

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Chapter 1: Introduction to the Study

Introduction

Despite health education efforts to promote safe sex, access to care, and accessibility to condoms, Black and Latino MSM and transgender women are disproportionately affected by sexually transmitted infections (STIs) and Human immunodeficiency virus (HIV) compared to any other racial or ethnic group (Jain et al., 2018; Leichliter et al., 2020; Starks et al., 2017). In 2019, the Centers for Disease Control and Prevention (CDC) reported that among gay and bisexual men, Black/African Americans accounted for 37% and Latinos for 29% of new HIV diagnoses. Of these, 3 out of 4 Black/African Americans and 2 out of 3 Latinos were ages 13 to 34 (CDC, 2018, 2019a). Among transgender people, the prevalence is even higher. The CDC (2019b) estimated that 84% of HIV diagnosis among transgender people were transgender women, in which Black/African Americans accounted for 51% and Latinos for 29%.

This chapter introduces the background of the literature related to the scope of the research study conducted, the problem statement that notes the gap in the literature for health education and promotion discipline as it relates to intersectional factors and identities, condom use, and disease acquisition among Black and Latino MSM and transgender women, and a concise statement of the relationship between the research problem and the purpose of the study. Furthermore, chapter 1 illustrates the conceptual framework used for this study that was grounded on the theoretical foundations of the health belief model and intersectionality theory. Finally, chapter 1 highlights the

significance, assumptions, and limitations of the study along with definitions related to commonly used terms.

This study contributes to positive social change as professionals in the health education and promotion field will better understand how to incorporate the intersectionality theory into health behavior programs. Through application of the study findings, professionals in the health education and promotion field may identify structures jointly interacting to create the unique experiences that influence individual behaviors and health outcomes.

Background

Health education and promotion efforts to encourage the use of barriers such as condoms and contraceptives have been key factors to reduce unintended pregnancies, STIs, and HIV (Jahn et al., 2019), all of which have been associated with risky sexual behaviors (RSB) (Ransome et al., 2019). RSB include having sexual anal intercourse (penetrative or receptive) without a condom (unprotected; van Dijk et al., 2020). It also includes unprotected vaginal intercourse, unprotected oral sex (mouth to genital without dental dam or condom), having multiple sex partners (Maenetje et al., 2019), having sex with a high-risk partner (i.e., person with multiple sex partners, using drugs, has an STI or HIV), illicit drug use, and consuming alcohol before and while engaging in sex (Harawa et al., 2018). Adults aged 18 to 32 who are engaged in high-risk sexual behaviors with Blacks and Latinos account for the highest rates of STIs and HIV in this age group representing 58.1% of STI infections in the United States (Jahn et al., 2019).

Among Black people and Latinos ages 20 to 24, the incidence rates of chlamydia are 3.9 times higher than Whites, and gonorrhea is 9 times greater (Ransome et al., 2019).

In 2019, the CDC reported that among gay and bisexual men, Black/African Americans accounted for 37% and Latinos for 29% of new HIV diagnoses. Of these, 3 out of 4 Black/African Americans and 2 out of 3 Latinos were ages 13 to 34 (CDC, 2018; 2019a). In New York City (NYC), rates are even higher. Black and Latino MSM accounted for 60% of new HIV infections, making NYC the second highest sector in the United States of HIV rates (Murray et al., 2018). Among transgender people, the prevalence is even higher. The CDC estimated that 84% of HIV diagnosis among transgender people were transgender women, in which Black/African Americans accounted for 51% and Latinos for 29%. This rate is relatively higher than their White counterparts who accounted for 11% of new HIV infections (CDC, 2019b). A study by Crosby et al. (2017) revealed that 46.5% of young Black MSM had sex with one or more drunk sex partners during sexual intercourse, and 33.7% used marijuana "right before having sex" (p. 720). Among Latino men, 36% engaged in unprotected penetrative and receptive anal sex and 20% used drugs before and while having sexual intercourse (Young et al., 2016).

This study supports health education and promotion professionals as it increases knowledge about the factors associated with condom use and disease acquisition in a comprehensive approach, thus allowing professionals to develop trainings, interventions, and other educational resources that could enhance health education and promotion efforts to decrease disease prevalence amongst Black and Latino MSM. This study also

contributes to research, as it is the only study, to my knowledge, using the intersectionality theory to examine the joint interactions of multiple structures using the structural equation model in a quantitative approach. This study contributes to positive social change, as the survey instrument administered assessed constructs of the health belief model while assessing behavioral, social, and psychosocial factors to determine the acceptance of RSBs between MSM and transgender women. Professionals in the health education and promotion sector can develop an understanding of how the intersectionality theory can be used to identify structures jointly interacting to create the unique experiences that influence individual behaviors among Black and Latino MSM.

Problem Statement

Improving sexual health and well-being remains a public health priority for sexual and gender minorities (Adedimeji et al., 2019). To reduce incidence of STIs, HIV, and, and RSBs, in 2005, the NYC Department of Mental Health and Hygiene launched the "Free Condom Initiative," and in 2007, the NYC Department of Mental Health and Hygiene launched their first brand packaged condom that was unique to the metropolitan area (Burke et al., 2011; Des Jarlais et al., 2014). This condom availability program is thus far the largest in the United States. The program has male (outer) condoms, female (internal) condoms, finger cots, lubricants, and dental dams for distribution (Burke et al., 2011). However, despite the accessibility and availability of free condoms and other safe sex products, NYC is the second highest jurisdiction with prevalence of HIV in the United States (Murray et al., 2018).

Existing literature has identified relationships of RSB, including dating violence, mental health, and substance use. However, researchers have not examined the intersectional factors influencing the acceptance of RSBs such as condom use among Black and Latino sexual and gender minorities particularly individuals who self-identify as belonging to the lesbian, gay, bisexual transgender, questioning, intersex [LGBTQI] population (Barrington et al., 2019; Maenetje et al., 2019). The problem is that despite health education and preventive efforts to promote safe sex, access to care, and accessibility to condoms, Black and Latino LGBTQI and MSM are disproportionately affected by STIs, such as chlamydia, syphilis, gonorrhea, herpes, human papilloma virus (HPV), trichomoniasis and HIV (Alio et al., 2020; Sarno & Mohr, 2019). Several authors noted an inconsistency of data examining RSBs and the factors associated with the disproportionate representation of STI and HIV transmission evident for Black and Latino LGBTQI and MSM (Chow et al., 2019; Jahn et al., 2019; Li et al., 2019). Several studies have demonstrated that sexual and gender minorities have the poorest health outcomes (Bauer & Scheim, 2019b; Ikeda et al., 2018; Mirzaei et al., 2016; Veronese et al., 2019). However, in the last decade, only a few researchers have examined the association of gender and race/ethnicity on health outcomes using an intersectional approach (Bauer & Scheim, 2019a; Bowleg et al., 2013; Hulko & Hovanes, 2018; Quinn et al., 2019). This indicates that there is a need to examine the intersectional factors that interact to influence RSBs and to what extent Black and Latino MSM engage in them to determine their individualized risk for STIs, HIV, and adverse health outcomes.

Purpose of the Study

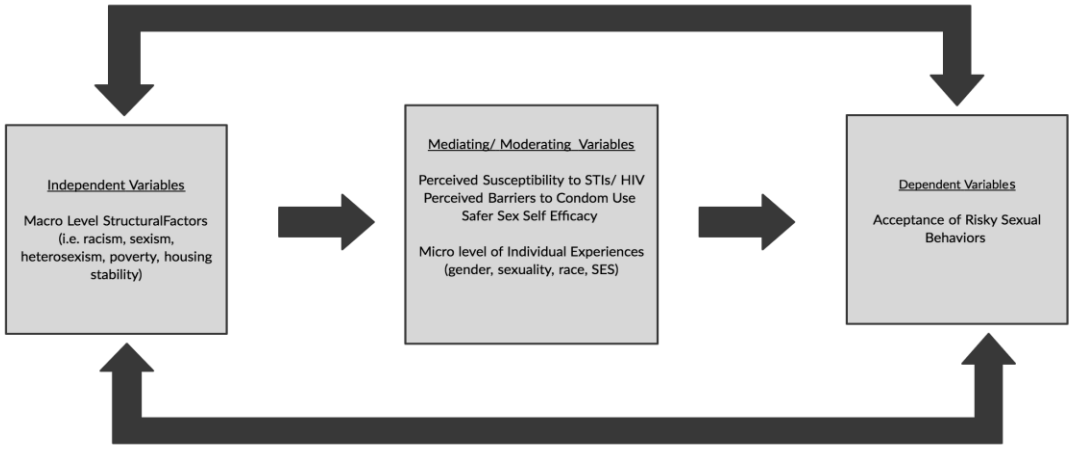
The purpose of the study was to examine the effects of macrosocial structural factors (i.e., racism, heterosexism, housing stability, sexism, socioeconomic status [SES]) on the acceptance of RSBs among Black and Latino MSM and transgender women using an intersectional approach. The conceptual framework used in study was founded on the health belief model (HBM; perceived susceptibility and perceived severity [perceived threat], perceived barriers, perceived benefits, self-efficacy, and cues to action) and the intersectionality theory. Specifically, the study (a) addressed the association between micro level and macrosocial structural factors and an individuals' perceived threat of STI and HIV, and (b) addressed the relationship between micro level and macrosocial factors and an individual's perceived barriers, perceived benefits, and self-efficacy of condom use. This study is unique due to the use of the intersectionality theory to examine how multiple structures of identity interacted to influence the acceptance of RSBs using a quantitative research design (survey approach) among Black and Latino MSM and transgender women. The intersectionality theory has been widely used in qualitative research, making this project one of the few applications in a quantitative study (Bauer & Scheim, 2019b; Turan et al., 2019).

A structural equation modeling (SEM) approach was used to determine if there is a direct or indirect relationship between race/ethnicity, education, and sexual orientation and constructs of the health belief model and how they conjointly influenced research participant's acceptance of RSBs. This method was selected to better support Black and Latino MSM; a researcher needs to understand an individual's unique experiences,

challenges, and the relationships between perceived barriers, benefits, and their acceptance of RSBs. General factors associated with disparate health outcomes have appeared in the literature search for the general population that could theoretically inform RSBs among Black and Latino MSM and transgender women. Figure 1 illustrates the variables that were examined in the study and the directionality assumed for its examination.

Figure 1

Study Variables



Research Questions and Hypotheses

The following research questions and hypotheses were developed for the subpopulations of Black and Latino MSM and transgender women:

Research Question (RQ)1- Quantitative

Do macro-social structural factors (i.e., housing status) explain the acceptance of risky sexual behaviors between Black and Latino MSM and transgender women?

RQ1 Hypotheses

$H_0$1: There are no statistically significant effects of macro-social structural factors (i.e., housing status) on the acceptance of risky sexual behaviors between Black and Latino MSM and transgender women.

H_a1: There are statistically significant effects of macro-social structural factors (i.e., housing status) on the acceptance of risky sexual behaviors between Black and Latino MSM and transgender women.

Research Question (RQ)2- Quantitative

To what extent does perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy mediate the relationship between macro-social structural factors (i.e., housing status) and the acceptance of risky sexual behaviors among Black and Latino MSM and transgender women?

RQ2 Hypotheses

$H_0$2: Perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy does not mediate the exposure between macro-social structural factors (i.e., housing status) and the acceptance of risky sexual behaviors among Black and Latino MSM and transgender women

H_a2: Perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy does mediate the exposure between macro-social structural factors (i.e., housing status) and the acceptance of risky sexual behaviors among Black and Latino MSM and transgender women.

Theoretical Framework for the Study

The HBM and the intersectionality theory were used to understand intersecting factors associated with the acceptance of RSBs among Black and Latino MSM and transgender women.

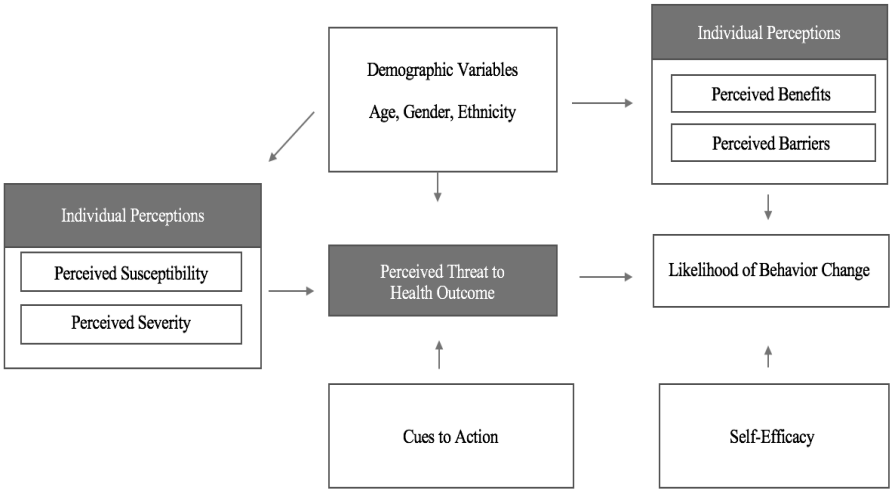
The Health Belief Model

The HBM was developed by social scientists of public health in the 1950s to understand why individuals were not participating in primary and secondary health promotion interventions, such as screenings for diseases like tuberculosis, cervical cancer, and dental disease (Janz & Becker, 1984; Rosenstock, 1974). Over the years, the HBM has been widely used in interventions to achieve optimal behavioral change and to explain sexual risk behaviors and STI and HIV transmission (Hiltabiddle, 1996; Jones et al., 2016; Klassen et al., 2019; Neff & Crawford, 1998; Willis et al., 2018). As illustrated in Figure 2, the model posits that an individual will change their behavior to prevent an illness if they feel it is a threat to their health, they see any benefits to changing their behavior, and the likelihood of implementing the change is needed for maximum results (Rosenstock, 1974). Since its development, the HBM has maintained six constructs that are conducive to understanding and exhibiting effectiveness to change behavior. The change is likely to occur if an individual believes they are at risk for an illness (perceived susceptibility), if they believe that getting a disease is serious to their overall health or has a negative impact to their life (perceived severity), if they believe engaging in the healthy behavior will provide a positive outcome (perceived benefits), and if they believe that they do not have the accessibility to change their current behavior or associate it with a

negative outcome (perceived barriers; Janz & Becker, 1984; Rosenstock, 1974). Figure 2 illustrates the constructs of the HBM.

Figure 2

Health Belief Model



Intersectionality Theory

The intersectionality theory was developed in the late 1980s by social activist Kimberle Crenshaw to promote the efforts of African American feminists and critical race theorists (Sutherland, 2016). Crenshaw (1991) developed this theory to understand how prevailing structures shape the lives of individuals who have faced racial injustices and oppression. The idea was that the demand for change would probably be ineffective if the requirements to change are not reflective of the structure of dominance of the individual. Although the intersectionality theory does predict health behaviors and

intentions, it has been used to understand how several social identities, such as SES, disability, race, ethnicity, gender identity, and sexual orientation, reflect merging structures (Bowleg, 2012). Crenshaw noted that the objective of the theory was to illustrate how various categories of identities as the ones previously mentioned interact to shape the experiences of an individual and are not necessarily subsumed within the traditional boundaries of racial and gender discrimination.

In recent years, the intersectionality theory has been significant to the field of public health (Bowleg, 2012). The theory can provide precise information on the identification of inequalities within a specific population such as MSM and provide data on the structural approaches needed to reduce STIs and HIV through health education and public health interventions (Bauer, 2014; Bowleg, 2012). In relation to my dissertation, the intersectionality theory allowed me to examine the interaction of modifying factors that have influenced the engagement in sexual behaviors that place an individual at risk for acquisition of STI and HIV. The core principles of intersectionality significant to health education and promotion are as follows: (a) intersections of individual and interpersonal factors (see Figure 3) that influence sexual behaviors (Sutherland, 2016), (b) sociodemographic that shape sexual behaviors among Black and Latino MSM, and (c) relationship between social factors and sexual health practices (Bowleg, 2012; Sutherland, 2016). Bowleg (2012) noted that the tenets of the fundamental element of the intersectionality theory is that the social categories or identities do not stand alone and that one alone cannot depict an individual's disparate health outcome. Incorporating an intersectional framework can improve this research

because this perspective does not assume that one category of identity is equal to another or is placed at a higher disadvantage, thus empirically examining multiple intersecting social identities at the micro level of individual lived experiences (i.e., gender, sexuality, race, ethnicity, education) and macrosocial structural factors (i.e., racism, sexism, heterosexism, SES, housing stability) in a way that mirrors the experiences among Black and Latino MSM and transgender women for whom adverse health outcomes are noted as the most disproportionate.

General factors associated with disparate health outcomes have appeared in the literature search for the general population that could theoretically inform RSBs among Black and Latino MSM and transgender women. For this study, the following variables were examined:

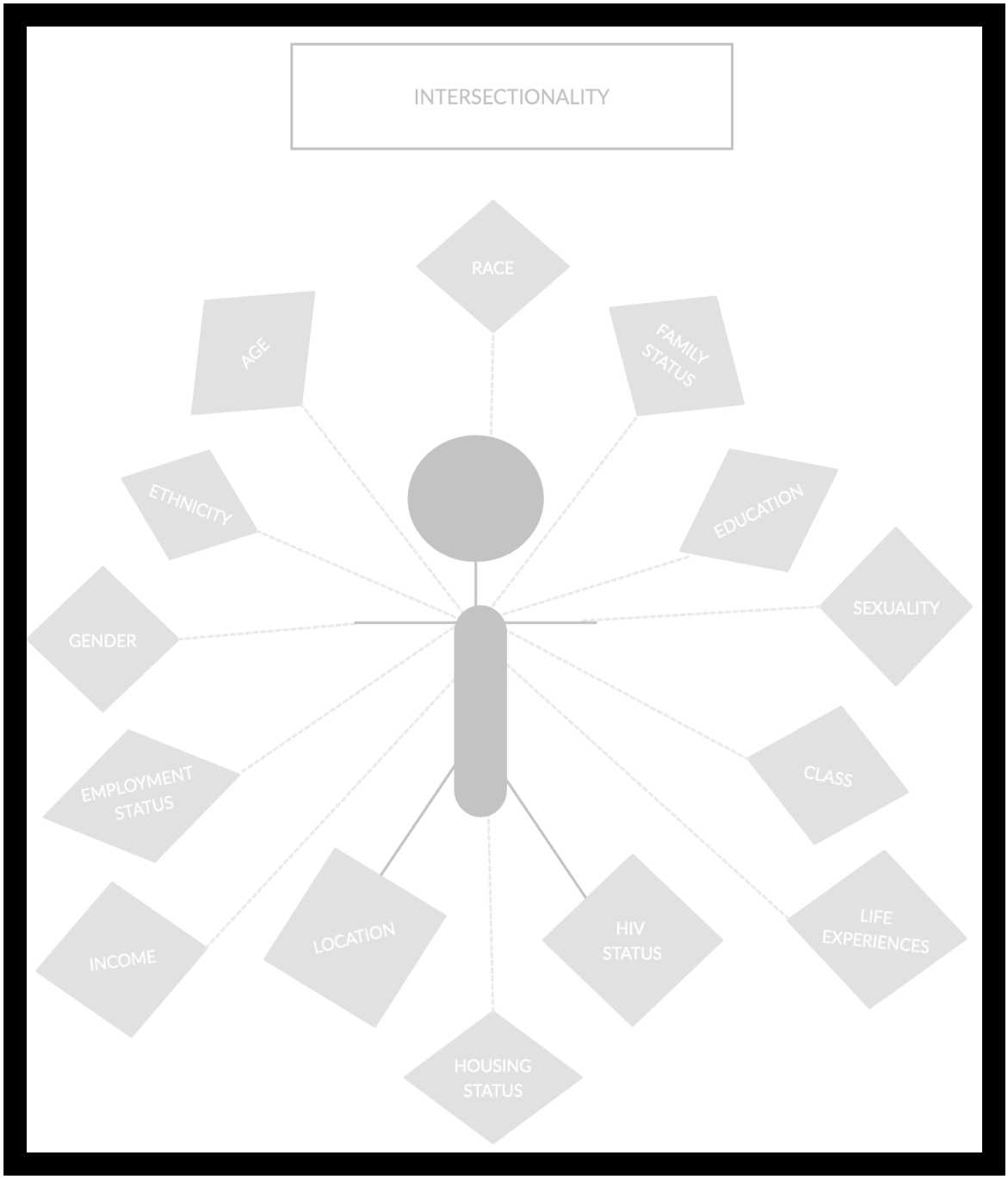
1. Independent variables: macrolevel structural factors (housing stability)
2. Mediating/moderating variables: perceived threat (severity/susceptibility, perceived barriers, self-efficacy)
3. Dependent variables: acceptance of RSBs

The intersectionality theory provides an important approach through which to draw out complex relationships between societal and individual factors that shape health and wellbeing. Applications for intersectionality theory have advanced understandings of the role of social context in explaining health inequalities by highlighting the way individuals' multiple identities, such as gender, sexuality, race, ethnicity, ability, SES, age, and others, interact with social systems of power in diverse and changing contexts (Bowleg, 2012; Richman & Zucker, 2019). Some public health researchers have used the

intersectionality theory to deepen understandings of health inequities and advocate for just and inclusive policy development (Gkiouleka et al., 2018; Taylor et al., 2020; Yi et al., 2017). Figure 3 illustrates these varying intersections.

Figure 3

Intersectional Factors of Identities



Nature of the Study

This study required an analytic approach to identify the factors that drive the acceptance of RSBs among Black and Latino MSM and transgender women. Specifically, I examined the intersectionality of micro and macro factors of an individual's identity and the directional relationship to their perceived threat of STIs and HIV, perceived benefits, and barriers (to the acceptance of RSB), and self-efficacy to use condoms (HBM constructs). To determine the relationship among the multiple variables, a quantitative multivariate analysis technique was integrated to collect data from Black and Latino MSM and transgender women using an online platform. The data were collected using an anonymous online survey through various social media platforms associated to Survey Monkey.

A quantitative analysis using SEM was the statistical technique for this research. SEM is a quantitative research technique that has been widely used in social sciences and that also incorporates qualitative methods to illustrate the directional path or relationships between variables (Parriault et al., 2016). This technique allows researchers to examine the simple and complex directional effect hypotheses among multiple variables and provides an adaptable model to test the validity of theory (HBM and intersectionality theory) using empirical frameworks (Brunswick & Banaszak-Holl, 1996; Goldenberg et al., 2019; Logie et al., 2016). Champahom et al. (2020) noted that SEM is suitable for modeling the interrelationships between factors. The relationships shown in SEM represent the causes between the latent and observed variables or the variable groups. Additionally, SEM allows the combination of measurement and structural models, which

involve the relationships between observed measurements and latent variables, or unobserved variables, with path analysis models that relate variables to their causal factors (Gunzler & Morris, 2015). SEM is thus a combination of factor analysis and multiple regression that is mostly used for research that is designed to confirm a research study design rather than to explore or explain a phenomenon. That is to say that selecting this technique for this research study was based on the interest of the strength of the relationships between variables in the hypothesis, and SEM was a way to examine those variables without committing to an expensive research project. SEM produces data in a visual display, and this is part of its appeal. Using SEM gave a tidy visual display that is easy to interpret, even if the data behind the statistical analysis were quite complex (see Champahom et al., 2020; Hu et al., 2020; Parriault et al., 2016).

In the statistical sense, SEM refers to a set of equations with accompanying assumptions of the analyzed system, in which the parameters are determined based on statistical observation. Structural equations refer to equations using parameters in the analysis of the observable or latent variables (Jöreskog, 1970). For this reason, reliable and accurate measures that can be observed directly were used to capture the information that was needed to identify the acceptance of RSBs among Black and Latino MSM and transgender women. Such measures observed are known as *observable constructs*. The observable constructs in this study were the theoretical constructs of the HBM (perceived threat, perceived benefits, and perceived barriers, self-efficacy). To measure these observable constructs, multiple scales constructed into a survey. They are as follows:

- To assess perceived threat to HIV, the Reduced HIV Concern Scale was used.

- To assess sexual risk behavior, the Sexual Risk Behavior Scale was used.
- To assess the likelihood of action (perceived benefits and barriers) to use condoms, the Condom Barrier and Motivation subscale (CBMS) was used.
- To assess condom-use behavior, the Condom Use Self-Efficacy scale was used.

Definitions

In the latter case of variables, the examples used in this study were the intersectionality components: micro factors, macrosocial structural factors, and acceptance of RSB. Scales representing acceptance of sexual risk behaviors overlapped behaviors that captured the intended construct of condom use self-efficacy behavior. For example, a condom self-efficacy scale accurately estimated acceptance of no condom use, due to overlapping or correlated determinants of condom use behavior. The following definitions provides guidance on terms used in the study followed by Table 1 containing applied study variables and operationalization.

HIV: stands for human immunodeficiency virus. The virus can only infect humans and if left untreated can lead to acquired immunodeficiency syndrome or AIDS (CDC, 2021.

LGBTQI: an umbrella terms used to group individuals of the lesbian, gay, bisexual, transgender, gender non-conforming, queer, and intersex communities (Wang et. al., 2021).

Men who have sex with men (MSM): a term used to define a group of cisgender men who have sex with men regardless of their sexual orientation and whether they have sex with women (Finneran & Stephenson, 2013; Grey et al., 2016).

Sexually Transmitted Infections (STI): are disease causing agents that are transmitted between sexual partners through different routes of sexual contact such as oral, anal, or vaginal *(Garcia & Wray, 2021).*

Transgender: an individual who has a gender identity that differs from their birth sex assignment (Hilton & Lundberg, 2021).

Transgender woman: a female identified and expressed individual whose sex assignment at birth was male (Hilton & Lundberg, 2021).

Table 1

Applied Study Variables and Operationalization

Variables latent [L] or observed [O])	Operational definition	Instrumental operationalization
Micro-level factors (L)		Demographic questionnaire
Macrosocial structural factors (O)	• Did not happen/not applicable to me • It happened, and it bothered me not at all • It happened, and it bothered me a little bit • It happened, and it bothered me moderately • It happened, and it bothered me quite a bit • It happened, and it bothered me extremely	LGBT People of Color (POC) Microaggression Scale (Balsam et al., 2011) Daily Heterosexist Experiences Questionnaire (DHEQ) (Balsam et al., 2013)
Perceived severity (O)	• Never feel • Feel occasionally • Feel about half of the time • Feel most of the time • Always feel	Condom Barrier and Motivation Scale (CBMS) (Golub & Gamarel, 2017)
Perceived susceptibility (O)		Reduced HIV Concern Scale (Perceived Susceptibility): (Vanable et al., 2000)
Perceived barriers (O)	• Never feel • Feel occasionally • Feel about half of the time • Feel most of the time • Always feel	Condom Barrier and Motivation Scale (CBMS) (Golub & Gamarel, 2017)
Perceived benefits (O)	• Never feel • Feel occasionally • Feel about half of the time • Feel most of the time • Always feel	Using condoms reduces my risk for HIV/STDs (Golub & Gamarel, 2017)
Self-efficacy (O)		Self-Efficacy of Safe Sex
Sexual behavior (O)	• Yes • No	Sexual Risk Behaviors (Peterson & Bakeman, 2006)

Assumptions

This study was subject to several assumptions: (a) Participants understood the study questions, (b) participants answered the study questions truthfully, (c) participants met the criteria for the study, (d) the recommended study sample size was achieved to evaluate study effectiveness, and (e) the structural equation model statistical approach demonstrated the relationship and interaction among variables.

Scope and Delimitations

Specifically, I examined the association between an individual's perceived threat of STIs and perceived barriers and benefits to condom use. Additionally, I explored the relationships among micro and macro factors of the intersectionality theory and condom use among Black and Latino MSM. This study was delimited to the responses from Black and Latino MSM transgender women.

Limitations

In conducting a research study, it was imperative to identify the barriers a researcher may encounter to overcome the hurdles of the project. In this study, there were several challenges to consider in analyzing the factors of a study examining sexual practices of MSM. These challenges and/or barriers included but were not limited to the following:

1. The study addressed condom use only among Black and Latino MSM.
2. This study did not inform condom use behavior among other racial/ethnic groups.

3. The study approach was limited by the requirement that individuals eligible to participate may not have done so because of the topic (introducing potential bias into the resulting study sample).
4. Response bias was a limitation because the truthfulness of participants' responses could have affected the validity of the research.
5. Responses were discarded for respondents not completing questionnaire.
6. It was necessary to operationalize the intersecting identities of the intersectionality theory and HBM with a quantitative approach.

Significance

Despite health education efforts to promote safe sex, access to care, and accessibility to condoms, Black and Latino MSM are disproportionately affected by STIs and HIV (Eggers et al., 2016; Jain et al., 2018; Starks et al., 2017). Hammack et al. (2018) noted that gay men are uniquely impacted by health occurrences, such as the emergence of HIV/AIDS. However, the impact of the disease has not uniformly affected MSM across cultural contexts. As stated previously, Black, and Latino MSM have the highest prevalence of STIs and HIV, with Black non-Hispanic men accounting for rates 3 times higher than Latinos and 5 times higher than Whites, reflecting a significant public health issue (CDC, 2019a; Ransome et al., 2019). The significance of this study is to fill the gap in the literature to examine how multiple structures of identity interact to influence condom use and disease acquisition between Black and Latino MSM.

This study contributes to the health education and promotion field as I examined a pathway of intersecting identities and sexual decision making between Black and Latino

MSM using a quantitative approach using an SEM technique. Several researchers have analyzed that the intersectionality theory is best suited qualitatively as a quantitative approach and may not capture the differences amongst the groups (Bowleg, 2008; Bright et al., 2016; Wemrell et al., 2017). However, other researchers have noted that in population research, quantitative data can contribute to information relevant to interventions (Bauer & Scheim, 2019b). There are few studies that have incorporated the intersectionality theory using a quantitative approach, which makes this study unique and empirical in its significance (see Bauer & Scheim, 2019a; Evans, 2019; Richman & Zucker, 2019). These same authors have agreed that a quantitative analysis makes it possible to examine the intersectional inequities visible within a population by starting with a descriptive approach and that it may also reveal significant interactions that can contribute to public health practice.

This study supports health education and promotion professionals as results provide new knowledge about the factors associated with condom use and disease acquisition in a comprehensive approach, thus allowing professionals to develop trainings, interventions, and other educational resources that can enhance health education and promotion efforts to decrease disease prevalence amongst Black and Latino MSM and transgender women. This study also contributes to research, as it is one of the few that has used the intersectionality theory to examine the joint interactions of multiple structures using a quantitative approach. This contributes to positive social change, as the survey instrument administered assessed the constructs of the HBM while assessing behavioral, social, and psychosocial factors interacting jointly that may have a

significant and positive outcome to health education and promotion. Professionals in this field have new knowledge and understanding of how the intersectionality theory can be used to identify structures jointly interacting to create the unique experiences that influence individual behaviors among Black and Latino MSM.

Additionally, the assessment of the HBM allows the perceptual view of Black and Latino MSM and transgender women's ability to implement positive preventive actions related to their sexual health. Health education and promotion professionals can develop evidence-based interventions strategies implemented in various settings that can reach the at-risk population such as clinics, college campuses, and community-based organizations. Collaborating with stakeholders such as college provosts, campus medical center directors, health care professionals, and community leaders can lead to better communication and reduced RSBs among Black and Latino MSM, especially if the information is relevant to their circumstances. Equipping Black and Latino MSM with information on STIs and HIV in a way they understand and that is related to them can increase their knowledge and ultimately guide them to develop skills and make better decisions that promote positive behavioral and social change that can be sustained throughout their lifetime.

Summary

MSM and transgender women are disproportionately affected by STIs and HIV. This chapter provided an introduction of the study, which included a summary of the literature related to the scope of the project, a noted gap in the literature for the health education and promotion discipline as it relates to intersectionality and condom use

among Black and Latino MSM, and a concise statement of the relationship between the research problem and the study. Furthermore, I explained the conceptual framework, grounded on the theoretical foundations of the HBM and intersectionality theory. The theoretical and conceptual framework illustrated the constructs of the intersectionality theory and HBM related to the study, its approach, and relationship to the research questions, as well as the instruments used during the data collection process. These concepts are discussed further in Chapter 2, which includes the detailed literature review, while Chapter 3 includes research methodology, Chapter 4 addresses the data analysis, and Chapter 5 contains the discussion.

Chapter 2: Literature Review

Introduction

Grounded on a conceptual framework from the integration of the HBM constructs and the intersectionality theory, this study used an intersectional approach to examine how micro level factors of individual lived experiences interact with macrosocial structural factors to influence the acceptance of RSBs among Black and Latino MSM. Guided by the constructs of this framework, behavioral, social, and environmental interactions as related to discrimination, HIV-associated risk behaviors, perceived threat to STI/HIV acquisition, and condom use self-efficacy were examined. Specifically, in this study, I (a) examined the association between individuals' perceived threat, perceived barriers, perceived benefits, self-efficacy, and acceptance of RSB and (b) explored the relationships among micro- and macrosocial structural factors of the intersectionality theory and acceptance of RSB. Chapter 2 highlights the literature search and strategies used to obtain scientific information fundamental to the research study. The chapter provides an overview of the theoretical foundation and how the HBM and intersectionality theory have been applied to prior research along with a rationale to using this framework in this study. Furthermore, there is an exhaustive review of the literature that includes the key variables and concepts identified for this study, justifying the need for research as related to bridging the gap in health education and promotion.

This literature review assessed up-to-date and empirical peer-reviewed scientific knowledge related to sexual behaviors, STI/HIV knowledge, and theoretical and methodological contributions to the literature related to Black and Latino MSM. This

process provided a foundation for my research and justified the gap in the existing literature and why intersectional approaches to condom use among Black and Latino MSM was needed. Additionally, noted inconsistencies in the literature reviewed allowed me as the researcher to decipher the information and demonstrate the need to further study my topic, thus contributing to social change in the health education and promotion field.

Literature Search and Strategy

In preparation of this dissertation, hundreds of articles were reviewed to provide fundamental information to justify the need for the study. Among the literature reviewed, there was a selection of articles that supported the need to examine condom use and disease acquisition among Black and Latinos. The keywords searched were *condom use, LGBTQ, STIs, HIV, MSM, unprotected sex, unprotected anal sex, risk taking behaviors, sexual risk behaviors, gay men, homosexual men, oral sex, anal sex, sexual health risk, intersectionality,* and *health belief model*. To keep track of the articles of interest and those reviewed, the Mendeley Citation application software was used. Using this application allowed for the creation of folders to organize the literature that was referenced in this study. Sorting the articles was a strategy that allowed tracking of the bodies of literature obtained related to the key variables and concepts of this research. The folders created were titled theoretical framework, STI and HIV knowledge, sexual risk behaviors, and statistical analysis. Additionally, an Excel spreadsheet was used to store information of the same articles. This metric provided more detail in a table format that included the author(s)' research methodology, instruments, and outcome of the study.

This tool was used as a primary tool for references which was later transitioned onto the Mendeley software.

Theoretical Foundation

The theoretical foundation of the research study was guided by sexual behaviors, condom use experiences, and knowledge and risk perceptions about STIs/HIV among Black and Latino MSM and transgender women through review of the literature. Black and Latino MSM is a population that is disproportionately affected by adverse health outcomes, specifically STIs and HIV (Lelutiu-Weinberger et al., 2020; Reisner et al., 2020). To addresses these health outcomes through health education and promotion, there needs to be a focus on theory-based intervention related to the unique needs for safer between MSM and transgender women (Hergenrather et al., 2016). Blacks and Latinos may be less likely to identify as gay/bisexual because of the stigma within their respective communities about same-gender loving, making them less likely to seek HIV prevention services (Hsieh & Ruther, 2016; Veronese et al., 2019). They also experience twofold stressors of heterosexism and racism, placing them at risk for an array of mental health challenges as well as STIs and HIV (Agénor et al., 2019; Flentje et al., 2016; Zamboni et al., 2017). Collectively, this suggests that health promotion models measuring safer sex behaviors should incorporate circumstantial variables that are pertinent to Black and Latino MSM to help them maintain adequate mental and sexual health well-being.

A health promotion model and intersectionality theorizing were explicitly used for this study. The HBM and the intersectionality theory were selected to understand the

association of intersecting identities outside of gender and racialization, perceived threat to STI and HIV acquisition, perception of barriers and benefits to condom use, and efficacy to use condoms during sexual activity.

The Health Belief Model

The HBM (Rosenstock, 1974) is a methodological approach in health behavior that uses an expectancy value for health-related decisions in which the costs of health-protective actions are weighed alongside the value of the action for reducing the risk for -- or severity of -- an adverse health outcome or illness. Over the years, the HBM has been widely used in interventions to achieve optimal behavioral change and to explain sexual risk behaviors, STI, and HIV transmission (Jones et al., 2016). The model posits that an individual will change their behavior to prevent an illness if they feel it is a threat to their health, if they see any benefits to changing their behavior, and if the likelihood of implementing the change is needed for maximum results (Rosenstock, 1974). Since its development, the HBM has maintained six constructs that are conducive to understanding and exhibiting effectiveness to change behavior. This change is likely to occur if an individual believes they are at risk for an illness (perceived susceptibility), if they believe that getting a disease is serious to their overall health or has a negative impact to their life (perceived severity), if they believe engaging in the healthy behavior will provide a positive outcome (perceived benefits), and if they believe that they do not have the accessibility to change their current behavior or associate it with a negative outcome (perceived barriers; Janz & Becker, 1984; Rosenstock, 1974). Throughout the years, the HBM has established extensive empirical support for predicting a widespread range of

health behaviors based on an individual's perceptions. In their review of a decade's worth of studies based on the model, Janz and Becker (1984) calculated significance ratios for each construct of the model based on the percentage of studies that reported a positive significant relationship of each construct to influence health behavior. Barriers to change had a significance ratio of 89%; susceptibility, 81%; benefits, 78%; and severity, 65%.

Like this study, several researchers have used the HBM to understand individual risk perceptions, benefits, and efficacy to perform risk reduction behaviors related to STIs and HIV, including factors that influence health outcomes and behavioral intentions (Aspinwall et al., 1991; Bakker et al., 2007; Boone & Lefkowitz, 2004; Klassen et al., 2019; Lin et al., 2005; Starks et al., 2017; Willis et al., 2018; Zhao et al., 2012). Aspinwall et al. (1991) conducted a prospective study in 6-month intervals to predict self-disclosed AIDS risk-reduction behaviors in a sample of 389 gay men. The results of the study revealed that self-efficacy and perceived risk for HIV infection or transmission accounted for approximately 15% of the variance in the number of known and anonymous oral and anal intercourse partners over a 6-month interval while controlling for demographic variables. In the same study, a second logistic regression analysis illustrated that barrier to change behaviors predicted increased unprotected anal intercourse over a 6-month interval, controlling for prior sexual behaviors. Lin et al. (2005) conducted a web-based questionnaire to collect primary data using the AIDS Health Belief Scale among Taiwanese immigrant students in the United States to assess their knowledge of HIV/AIDS and sexual behaviors. The researchers hypothesized that perceived severity, perceived susceptibility, perceived benefits, and self–efficacy would

be negatively associated with potentially RSBs, whereas perceived barriers would be positively related to them while controlling for acculturation. Results demonstrated that acculturated participants who perceived to be less susceptible to HIV had lower self–efficacy for consistent condom use and those who perceived more benefits of practicing safe sex showed more frequency of sexual intercourse. Similarly, Zhao et al. (2012) used the HBM as a framework to investigate predictors of condom use among female sex workers. The purpose of the study was to examine the mediated effects of HIV severity through a structural equation model. The association was mediated through among perceived barriers and perceived benefits. Self-efficacy was mediated through perceived barriers, perceived benefits of condom use, and perceived severity of HIV infection.

In recent years, the HBM has been applied to STI/HIV preventive behaviors in an increasing number of studies, although often in a modified and expanded way. Boone and Lefkowitz (2004) conducted a cross-sectional study to expand on the HBM by adding predictors of late adolescents' sexual behaviors, sexual attitudes, and perceptions of their peers' sexual behaviors among a sample of college students. Researchers have used specific constructs as predictors of late adolescents' safer sex intentions to make associations and significant correlations of condom use behavior. From the original HBM, researchers have used perceived susceptibility, condom use self-efficacy, and attitudes about condoms. Bakker et al. (2007) examined the use of a modified version of the HBM to predict if condom use intention among young gay and bisexual men was guided by factors other than those that influenced older men to use condoms.

Table 2 depicts the operationalization of the HBM as it relates to the study among Black and Latino MSM and transgender women. The table illustrates the definition of the constructs and the definition of the constructs as it relates to the assumed condition of the target population.

Table 2

Operationalization of Health Belief Model

HBM constructs	Definition of the construct	Condition of the population as it relates to the construct
Perceived susceptibility	Individual believes they are at risk for an illness.	Black and Latino MSM and transgender women ages 18+ believes they are at risk STIs and HIV.
Perceived severity	Individuals believe that getting a disease is serious to their overall health or have a negative impact to their life.	Black and Latino MSM and transgender women ages 18+ believe that getting and STI or HIV is serious and can have a negative impact to their overall health.
Perceived benefits	Individuals believe that engaging in a healthy behavior will provide a positive outcome.	Black and Latino MSM and transgender women 18+ believe that engaging in safer sex behaviors such as condom use during sexual activities will reduce their risk of getting and STI or HIV.
Perceived barriers	Individuals believe that they do not have the accessibility to change their current behavior or associate it with a negative outcome.	Black and Latino MSM and transgender women 18+ believe that they do not always have the option to engage safer sex behaviors like using a condom.
Self-efficacy	Individuals believe that that they can successfully engage in and maintain healthy behavior.	Black and Latino MSM and transgender women 18+ believe they can successfully use condoms during every sexual encounter.

Intersectionality Theory

Intersectionality was coined as a construct that simultaneously interacts with the different aspects of social identities (Gattamorta et al., 2019). The theory was developed in the late 1980s by social activist Crenshaw to promote the efforts of African American feminists and critical race theorists (Sutherland, 2016). Crenshaw (1991) developed this theory to understand how prevailing structures shape the lives of individuals who face racial injustices and oppression. The idea was that the demand for change will probably be ineffective if the requirements to change are not reflective of the structure of dominance of the individual. Although the intersectionality theory was not developed to predict health behaviors and intentions, it has been used to understand how several social identities such as SES, disability, race, ethnicity, gender identity, and sexual orientation reflect merging structures (Bowleg, 2012). The intersectionality theory hypothesizes that identification with more than one social group is exclusive and intersectional and that intersecting or transecting characteristics at the micro level of individual experience (i.e., race, gender, sexual orientation, SES, education) reflect interlocking systems of oppression and inequality of macrosocial structural factors (i.e., heterosexism, racism, sexism, poverty housing stability). Consequently, association of different identity groups can lead to different health behavioral outcomes (Bowleg, 2008; Crenshaw, 1991).

The intersectionality theory has been widely used among social scientists in qualitative studies (Bauer, 2014; Bowleg, 2008; Hulko & Hovanes, 2018; Parker et al., 2017). Researchers have argued that the intersectionality theory is not suitable to conduct quantitative research because it will not be able to capture all the dimensions needed

(Bauer, 2014; Bright et al., 2016). However, several researchers have argued the position of the intersectionality theory in quantitative research and the implications that have been identified related to the experiences on the intersections of multiple social identities (Bauer & Scheim, 2019a, 2019b; Richman & Zucker, 2019), thus demonstrating its importance in epidemiological methodology (Bauer, 2014; Bauer & Scheim, 2019a, 2019b; Scheim & Bauer, 2019). Since its development, many studies incorporating an intersectionality framework have been conducted by sociologists focusing on oppression and violence against women (Bowleg, 2008; Crenshaw, 1991), stigma and discrimination (Collins et al., 2008; Colpitts & Gahagan, 2016; Seng et al., 2012), and systematic reviews to analyze how to use the intersectionality theory or adapt the framework to the population of study (Bauer, 2014; Bright et al., 2016; Hsieh & Ruther, 2016; Watkins-Hayes, 2014), using a qualitative approach (Bowleg, 2008, 2013; Bowleg et al., 2013; Quinn et al., 2019).

In recent years, Bowleg (2012) identified the intersectionality theory as of great significance to the field of public health. From a health education and promotion perspective, the theory can be suitable to provide precise information of the identification of inequalities within a specific population such as MSM to provide data on structural approaches needed to reduce STIs and HIV through health education and public health interventions (Bauer, 2014; Bowleg, 2012). In the most recent years, qualitative studies have been focused on gay, bisexual men, and MSM (Adedimeji et al., 2019; Midoun et al., 2015; Quinn et al., 2017; Quinn et al., 2019). Midoun et al. (2015) conducted a qualitative analysis after a broader study that used individual in-depth interviews to

explore sexual networks, partner expectations, social vulnerabilities, and sexual risk among African MSM in Kenya. Quinn et al. (2019) conducted six focus groups in Wisconsin, United States, among Black gay and bisexual men to understand how intersectional stigma affected awareness, perceptions, uptake of PrEP, and how it manifested life experiences among study participants.

No vaccine or therapeutic agent has been developed to eliminate HIV. Thus, prevention is emphasized through health education and promotion methods geared towards vulnerable groups. If STI/HIV transmission can be prevented, why are there an estimated 50,000 new infections in the United States annually? Why does the prevalence of HIV differ by race, ethnicity, gender identity, sexual orientation, and SES? Sociological researchers have contemplated the role of environmental factors as a risk of STI and HIV transmission, (Collins et al., 2008), suggesting that physical and social spaces generate relationships between structural, community-, and individual-level HIV risk (Kalichman et al., 2017). In research, the intersectionality theory explores the construction of multiple identities (Bright et al., 2016). It also explains the ways in which cultural patterns of interlocking systems of oppression at the macrosocial structural level (i.e., sexism heterosexism, poverty, housing stability) are bundled and influenced by the micro-level of individual lived experiences and systems of society (i.e., family, sex gender, religions, SES) (Bowleg, 2012; Midoun et al., 2015). The HIV/AIDS epidemic has been viewed from its micro and macro factors and its relationship with other STIs. However, there are still some gaps in the knowledge of the individual's role, such as being vulnerable to acquire the infection, which could be summarized in a dynamic

process involving different factors (social, environmental, and cultural) (Santiesteban Díaz et al., 2019; Sutherland, 2016). To understand individual perceived susceptibility and risk to HIV for Black and Latino MSM, acknowledgement of multidimensional categories of identity that create disparate health outcomes for this population are essential to inform their authenticity and lived experiences (Bowleg, 2012; Truong et al., 2016). Crenshaw (1991) noted that the objective of the intersectionality theory was to illustrate how various categories of identities interact to shape the experiences of an individual that are not necessarily subsumed within the traditional boundaries of racial and gender discrimination. Recently, sociology researchers have focused on analyzing the intersectional categories of identity (Earnshaw et al., 2015; Logie et al., 2016) to provide suggestions of how quantifying intersectionality can advance population health and public health research (Bauer, 2014; Bauer & Scheim, 2019b; Bowleg, 2012; Richman & Zucker, 2019; Scheim & Bauer, 2019). Earnshaw et al., (2015) conducted a cross-sectional study among 85 people in NYC living with HIV/AIDS (PLWHA) with a history of substance use. The study explored the intersectionality of internalized substance use and its moderated effect between internalized HIV stigma and degree of depression among PLWHA. Most recently, Scheim & Bauer (2019) developed the intersectional discrimination index (InDI) to enable inter-categorical analysis of discrimination for public health research. This instrument is the first developed to analyze the phenomenon across a wide range of intersectional identities. Mackenzie et al., (2020) conducted a quantitative analysis to explore the relationship between sexual stigma and HIV among

Black bisexual men living in San Francisco; specifically, the effect of sexual stigma on use of condoms with their primary female partners.

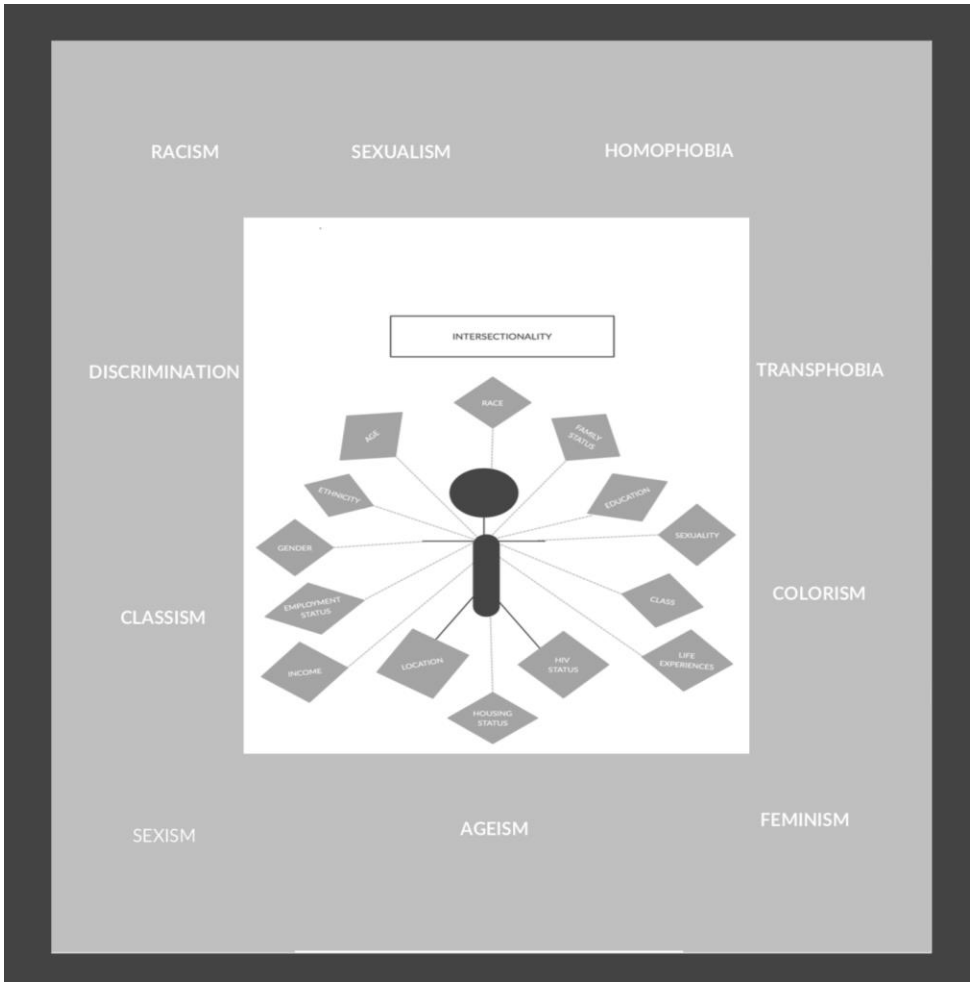
The concept of intersectionality operates in several disciplines including history and sociology (Crenshaw, 1991; Watkins-Hayes, 2014), public health (Bowleg, 2012; Colpitts & Gahagan, 2016), ethnic studies (Barrington et al., 2019; Midoun et al., 2015; Reisen et al., 2013), gender and queer studies (Agénor et al., 2019; Hulko & Hovanes, 2018), health psychology (Earnshaw et al., 2015; Sutherland, 2016). STIs and HIV/AIDS are an epidemic of intersectional inequality and oppression powered by but not limited to racial, gender, class, and sexuality discrimination— reflecting the intersection of multidimensional macrosocial structural factors and micro-level factors of individual experiences that impact daily living.

Individuals in the study came from multiple historically oppressed and marginalized populations. Because LGBTQ, African American/ Black, and non-Hispanic/Latino were its starting point, the intersectionality theory was integrated into the health belief model to examine the health and behaviors of study populations from their own context and vintage experience─rather than their deviation from their white counterparts–to identify disparities. Borrowing Crenshaw's (1991) and Bowleg's (2012) concept of an intersectional perspective, intersectionality can be applied to population health research to help understand how multiple categories interact simultaneously as determinants of health disparities and individual's behaviors. Although the intersectionality theory does not have variables or constructs to operationalize, the following illustrations represent multiple axes of social categories at the micro-level of

individual lived experiences (see Figure 2 in Chapter 1) and interlocking systems of oppression at the macrosocial structural level converging to a point of intersection that demonstrates that these categories are interdependent, and that one category alone cannot define inequity. Figure 4 illustrates the intersecting dimensions that create individual lived experiences.

Figure 4

Intersectional Framework



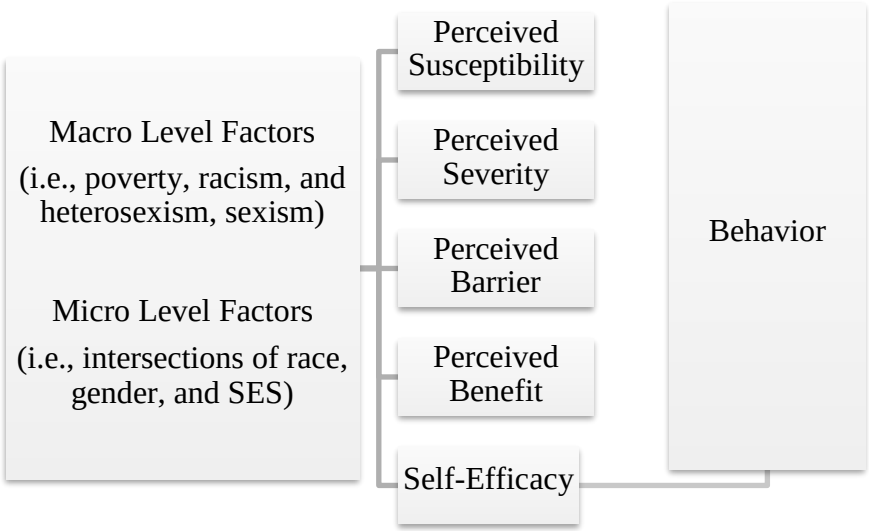
Conceptual Framework

A conceptual framework was developed to illustrate key variables (i.e., sexual behaviors, SES, educational level, perceived severity to STIs and HIV, perceived susceptibility to STIs and HIV, perceived benefits, and barriers to STIs and HIV, and condom use self-efficacy) identified in the literature. These variables are fundamental to understanding influences of sexual behaviors among Black and Latino MSM (Hsieh & Ruther, 2016; Parker et al., 2017; Reisner et al., 2020). This conceptual framework is grounded on the health belief model's constructs of perceived threat, perceived barriers, perceived benefits, and self-efficacy. Additionally, the conceptual framework highlights the intersecting identities such as SES and education and how they may influence an individual's health behavior choice with the intersectionality theory. The intersectionality theory, although not widely used in population and health research, has been demonstrated to be a unique approach in understanding the association among different categories and the potential to provide new knowledge that will reduce health disparities among sexual and gender minorities (Barrington et al., 2019; Bowleg, 2008; Garcia et al., 2016; Hsieh & Ruther, 2016; Hulko & Hovanes, 2018; Paisley & Tayar, 2016; Price-Feeney et al., 2019; Reisen et al., 2013; Sutherland, 2016).

Figure 5 depicts the conceptual framework for the study. This model shows the integration of intersectional categories from the intersectional theory, and constructs from the health belief model that predict behaviors in an individual.

Figure 5

Conceptual Framework



The conceptual model for this study illustrates the hypothetical relationship among the multiple variables and constructs of HBM and intersectionality theory. To determine the relationship among the independent and dependent variables, the SEM technique was integrated as the methodological approach. The SEM approach has been widely used in social sciences to allow researchers to examine the simple and complex causal relationships among multiple variables; and provides an adaptable model to test the validity of theory using empirical frameworks (Beran & Violato, 2010). However, of the few studies that have used SEM to examine the HBM, some do not measure all constructs of the HBM or have weaknesses in their methodology, such as unreliable instruments or using a single question to measure a construct and did not examine ethnic sexual and gender minorities such as MSM (Brunswick & Banaszak-Holl, 1996; Neff & Crawford, 1998). Moreover, research suggests that the ability of the HBM to predict safer

sex behavior could be enhanced if other variables were added to the model (Boone & Lefkowitz, 2004; Khalil et al., 2005). To my knowledge, this study is the first study to use a modified version of the HBM and intersectionality theory among Black and Latino MSM as the focal or starting point using an SEM approach. I used this approach to find out how micro-level lived experiences and macrosocial structural factors conjointly influence an individual's perceptions of STIs, HIV, and their ability to efficaciously use a condom.

Literature Review Related to Key Variables and Concepts

STI and HIV: Knowledge and Awareness

A reduction trend in the HIV infection incidence been observed in many countries. However, despite preventive measures widely available to reduce the spread of STIs and HIV among MSM, this population continues to be disproportionately affected by HIV (Guimarães et al., 2019). Increases in STI diagnoses, particularly of syphilis and gonorrhea, have been seen among MSM (Datta et al., 2019). In the United States, the HIV epidemic has increased disproportionately and MSM are estimated to be 20 times more likely to become infected with HIV compared to the general population (Guimarães et al., 2019). Even in high-income countries, the HIV epidemic reemerges among MSM and transgender women as a serious public health problem (Brito et al., 2015; Guimarães et al., 2019). Risk of HIV infection has been associated with increased rates of STIs among transgender women which may be associated with the lack of knowledge of transmission factors that may result from a lack of access to health care services (De Santis et al., 2017).

Although many MSM know about HIV infection and its symptoms, they are not generally so well informed about other sexually transmitted diseases (Suominen et al., 2017). Guimarães et al. (2019) argue that despite the potential of knowledge itself, knowledge does not essentially denote modifications to unsafe sexual behaviors which are contingent to micro and macro factors, such as social inequality, stigma, and discrimination and on interpersonal, cultural, and individual characteristics, which are associated with susceptibility to HIV/AIDS. A qualitative study examining awareness and attitudes about STIs among MSM demonstrated that knowledge about STIs and HIV came from personal experience, friends, and sexual health services or from their volunteer experiences in a LGBTQ+ serving organization (Datta et al., 2019). Adedimeji et al. (2019) highlighted that the near "common or universal" awareness of HIV was not reflective of awareness of STIs such as chlamydia, gonorrhea, syphilis, human papilloma virus (HPV), and trichomoniasis. Participants who reported knowledge of an STI indicated their awareness was from personal experience such as being tested, contracting it or knowing of someone who has. Guimarães et al. (2019) found that factors related to healthcare services, including STI/ HIV testing and a positive diagnosis of either are also associated with better knowledge about HIV/AIDS. However, other studies have demonstrated that despite knowledge about HIV transmission, consistent condom use was less than 50% (Khawcharoenporn et al., 2017, 2019) and a high percentage (48.4%) had never been tested for HIV prior to participation in a research study (Brito et al., 2015).

Perceived Risk of STIs and HIV/AIDS

Risk perception is an individuals' subjective assessment of the probability of a disadvantageous outcome. Within the context of RSB, it is the perceived risk of acquiring STI or HIV and the seriousness afforded to seroconversion. Perception is intrinsically challenging to study because it encompasses both conscious and unconscious thought processes of the marginalized and at-risk groups (Blumenthal et al., 2019). Since the onset of HIV in the early 1980's, sexual and gender minorities represent a dominant risk group for HIV. At present day, MSM and transgender women still bear the greatest burden of STI and HIV risk and transmission globally (Jansen et al., 2016). Perception of HIV risk has been identified as one factor associated with sexual and HIV testing behavior among MSM. Underestimation of HIV risk has been reported as a significant predictor of both condomless anal intercourse and underutilization of HIV testing in this population (Kahle et al., 2018); however, the risk perception of HIV is not uniform (Blumenthal et al., 2019).

In a recent study, Kahle et al. (2018) found that participants reporting high-risk sexual behavior were more likely to perceive a higher HIV risk and to have been tested for HIV within the past 12 months. MSM with a higher perceived risk may prioritize HIV prevention and thus may be more likely to seek prevention services and testing. However, perceived risk of STI and HIV may not translate to high-risk sexual behavior changes, just like getting tested does not translate to behavior change if results are negative. Studies have found mixed associations between perceived HIV risk and actual risk behavior (Camacho-Gonzalez et al., 2016; Duncan et al., 2019; Goedel et al., 2016;

Stephenson et al., 2015), possibly a result of differences in study populations or the effect of multifaceted elements associated with risk behavior. Kahle et al. (2018) found that perceived risk was associated with an increase in CAI among casual non-primary sexual partners and multiple partners consistent with previous studies that imply perceived risk may be associated with sexual partners' serostatus (Kesler et al., 2016; Stephenson et al., 2015). A more recent study (Seekaew et al., 2019) found that 49.29% of participants self-identified as having low perceived risk of HIV infection and 50.36% reported having high self-perceived HIV risk. MSM that reported having low self-perceived risk of getting HIV, reported to have at least one of three predetermined, actual HIV-risk characteristics: HIV-positive (16%), engaged in condom-less intercourse (87%), and tested positive for STIs (37%). Transgender women that reported low self-perceived risk of HIV infection, were demonstrated to have at least one of three predetermined, actual HIV-risk characteristics: HIV positive (7%), engaged in CAI (90%), and tested positive for an STI (34%).

Other studies (Khawcharoenporn et al., 2019) have found that high proportion of MSM reporting high-risk behaviors (63%) do not perceive themselves at risk for HIV condomless receptive anal sex and increased number of partners were more likely to perceive themselves at higher risk .The results of this study remained consistent with a previous study by Khawcharoenporn, Apisarnthanarak, & Phanuphak (2017) that found 66% of MSM reporting the moderate- and high-risk had false perceptions of low risk for HIV. Behaviors not perceived as HIV risks included the high number of casual and new sexual partners in the last 30 days, inconsistent condom use, exchanging sex for money,

drinking alcohol before or while having sex, and their partner's sexual risk behaviors and HIV status. Previous research suggests that youth and emerging adults who perceived themselves at average/ high- risk were to engage in CAI during their last sexual encounter (Camacho-Gonzalez et al., 2016).

Several recent studies have demonstrated that mixed association of perceived HIV risk and sexual behaviors have remained constant among older MSM within the last five years (Camacho-Gonzalez et al., 2016; Goedel et al., 2016; Kahle et al., 2018; Khawcharoenporn et al., 2017, 2019). These findings can be associated with why much research has been dedicated to identifying predictors of condom use. Factors that affect the risk of HIV acquisition in MSM include type of sexual activity, contact with seminal or other bodily fluids, presence of other STIs (Kesler et al., 2016), and knowledge of partners STI and HIV status (De Santis et al., 2017). CAI with an HIV-positive partner and preference for sex with straight men among transgender women has been found to be an essential sexual risk factor for HIV transmission (De Santis et al., 2017; Kesler et al., 2016).

To explain increasing HIV risk and rising rates of infection, some researchers have argued that there a generational disconnect in understanding the HIV/AIDS epidemic in U.S among MSM as older populations may have seen a world without HIV compared to younger MSM that only know a world with HIV. Thus, underestimating their risk perception because it is seen as something that will eventually happen within their community (Edwards et al., 2017; Sullivan & Stephenson, 2018). However, other researchers imply that STD/HIV-risk perceptions highly inaccurate, which may be due to

the influence of other factors not directly related to sexual risk behaviors (Y.-H. Li et al., 2019).

STI and HIV Among MSM and Transgender People

Every year MSM and transgender Women of all racial and ethnic backgrounds are disproportionately impacted by and are most vulnerable to STIs such as Chlamydia, gonorrhea, syphilis, and other bacterial and viral infections like HPV and HIV (Crosby et al., 2017; Jansen et al., 2020; Lelutiu-Weinberger et al., 2020; Painter et al., 2019; Rice et al., 2017). In the U.S., incidences of STIs reported to the CDC have been progressively demonstrated to disproportionately impact non-Hispanic black, Hispanic/Latino communities and young MSM ages 15-29 (Leichliter et al., 2020). Increases in STI diagnoses, particularly of syphilis and gonorrhea, have been seen among MSM color. Rates of HIV diagnosis remain high in this group and HIV-positive men are disproportionately impacted by co-infections of STIs (Datta et al., 2019). STIs remain undetected and untreated in this population because they are often asymptomatic (Jansen et al., 2020).

Worldwide, transgender women experience numerous health disparities and are 50 time more likely at an increased risk for HIV transmission compared to other sexually active adults including MSM. In their lifetime, transgender women's susceptibility to HIV is 34.2 times higher compared to the general population (De Santis et al., 2017; Haile et al., 2014; Lelutiu-Weinberger et al., 2020; Reisner et al., 2020). In the United States, the population size of transgender people is not well-known. This is due in part to official records such as the United States Census that is primarily responsible for

obtaining the nation's population size and demographics, however, does not include gender inclusive demographic questions—specifically, gender identity (Meerwijk & Sevelius, 2017).

Epidemiological research has identified factors that increase HIV vulnerability among transgender people in general. These factors include but are not limited to gender-based sexual violence due to gender identity and expression (Yi et al., 2017). Stigma, especially internalized stigma that is associated with prevention of access to HIV services and treatment (Ramlagan et al., 2019) and is often associated with inconsistent condom use, and increased risk to HIV and coinfection with perianal STIs that can accelerate acquisition and transmission of HIV (Reisner et al., 2020). A CDC (2019b) report highlighted that 84% of transgender women are HIV positive —demonstrating the disproportionate impact HIV has in this population. Recent reports by the CDC also highlighted that among MSM, 37% and 29% of new incidences of HIV were among Black/ African American and Latino respectively— representing the highest incidences among all racial and ethnic groups (CDC, 2018, 2019a).

MSM are more likely to engage in sex with individuals on the same racial/ethnic background and from the same social networks- increasing their risk of HIV exposure and infection. In the United States, incidences of STIs and HIV remained high throughout the years although there has been decreases overall in the nation (Gorbach et al., 2019). Reducing incidences of STIs and HIV requires prioritizing HIV prevention among MSM a population that continues to be disproportionately affected by the HIV burden (Quinn et al., 2019) and STIs in the United States (Rice et al., 2017). Numerous studies identify that

MSM continue to be a susceptible population for HIV infection (Brantley et al., 2017; Haibo Jiang et al., 2020; Murray et al., 2018; Starks et al., 2017).

Despite MSM accounting for an estimated 2% of the United States population and 75% of all new incidences of HIV infections (Crosby et al., 2017), data on AIDS-related behavior among HIV-negative MSM is lacking (Haibo Jiang et al., 2020). Racial and ethnic disparities among HIV infected individuals persist, especially among Black non-Hispanic, and Latino MSM (CDC, 2018, 2019a; Crosby et al., 2017). Latino MSM account for 84% of HIV infections among Latino men (CDC, 2018). At this rate, researchers have stated that one in four Latino men may be diagnosed with HIV in their lifetime aligning with the CDC prevalence of 26% of overall HIV infections (Painter et al., 2019).

Sexual Behaviors

In the United States, incidence rates of HIV among Black and Latino has remained high (Gorbach et al., 2019) with 83% of new HIV infections occurring among MSM. The estimated incidence rate of new HIV infections among Black MSM in the US is twice that of Latino men and more than 6.5 times that of whites (Hall et al., 2017). According to several studies, these rates have been associated with RSB (Chemnasiri et al., 2019; Gorbach et al., 2019; Haibo Jiang et al., 2020; Lyons et al., 2019). Sexual behavior is a complex activity affecting numerous aspects of an individual's life and is subject to social, cultural, moral, and ethical values (Mirzaei et al., 2016). RSBs are identified as having unprotected sexual anal or vaginal intercourse, unprotected oral sex, having multiple sex partners, having sex with a high-risk partner, illicit drug use, and

consuming alcohol before and while engaging in sex (Alimoradi et al., 2017). RSBs are unsafe sexual practices that create negative outcomes in an individual's life. These unsafe sexual practices are known to increase an individual's exposure to STIs, and HIV and evidence suggest that they are the second most leading cause of disability adjusted life years worldwide (Mirzaei et al., 2016).

Researchers have argued that there is a discordance between MSM sexual identity, orientation, and sexual behaviors (Seekaew et al., 2019). In HIV literature, very few studies examine cisgender MSM and possible associations of other sexual partner choices and RSB (Hall et al., 2017). A study by Satcher et al. (2017) demonstrated that during their last three sexual encounters, transgender women reported using alcohol and drugs (27.7% and 12.0) respectively. Among casual partners, the prevalence of substance use was higher (alcohol: 31.9%; drugs: 17.7%) compared to primary partners (alcohol: 24.1%; drugs: 8.0%). Epidemiological trends since the late 1980's suggest an alarming trek of unprotected RSB specifically CAI among several racial and ethnic MSM groups (Hu et al., 2020; Jin et al., 2009; Kippax et al., 1997; Peterson et al., 1992; Prestage et al., 2005; Reis et al., 2019; Ruan et al., 2019; Sarno & Mohr, 2019; Van Griensven et al., 1989). These data show a gradual and disproportionate increase in HIV infections in this population at the time, especially among young MSM (Guilamo-Ramos et al., 2020; Jansen et al., 2020; Reisner et al., 2020). At present, these behaviors have diversified and become increasingly complex. These sexual risk behaviors include the so-called *bareback* (intentional CAI among non-steady casual partners); *bug chasing* (individuals chasing the virus), the act of *bareback* sex with an HIV-positive

person when the other one is HIV-negative; and *gift giver* (the one giving the "gift" of HIV), the HIV-positive individual donates their virus to those who wish to receive it) (Santiesteban Díaz et al., 2019).

In the United States, sexually transmitted infections, and HIV rates among MSM are a continued public health concern (Rice et al., 2017). Several researchers have identified risk factors for HIV infection that may explain the high incidence rates of HIV infection among MSM and transgender women (Hongbo Jiang et al., 2019; Quinn et al., 2019; Reisner et al., 2020; Seekaew et al., 2019). Factors associated to RSB can be attributed to seeking sexual partners on social networking platforms (i.e., Tinder, Facebook, Instagram), the availability of HIV medication (i.e., PrEP and PEP), the burden of taking precautions against HIV, and the use of substances (Suominen et al., 2017). A systematic review and meta-analysis by Zou & Fan (2017) found that MSM engaging in RSB used social networking apps to identify their potential sexual partners. Results demonstrated that in their lifetime, MSM had an average of 29–80 sexual partners in the past 12 months, 9–10 in the past 6 months, and 2 in the past month. Of these participants, 8.3 % had exclusive sexual partners and 46.4 % had CAI with all partners in the past 3 months. MSM that reported CAI had no recent HIV testing and though they had low risk of infection or were HIV negative, and 50% reporting that they inquired about new partners HIV status before sexual activity.

Previous research suggests (Camacho-Gonzalez et al., 2016) that youth and emerging adults who perceived themselves at average/high-risk were to engage in CAI during their last sexual encounter. Sexual risk behaviors may be complicated by other

factors such as alcohol and substance use, immediate gratification, lack of concern for acquiring HIV, as well as sensation- seeking and excitement or enhancing pleasure. Among transgender women, Yu et al. (2018) found RSB were associate with factors such as cultural/language barriers, stigma, discrimination, sexual exploitation, unemployment, poverty, and limited access to HIV education and healthcare services. High risk sexual behaviors such as CAI has been associated with lack of knowledge, economic status, forced sex or rape, use of substances before and during sex, and a prior history of incarceration among other racial and ethnic groups (Kramer et al., 2015). Other RSB such as behaviors such as commercial sex work and multiple casual sex partners, which were described as relatively common among transgender women.

A study among Guatemalan men found that 93.7% of the participants reported having changed their sexual behavior after acquiring HIV knowledge. The changes in sexual behaviors were associated with the perceived benefit of less anxiety if tested negative and keeping their partners safe if the test was positive. Responses to benefits of HIV testing and treatment were 76.7% among transvestites, 69.1% among MSM, 66.7% among bisexuals, but only 36.4% among transgender women (Ikeda et al., 2018).

Hall et al. (2017) found that men with transgender partners were more likely to get healthcare or participate in research studies or programs and were more likely to get tested for HIV because they were considered high risk for infection compared to other men who didn’t engage in sexual activities with transgender persons. Researchers have stated that there is a need study driver of the HIV epidemic and specific vulnerabilities

facing transgender women and MSM to identify optimal targets for interventions to reduce HIV disparities for these key populations (Reisner et al., 2020).

Condom Use and Condom Use Self-Efficacy

Among MSM and transgender individuals the greatest risk for STI and HIV is associated to CAI. In anal intercourse, the best and protective practice against STIs and HIV infection is the correct use of a condom and the correct type of lubricant (water-based) (Suominen et al., 2017). Condoms are an imperative tool to prevent STI and HIV transmission (Jain et al., 2018). Condom use affects the probability of sexual transmission of HIV when in contact with an infected or susceptible partner and is an indicator measured in sexual risk behavioral surveillance and HIV prevention research. Although safer sex practices as if condom use is an important strategy that can reduce the risk of STI and HIV transmission, they do not eliminate risk if they are not used often, correct, and consistent (Paz-Bailey et al., 2016). Condom use self-efficacy may facilitate condom use among MSM. Condom use self-efficacy refers to one's level of confidence in their ability to have safe sex and is comprised of the ability to obtain condoms, knowledge of proper condom use, and ability to use negotiation skills during challenging situation (Kelly et al., 2016; H. Li et al., 2017). Research has shown that there is a robust association between CAI and STI/HIV transmission among MSM and transgender women (Hu et al., 2020; Reisner et al., 2020; Sarno & Mohr, 2019) and that partner relationships may influence whether sexual partners use condoms (Chamberlain et al., 2017; Satcher et al., 2017). In a study on partner level factors associated with CAI, transgender women reported they engaged exclusively in RAI in most of their sexual

partnerships (74.7%) and exclusively in IAI with only 5.4% of partners with overall rate of CAI at 41.2% (Satcher et al., 2017). Among MSM, the highest risk for STI and HIV transmission is CAI. It is universal awareness that the greatest risk reduction and protective factor related to STI and HIV transmission during sexual intercourse is the correct use of a latex or polyurethane condom with a water-based lube. Correct and consistent condom use remains as the recommended, cost-effective, reliable, and standard method to prevent the general population from unintended pregnancies, and acquiring and transmitting STIs and (Ruan et al., 2019). A meta- analysis of 41 articles found that MSM who use social networking apps to find sex partners engage in CAI (46.4%). The social networking apps using MSM were also found to be more likely than other MSM to have gonorrhea and chlamydia infection (Zou & Fan, 2017).

A Pathway Through the Prism of Intersectionality

An intersectional framework asserts how multiple social identities at the micro level of experience (i.e., race, ethnicity, gender, sexuality, SES, disability) intersect with the macrosocial social structural factors (i.e., poverty, racism, heterosexism, classism, sexism, stigma) that shapes individual sexual risk behaviors to produce disparate health outcomes (Bowleg, 2012; Bowleg et al., 2013). Studies have demonstrated stigma has been a social structure that has impacted the lives of youth in the Caribbean increasing risk for STI and HIV infection (Sutherland, 2016). Stigma has been defined as the ownership of a devaluated characteristic, behavior, or identity that results in the reduced status of individuals that possesses that trait, behavior, or identity shape an individual's experience of current or past stereotyping, biased, and stigmatizing behaviors such as

discrimination or marginalization due to their possession of the devalued trait (Ramlagan et al., 2019).

Despite recent advances and incorporation of cultural sensitivity, gender inclusivity, competency, and societal acceptance of sexual and minorities in the United States LGBTQ individuals still experience negative social attitudes and behaviors (Parker et al., 2017; Veronese et al., 2019). Although pertaining to marginalized and oppressed groups, LGBTQ individual experience an intersection of discrimination that vary depending on an individual's perception of negative discriminatory behaviors which is not only noted through one category (Parker et al., 2017; Veronese et al., 2019). For example, like ethnic minorities and women, LGBT people are subject to a range of negative discriminatory experiences, but these experiences can vary in the extent to which they perceive these experiences as stressful or associating the with negative emotions (Flentje et al., 2016). LGBT minority stress has emerged as an important focus of study because researchers have linked it to negative health outcomes. Most studies focus on specific types of LGBT minority stress (e.g., internal homophobia, internalized stigma) (Mackenzie et al., 2020) rather than the full range, but they nevertheless find that minority stress is associated with poorer quality of life that places MSM and transgender women at risk for engaging in health risk behaviors that may increase their risk for STIs and HIV (Bowleg et al., 2013; Hsieh & Ruther, 2016; Mackenzie et al., 2020; Perez-Brumer et al., 2019).

A qualitative study conducted by Pachankis et al. (2015) found that anti-gay structural stigma in European countries was associated with a lack of HIV prevention and

lack of condom use among men who have sex with men. In a study examining sexual risk behaviors among Guatemalan MSM, Ikeda et al. (2018) found that although 93.7% of participants perceived benefits to changing sexual risk behaviors, 73.7% perceived individual and structural barriers to HIV testing, treatment, and preventive behaviors. Of these, 76.6% of MSM and 27.3% of transgender participants identified structural barriers to sexual behavior changes and preventative services, including the fear of testing HIV positive and of not having enough money to travel to an HIV clinic for treatment. In the same study, 73.2% of participants had experienced homophobic stigmatization and discrimination behaviors associated with interlocking systems of oppressions at the macrosocial structural level of the intersectionality theoretical framework (Bowleg, 2012). These results demonstrate that HIV/AIDS stigma is one of the major barriers in combating HIV worldwide among the general population (Garett et al., 2016). While MSM and transgender women are known to be a population disproportionately impacted by HIV, ethnic disparities persist (Guilamo-Ramos et al., 2020) with Black and Latino MSM and transgender Women dominating the highest rates in the United States (CDC, 2018, 2019b, 2019a).

Stigma and discrimination have been a long-standing issue among sexual and gender minorities (Bowleg, 2012; Crenshaw, 1991). High levels of HIV/AIDS stigma among minorities helps drive this disparity (Murray et al., 2018; Pantelic et al., 2019; Veronese et al., 2019). As a result, many minority MSM remain secretive about their same-sex sexual practices, avoid getting tested/practice riskier sex, and are unreachable by traditional public health interventions (Murray et al., 2018). The tendency for research

to aggregate MSM and transgender women based on their presumed HIV risk behavior frequently obfuscates true estimates of HIV prevalence within the community (Murray et al., 2018; Torres et al., 2019). As is evident in public health research and practice to not disaggregate sexual and gender minorities, HIV prevention efforts have historically failed to consider the intersectional prism of Black and Latino MSM and transgender women-by not analyzing the complex yet unique experiences that may inform their disproportionate adverse health outcomes ((Bowleg, 2012; D'Avanzo et al., 2019; Midoun et al., 2015; Pantelic et al., 2019; Reisen et al., 2013).

Summary and Conclusions

This chapter provided a synthesis of the literature related to the key variables associated with the study. A plethora of peer-reviewed scientific knowledge related to sexual behaviors, STI/HIV knowledge, theoretical and methodological contributions to the literature related to Black and Latino MSM was reviewed and synthesized. The purpose of this study was to examine how multiple intersecting identities interact to influence condom use among Black and Latino MSM. The conceptual framework for this study was framed to modify the health belief model with micro-level individual lived experiences and macrosocial structural factors that create adverse health outcomes influenced by an individual's behavior. This process provided a foundation for this study justifying the gap in the existing literature and why an intersectional approach modified in the health belief model to examine condom use among Black and Latino MSM and transgender women was essential to advance health education and promotion research. Additionally, noted inconsistencies in the literature reviewed allowed me as the

researcher to decipher the information and demonstrate the need for this study that could contribute to social change in the health education and promotion field.

Chapter 3: Research Method

The purpose of the study was to use an intersectional approach to examine the effects of macrosocial structural factors (i.e., racism, heterosexism, housing stability, sexism, poverty) on the acceptance of RSBs among Black and Latino MSM and transgender women. The study was grounded on a conceptual framework from the integration of the HBM constructs (perceived susceptibility and perceived severity [perceived threat], perceived barriers, perceived benefits [likelihood to accept RSBs], self-efficacy, cues to action), and the intersectionality theory. This framework guided the study to address behavioral-social and environmental interactions as related to discrimination, HIV-associated risk behaviors, perceived vulnerability, STI/HIV acquisition, and condom use self-efficacy.

Chapter 3 includes the research methodology for a quantitative study and describes the research design and rationale. A concise definition of the study population, sampling procedures and strategies, procedures for recruitment of participation, and data collection strategies are provided to serve as a guide for the study processes. Lastly, the instrumentation and operationalization of constructs used to evaluate the study variables and the threats to external and internal validity and agreements and concerns related to ethical procedures to ensure the study aligned with Walden University's Institutional Review Board (IRB) is methodically described.

Research and Design Rationale

To determine the relationship among the multiple variables, a quantitative multivariate analysis technique was integrated to collect data from Black and Latino

MSM and transgender women in NYC via an online survey. The survey was posted on Survey Monkey and social media platforms that MSM and transgender women frequent. These include Tinder, Facebook, Adams for Adams, Grindr, Zoosk, Instagram, and Gay Singles Me. Specifically, I examined the axes of intersectional individuals' identity and the directional relationship to their perceived threat of STIs and HIV, perceived benefits, and barriers (likelihood to accept RSB), and self-efficacy to use condoms (HBM constructs). A cross-sectional research study design guided the study using a SEM statistical approach. SEM was used to explore the pathways in which microlevels of individual lived experiences (i.e., race/ethnicity, gender, sexuality, SES, education, age, sexual behaviors, knowledge, self-efficacy, outcome expectations) and macrosocial structural factors (i.e., discrimination, heterosexism, housing stability, poverty) interact to influence the acceptance of RSBs among Black and Latino MSM and transgender women.

To assess macrosocial structural level factors (i.e., heterosexism, poverty, and housing stability) of the intersectionality theory, the Balsam Daily Heterosexist Experiences Questionnaire (DHEQ) was used alongside a demographic questionnaire. Table 3 depicts the operationalization of these variables.

Table 3

Operationalization of Macrosocial Structural Factors

Macrosocial structural variable	Stem	Response options
Heterosexism (H) and discrimination (D) (Harassment and Discrimination subscale)	Harassment and Discrimination Subscale	1. Did not happen/not applicable to me 2. It happened, and it bothered me not at all 3. It happened, and it bothered a little bit 4. It happened, and it bothered me moderately 5. It happened, and it bothered me quite a bit 6. It happened, and it bothered me extremely
Housing stability	What is your housing status?	I rent an apartment or a room Live in a housing project (i.e., NYC Housing authority [NYCHA], Section 8, Rapid re-housing) I am a homeowner Residential group home or shelter (transitional independent living) I am homeless I am couch surfing
Income (poverty)	What is your income?	1. $0 2. $1-$5000 3. $5,0001-$10,000 4. $10,001-$15,000 5. $15,001-$20,000 6. $20,001-$25,000 7. $25,0001-$30,000 8. $30,001-$35,000 9. $35,0001-$40,000 10. $40,001-$50,000 11. $50,001-$70,000 12. $70,0001-$100,000 13. $100,001 or more

A conceptual framework was developed for this study using constructs from the HBM (perceived susceptibility, perceived severity, perceived barriers, perceived benefits, and self-efficacy), micro level individual lived experiences, and macrosocial structural factors from the intersectionality theory to evaluate sexual risk behaviors of MSM and transgender women. The HBM was selected because of its ability to address psychosocial factors influencing health behavior (perceived threat, perceived barriers, perceived benefits) and methods for promoting behavior change (cues to action and self-efficacy). The HBM states that an individual is more likely to perform a behavior change if they feel the threat of a disease, if the benefits outweigh the barriers, and if they have the confidence in performing the healthy behavior (Rosenstock, 1974). The intersectionality theory, although it does not have constructs to operationalize, acknowledges the existence of historically marginalized and oppressed groups (i.e., Black, and Latino MSM and transgender women). The theory also postulates that race and gender alone or in combination cannot determine the disparate health outcomes of populations without identifying other intersecting social identities or categories that may shape or influence their behaviors and health outcomes (Bowleg, 2012; Crenshaw, 1991).

The intersectionality theory suggests that unidimensional thinking (e.g., analyzing gender alone or analyzing race alone) cannot adequately describe lived experience, particularly for people who have multiple minority statuses. There are three common hypothetical associations in the intersectionality framework: (a) All people embody multiple, interconnected social categories or identities; (b) an individual category is embedded with inequality or power; and (c) all categories are both properties of the micro

level and macrosocial structural factors, and as such do not conform to one structure of identity (Richman & Zucker, 2019). In other words, the intersectionality theory explores identity construction as establishing multiple social structural paths, including race, gender, social-class, and sexual orientation, among other unique paths that shape an individual's sense of self.

The aim for this study was to examine a conceptual model of intersecting axes of identity in a sample of Black and Latino MSM and transgender women in NYC and explored patterns by which identities might be linked with the acceptance of RSBs in relationship to the HBM. An SEM approach by ways of a multiple regression was used to evaluate the hypothesized pathways by which the micro level of individual lived experiences and the macrosocial structural factors and behavioral variables interact to influence condom use. To examine multiple variables, several researchers have suggested SEM—as the methodology postulates pathways and associations to be projected among observed and underlying variables by permitting for concurrent estimation of measurement and structural components (Logie et al., 2016; Turan et al., 2019). SEM is a quantitative research technique that has been widely used in social sciences that incorporates qualitative methods to illustrate the directional relationships between variables (Parriault et al., 2016). This statistical technique allows the examination of simple and complex directional effect hypotheses among multiple variables and provides an adaptable model to test the validity of theory, using empirical frameworks (Brunswick & Banaszak-Holl, 1996; Goldenberg et al., 2019; Logie et al., 2016). SEM is one method for answering theory-guided research questions, seeking to understand complex relations

between identity axes and associated behaviors through an integrated lens. This statistical approach uses regression (moderated mediation analysis) to explore multivariate, directional pathways between categorical variables, measured variables, and theoretical constructs (Hartwell et al., 2019; see Table 1 of definitions for applied statistical terms).

According to Sharma et al. (2009), the relationship between micro level and macrosocial structural factors such as those identified for the conceptual framework in this study are rarely bivariate. The SEM or path analysis methodology has been widely used in analytical approaches for intersectional frameworks (Bowleg et al., 2013; Bredström, 2006; Carbado et al., 2013; Crenshaw, 1991; Gattamorta et al., 2019; Mburu et al., 2014) in which researchers have sought to understand the multifaceted nature of identities by controlling factors such as race, ethnicity, gender, and social class through quantitative approaches (Turan et al., 2019). SEM is a complex method offering similar advantages alongside limitations (Albert, 2019), and, therefore, a moderated mediation analysis was considered for this analytical research study.

According to Bauer (2019), there needs to be an analysis of mediating factors along the causal pathway from the initial exposure to the outcome of interest in two ways. First, in an epidemiological sense, using the difference method can estimate the difference in exposure without the inclusion the mediator as a covariate. Second, in social sciences, there is the use of the popularized product method. In the same context, Bauer stated that these analytical methods can produce inconsistent results with the same type of data, and newer methods for causal mediation analysis have better validity. Classically, mediation and path analysis have relied on linear regression models. More

recently, causal mediation analysis using a potential outcomes framework has provided a principled foundation allowing for causally interpretable mediation (direct, indirect, and path-specific) effects under flexible model specifications (Albert, 2019).

As a relatively new research approach, analytic intersectionality studies involve a range of potential mediating drivers of inequalities that influence health disparities (Bauer, 2019). Mediation analysis seeks to decompose the total effect of a treatment or exposure on an outcome into alternative paths. The goal of such an analysis is to illuminate the mechanisms through which the exposure affects the outcome. However, in many health contexts, exposure effects are more realistically described with multiple mediators, in some cases occurring in multiple stages involving a sequence of mediators.

Health inequities across social identity/position groups present a particular type of question for causal analysis. Given that no intervention is desirable to change most social identities or positions, and that for most individuals, intersectional category membership is consistent from birth (race/ethnicity, sex/gender), and the key is understanding mediation. It is necessary to identify factors that interact from the intersectional categorical membership, in a particular social context, which promote or hinder health behaviors and/or outcomes of those in that category. Causal mediation analysis was developed to parse the effects of exposures into direct and indirect effects with explicit control of confounders of exposure and explanatory variables (mediators). Although mediation analysis is a breakdown of a social characteristic's effect, the indirect effect estimate is interpreted as a disparity reduction and the direct effect as a disparity residual that would result from removing disparities in the explanatory mediating variable among

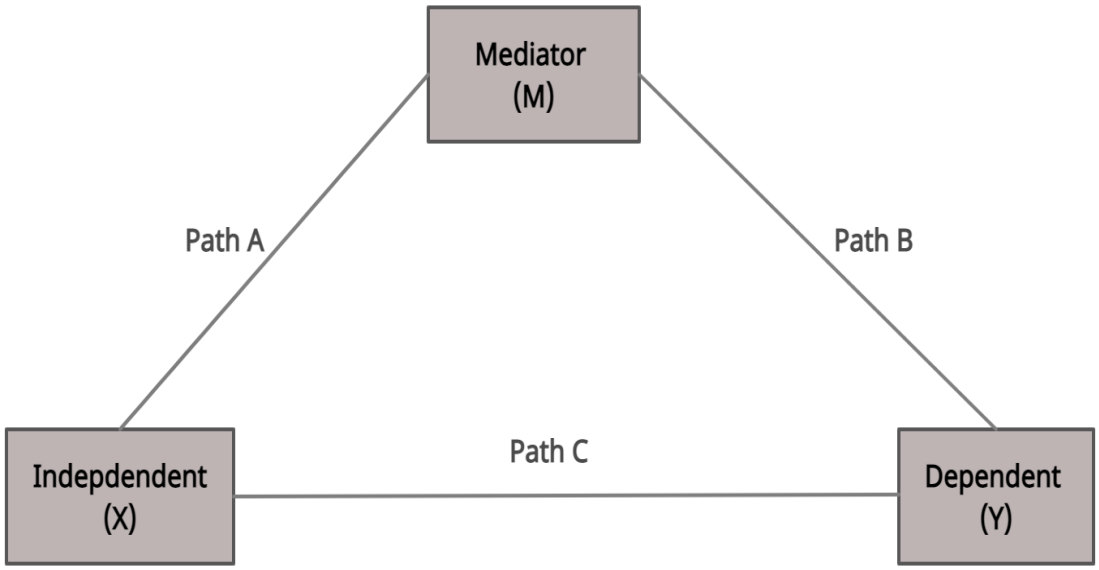
Black and Latino MSM and transgender women (Ward et. al, 2019). Figure 6 is a simple mediation model illustrating how variables interact through various paths.

A full regression analysis is necessary to evaluate the true nature of relationships between exogenous (independent) variables or endogenous (dependent) variables of interest tested using a covariance matrix as input and maximum likelihood estimation (Sharma et al., 2009; Youngblut, 1994). SEM is a method suggested to estimate the unobservable latent variables from the observed indicator variable. The main goal in SEM is to estimate the relationship between latent variables. A latent variable is the one that cannot be directly measured (i.e., acceptance of RSBs and micro level factors) by the researcher, and the researchers are only able to have access to the indicators of a latent variable that can be directly measured (HBM constructs and macrosocial structural factors; Karimi & Abdollahi, 2019).

The mediation analysis for this study was made up of three models: In the measurement model, the relationship between the indicators (constructs of the HBM) and latent factor (intersectionality theory and acceptance of RSBs) was studied. In the structural model, the direction and extent of the relationship(s) among the factors was measured. SEM are models based on a theory. In other words, the conceptual model for this study was determined on the HBM and structures of the intersectionality theory (see Hartwell et al., 2019). Figure 6 depicts the basic mediation model that shows where each of the study variables fit into the study's conceptual framework. The rectangles represent the observed variables, and the arrows demonstrate the relationships of the paths amongst them.

Figure 6

Mediation Model

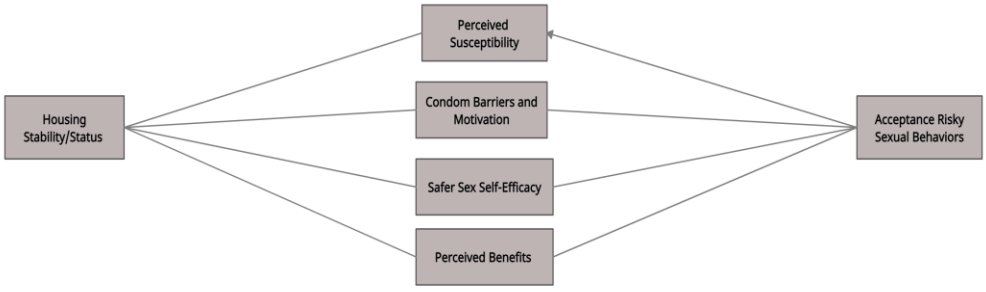


The SEM methodology has been widely used in analytical approaches for intersectional frameworks (Bowleg et al., 2013; Bredström, 2006; Carbado et al., 2013; Crenshaw, 1991; Gattamorta et al., 2019; Mburu et al., 2014) in which researchers have sought to understand the multifaceted nature of identities by controlling factors such as race, ethnicity, gender, and social class through quantitative approaches (Turan et al., 2019). In this study, covariates included self-reported sociodemographic characteristics: gender (cisgender male-identified or transgender), relationship status, educational attainment, living arrangements, sexual orientation (gay, bisexual, or others), sexual role (insertive, receptive, verse), and health insurance status.

The SEM for this study was made up of two models: measurement and structural. In the measurement model, the relationship between the indicators (constructs of the HBM) and latent factor (intersectionality theory and acceptance of RSBs) was illustrated. In the structural model, the direction and extent of the relationship(s) among the factors was measured. SEM are models based on a theory. In other words, the conceptual model for this study was determined on the HBM and structures of the intersectionality theory (see Hartwell et al., 2019). Figure 6 depicts the hypothesized structural model that shows where each of the study variables fit into the study conceptual framework. The rectangles represent the observed variables (Figure 7), and the ovals represent the instruments used to measure the observed variables (Figure 8). The arrows demonstrate the relationships involving the interrelationships between the latent variables, which include micro factors, macrosocial structural factors, and the acceptance of RSBs, as well as the relationships between the observed variables and each individual latent variable.

Figure 7

Hypothesized Structural Model



This study explored the direct and indirect paths associated with the micro-level of individual lived (intersectional category) experiences (i.e., race/ethnicity, gender, sexuality, SES, education, age, sexual behaviors). Additionally, explored macrosocial structural factors (i.e., racism, heterosexism, housing stability, sexism, poverty) and how they interact to influence the acceptance of RSB (no condom use) among Black and Latino MSM, and transgender women based on the conceptual framework founded on the intersectionality theory and the HBM constructs (perceived susceptibility, perceived severity, perceived barriers, perceived benefits, and self-efficacy). The following research questions and hypotheses guided the study:

RQ1- Do macro-social structural factors (i.e., housing status) explain the acceptance of risky sexual behaviors between Black and Latino MSM and Transgender women?

$H_0$1: There are no statistically significant effects of macro-social structural factors (i.e., housing status) on the acceptance of risky sexual behaviors between Black and Latino MSM and transgender women.

H_A1: There are statistically significant effects of macro-social structural factors (i.e., housing status) on the acceptance of risky sexual behaviors between Black and Latino MSM and transgender women.

RQ2- To what extent does perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy mediate the relationship between macro-social

structural factors (i.e., housing status) and the acceptance of risky sexual behaviors among Black and Latino MSM and transgender women?

$H_0 2$: Perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy does not mediate the exposure between macro-social structural factors (i.e., housing status) and the acceptance of risky sexual behaviors among Black and Latino MSM and transgender women.

$H_a 2$: Perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy does mediate the exposure between macro-social structural factors (i.e., housing status) and the acceptance of risky sexual behaviors among Black and Latino MSM and transgender women.

The hypotheses tested relate to the patterns of relationship effect structure linking the predictors to the outcome variable. The relationships among the variables on the hypothesized model are grounded in the health belief model and intersectionality theory and will serve as both theoretical and empirical research. The following illustrations (figures 8 and 9) depicts a chronological illustration of a measurement model for the instrumental operationalization and the mediation for the research posed:

Figure 8

Measurement Model

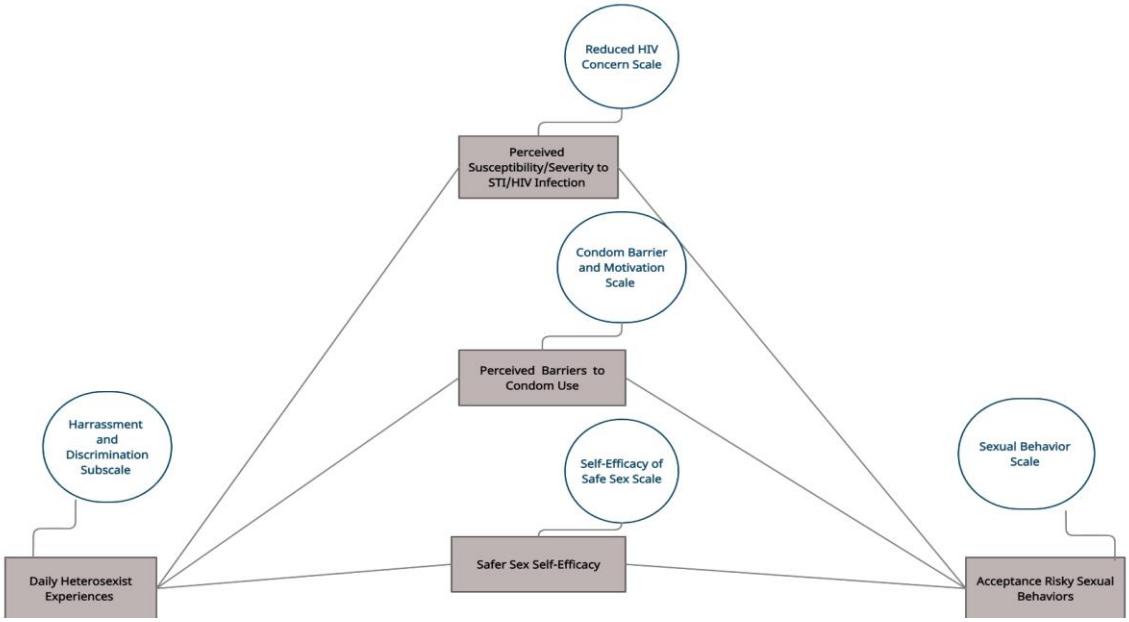
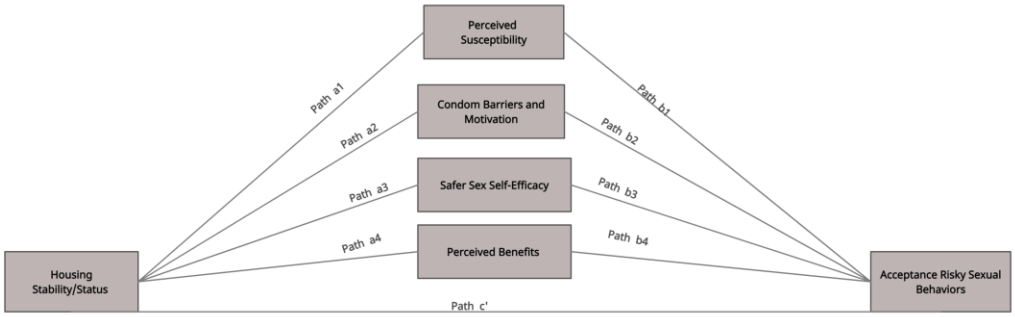


Figure 9

Research Question 2: Mediation Process 4



Study Design

A research study design is a framework used to collect and analyze data on variables specified in a particular research problem. For this study, a quantitative method an observational, analytic, cross-sectional survey design was used (Karimi & Abdollahi, 2019). A cross-sectional study is a type of observational study in which exposure(s) and outcome(s) are determined simultaneously for each subject participant. This design is often described as taking a "photographic snapshot" of a group of individuals—and most appropriate for screening hypotheses. This type of study design requires a relatively short time commitment and small amounts of resources to conduct it.

The United States was facing unprecedented times with the COVID-19 pandemic. It was common awareness NYC was nationally named as the COVID-19 hot zone. Due to the unforeseen circumstances and not knowing the length of time of the pandemic, face-to-face recruitment for data collection was foreseen as impossible at the time the study began. As so, the plan for data collection consisted of an internet-based research

study. Internet-based research (IBR) is growing in popularity and usability among social science, behavioral science, and health researchers, in part because of the ease and efficiency in recruiting large samples (Dewitt et al., 2018). Black and Latino MSM and transgender women are known as hard-to-reach populations. Researchers have used IBR methods to recruit vulnerable and hard to reach populations qualities that make this method a popular option for HIV research studies (Ballard et al., 2019; Grey et al., 2015). To carry out an IBR, a web-based survey design platform that is user friendly will be used. The identified survey platforms that met the requirements for the research study was Survey Monkey. The platform offered user metrics that allowed a user-friendly transition from each segment of the survey. The core components of the web-based survey included the following domains: eligibility screener, consent process, demographic questionnaire, sexuality identification, condom use self-efficacy, and discrimination index, measures of RSB, STI/HIV knowledge, and individual perceptions of STI / HIV.

Methodology

Population

The study took place online among Black and Latino MSM and transgender Women with a focus on individuals living in NYC. The eligibility criteria for the study were MSM and transgender women who have sex with men aged 18 and older. The phrase men who have sex with men is an inclusive public health term that defines the sexual behaviors of a cisgender-male identified individual who has sex with a man regardless of them engaging in sexual activities with members of other gender identities

or communities (Sohn & Cho, 2012). Having a male sex partner is not necessarily the same as sexual orientation-identification as gay, bisexual, or queer. MSM defines a group of men temporary behavior and is a term that is preferred by public health researchers over identities such as gay or bisexual men ─because behavior, not identity, leads to sexual transmission of HIV and STIs (Grey et al., 2016). A transgender person is an individual whose gender identity or expression differs from their sex assigned at birth. As so, a transgender woman is an individual whose sex assigned at birth is male, but gender identity or expression is female (Nolan, 2019).

According to the US Census Bureau (2020) NYC population estimates as of July 1, 2019, is 8,336,817. Of these 24.3% are Black or African American, 29.1% are Hispanic or Latino, 42.7% are White, and 13.9% are Asian. The US Census and other official records kept by such agencies as the New York State departments of motor vehicles report sex, typically based on the sex assigned at birth or the legal sex, but they do not report an individual's current gender identity. These agencies also do not have readily available tools to record whether the legal sex differs from the sex assigned at birth. As a result, at the most basic level, the population size of transgender individuals in the United States or any state is not well known. In the United States, an estimated 390/100,000 adults are estimated to be transgender individuals (Meerwijk 2017). Specific data to an estimated population's size of transgender women in NYC was not found. A meta-analysis on population size among MSM in indicates that an estimated 397,399 reside within the NYC region (Grey et al., 2016).

Sampling and Sampling Procedures

To answer the research questions for this study, it was standard establishing inclusion and exclusion criteria for study participants. Table 4 illustrates the inclusion and exclusion criteria for a cross-sectional study of sexual behaviors of MSM and transgender Women:

Table 4

Sampling Frame

Inclusion criteria	Exclusion criteria
Male Transgender female At least 18 years old Living in NYC African- American/Black Hispanic/Latino Having had at least one anal sex episode with another man within the previous 6 months Acknowledging voluntary participation in the study	Individuals under the age of 18.

The snowball sampling technique was used to recruit study participants. Snowball sampling is a non-probability sampling technique where study subjects recruit potential future subjects from among their social networks. As the sample builds up, enough data are gathered to be useful for the research study (Raina, 2015). Snowball sampling is a technique that is modeled after "contact tracing" in public health. This method is one which and individual names all other individuals who were associated with a specific event. As so, the snowball sampling strategy finds individuals who have the desired characteristics and uses that person's (initial source or seed) social networks to recruit

similar subjects, in a multi-stage process. After the initial source helps to recruit respondents, the respondents then recruit others themselves. Thus, the semi-self-directed, chain-referral, recruiting mechanism can reach the hard-to-reach target group in a more pragmatic and culturally competent way (Haibo Jiang et al., 2020). This sampling method generates biased samples because respondents who have great number of social connections can provide investigators with a higher proportion of other respondents who have characteristics like that initial respondent (Etikan 2015). Snowball sampling is a recommended technique to use with hard-to-reach populations (Meerwijk 2017). Hard to reach populations are those populations that are rare or stigmatized such as such as (but not limited to) injection drug users, men who have sex with men, Black gay men, Latino gay men, and transgender women (Meerwijk 2017). For research on sexual risk behaviors and HIV/AIDS, snowball sampling facilitates the recruitment for MSM, (Haibo Jiang et al., 2020; Nareswara et al., 2016).

Knowing the proper sample size is critical in analytics studies that rely on SEM (Soper, 2020). To ensure the probability that the statistical analysis correctly identified a statistically significant effect of the structural model, a power analysis was conducted to determine the number of participants needed in this study. Additionally, a *priori* sample size calculator determined the minimum sample size for a structural equation model study involving latent variables, given the expected effect size, the desired p-value, the desired statistical power level, and the number of observed and latent variables. The calculator computed the minimum sample size required considering the structural complexity of the model, as well as the minimum sample size required to detect the specified effect. From a

snowball sample, a desired sample size of at least 568 participants met the study requirements. The following, table 5, is a depiction of the power analysis and sample size calculations:

Table 5

Power Analysis and Sample Size Calculation

Parameters	Parameter values
Anticipated effect size	0.3
Number of latent variables	5
Number of observed variables	7
Probability level	0.05
Desired statistical power	0.8
Minimum sample size to detect effect	150
Minimum sample size for model structure	568
Recommended minimum sample size	568

Procedures for Recruitment, Participation, and Data Collection

Black and Latino MSM and transgender women were recruited on social media. Emails were sent to local lesbian, gay, bisexual, transgender, and queer (LGBTQ) venues (i.e., social service agencies and health clinics), and advertisements flyers will be placed on social media and platforms such as Instagram and Facebook using my personal accounts.

Participation

Before proceeding to the general study, participants were required to read the information related to the study and had an opportunity to ask questions if they had any. The participant was then directed to a new page to begin the survey. A question skip logic was added to the answer choices that will disqualify a respondent at any given time for questions 1-7. This feature ended the survey with a hard stop for a respondent that did not meet the following inclusion criteria of eligibility:

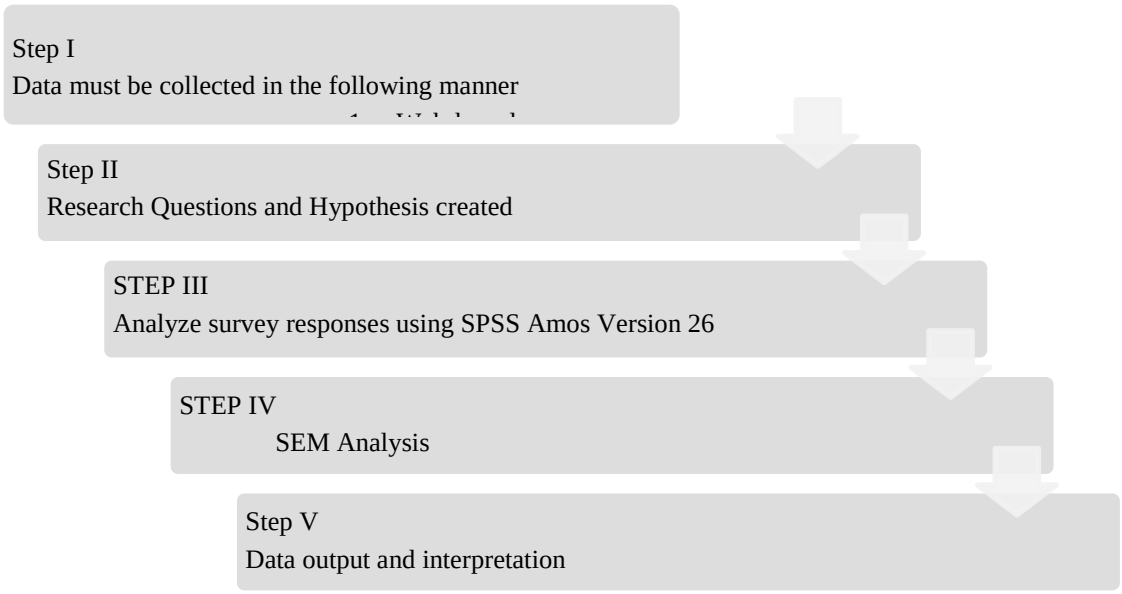
1. Consent to participate in the study.
2. Male
3. Transgender woman
4. At least 18 years of age
5. Living in NYC
6. Black or Latino
7. Had anal sexual intercourse within the past 6 months.

Data Collection

In the quantitative research study, data collected represented what was operationalized or measured. The Survey Monkey platform was used to the create survey and collect data. The survey contained 47 items to assess demographic characteristics, sexual risk behaviors, stigma, discrimination, condom barriers and motivation and self-efficacy of safe sex practices, and knowledge and perceptions about STIs and HIV. The survey took approximately 4 minutes to complete. Research participants were able to opt out at any time and were provided with information regarding the qualification and choice for an incentive. Participants who did not complete the survey or met the inclusion criteria were ineligible for an incentive. After the survey was completed, incentive e-gift ($10) will be redeemable (if email was provided) via a personalized link that was not be linked to the participant's responses. The researcher is the only person with access to the research participant's answers once completed the survey. To assure confidentiality, all information obtained from the study including each document that was downloaded from the survey software application pertaining to the study was stored in a password protected storage device that holds the data for a period of five years. After five years, the information collected will be destroyed using a shredder to ensure protection of research participant's information. Figure 10 provides an illustration of the data analysis plan:

Figure 10

Data Analysis Plan



Bias

A major problem with Internet-based research, especially when all recruitment is online, is samples generated are biased in several ways. First, one can only sample those who have access to the Internet. While Internet users are a growing segment of the population, they are still not representative of the population (Miner et al., 2012). Any sample recruited via the Internet is a convenience sample made up of those who chose to link to the study website and complete study instruments (Miner et al., 2012). To reduce potential biases in the sample composition of the web-based survey, participants will be recruited across several online platforms (general and LGBTQ specific) using various approaches to ensure a diverse sample (McInroy, 2016).

Instrumentation and Operationalization of Constructs

A survey instrument was developed by adapting published standardized scales to assess perception of risk to STIs and HIV, sexual risk behaviors, and condom use self-efficacy. The operationalizations of variables included in the research questions are as follows:

1. To assess sexual risk behavior the instrument used to assess this variable was the Sexual Risk Behavior Scale (Peterson & Bakeman, 2006). Sexual risk behavior is defined as involvement in both unprotected receptive and insertive anal intercourse within the last 3 months with main and casual partners. To assess this variable, the Main male partner was defined as a "lover" or boyfriend and casual partner was defined as anyone other than a main partner. All responses are coded as 0 (no), 1 (yes), or 9 (N/A, doesn't apply, no main or casual sex partner).
    a. Sample item includes:
        i. In the past 3 months, have you had anal sex with your main partner where you were the receptive partner, and you did not use a condom?
2. Safer sex self-efficacy is defined as an individual's confidence in using as asking their sexual partner(s) to use a condom. The instrument used to assess this variable, was the Kaneko Safer Sex Self-Efficacy Scale (Kaneko, 2007). Response options range from 1 (Very sure I could) to 5 (Very Sure I Couldn't)
    a. Sample items include:

i. Confidence to refuse sex if my partner objects to using a condom.

3. To assess perceived barriers to condoms, the Condom Barrier and Motivation subscales (CBMS) (Golub & Gamarel, 2017) was used. The subscales in this instrument included (a) risk reduction motivations, (b) pleasure reduction barriers, (c) intimacy interference barriers, and (d) partner pressure barriers. These subscales scales measures demonstrate internal consistency reliability. Internal reliability of scores was acceptable for each subscale: *Reduction* subscale (α = .75), *Perceived Partner Pressure* was (α = .79), *Risk Reduction* (α =.70), and *Intimacy Interference* (α =.75). The responses for the CBMS instrument are coded on a 5-point rating scale ranging from never feel (1) to always feel (5).
    a. Sample Item includes:
        i. Using condoms reduces my risk for HIV/STDs
4. Risk Perceptions of HIV is defined as an individual's concern about acquiring or transmitting HIV. The instrument used to assess this variable was the Reduced HIV Concern Scale (Vanable et al., 2000). Responses for this instrument are coded on a 4-point rating scale, with response options ranging from strongly disagree (1) to strongly agree (4). The reduced concern scale' modified version's Cronbach's alpha ranged from 0.71 to 0.78.
    a. Sample item includes:
        i. I am less concerned about having anal sex without a condom now that new drug combination treatments are available. (Appendix B).

5. To Assess macrosocial structural level factors of discrimination─Daily Heterosexist Experiences Questionnaire (DHEQ) (Balsam et al., 2013) measuring minority stress among LGBT adults will be used. The instrument has a strong internal consistency and construct validity. The overall Cronbach alpha for DHEQ is α=.92. For each subscale: Gender expression (α = .86), Vigilance (α = .86), Parenting (α = .83), Harassment and Discrimination (α = .85), Vicarious trauma (α = .82), Family of Origin (α = .79), HIV/AIDS (α = .79), Victimization (α = .87), and Isolation (α = .76). For this study the HIV/AIDS sub-scale will be used.

Access to Instruments

The CBMS (Golub & Gamarel, 2017) and DHEQ (Balsam et al., 2013) scales were accessed using a public data base. Survey measures were informed in part by the Social and Behavioral Instruments (SABI) database developed by the University of North Carolina at Chapel Hill Center for AIDS Research, an NIH funded program P30-AI50410. SABI has made a clear statement of the terms of use for all instruments obtained through their database. Within their statement, they specify the acceptable use and attribution of these instruments. Instruments retrieved through SABI are only allowed for education purposes and may not be used for commercial purposes. SABI provides a written statement stating that the instruments used must be cited and an acknowledgement to the University of North Carolina, Chapel Hill must be made when presenting the results of the study. An email was sent requesting permission for the CBMS and DHEQ.

Threats to Validity

Since the initiation of the World Wide Web—researchers such as Schmidt (1997) studied the benefits and challenges of web-based surveys. Throughout the years, researchers have noted that the internet is becoming a beneficial and common tool for web-based survey research particularly among "hidden" or vulnerable populations such as MSM and transgender Women (Ballard et al., 2019; Grey et al., 2016; Miner et al., 2012). According to Ballard et al. (2019), web-based survey research is advantageous for both participants and researchers. However, from the beginning of survey publishing on the internet issues have been associated with web-based research such as the duplication of submission and foiling of the study by filling out surveys across different domains using different responses (Schmidt, 1997). These issues still exist today. Several researchers have studied the detection of web-based research survey fraud and have developed protocols that will help reduce the threats to data integrity from invalid submissions and for survey deduplication such as the cross validation of surveys submitted to identify any suspicious entries (Grey et al., 2015). It is suggested that each researcher conducting this type of research develop protocols that are suitable to their study and implement external validation checks to ensure high quality data. It is also suggested to ensure that the software or platform that is going to be used will have the ability to minimize those challenges (Dewitt et al., 2018). Another threat to validity is the missing data values which effects internal validity. To reduce threats to internal validity a winsorization approach was modeled. This statistical methodology analyzed the weights of the outliers by modifying them or replacing the value to be tested with an expected

outlier value. The weight and value modification allowed the replacement of the values of those items and reduces the influence of the outliers (Kwak & Kim, 2017).

Threats to External Validity

External validity refers to the degree in which the study findings are generalizable to other samples (Patino & Ferreira, 2018). The biggest threat to validity was that the SEM was not specified correctly (i.e., micro and macro factors don't operate in the expected ways, relationships expected for HBM don't hold true.) If this occurred, I would have looked at the structural model to see what other best ways it could've framed to the hypotheses. Perhaps using a different measurement model.

Threats to Internal Validity

Internal validity is defined as the extent to which the results represent the truth in the population studied and, thus, not an outcome of methodological errors (Patino & Ferreira, 2018). Examples of how the study included threats to internal validity are selection and volunteer bias. One bias includes individuals and groups that are more likely to recruit participants within their own network leading to overrepresentation of one group. Second, the groups who have a larger social network may also be overrepresented because they may have more recruitment leads to their own network and lastly some groups may be less likely or disinclined to participate in the study.

Threats to Construct Validity for Micro and Macrosocial Structural Factors

Construct validity refers to whether study measurements accurately capture the constructs they are intended to capture. Threats to construct validity for micro and macro social structural factors include inadequate explanations of the constructs and constructs

confounding. Another threat to construct validity includes the threat of mono-method bias which is when operationalized constructs of interest are underrepresented in the measurement (Matthay & Glymour, 2020). This was assessed by using the factor analysis component of the SEM to determine if the measured variables correctly identified the constructs of the study model.

Ethical Procedures

To protect my participants and the integrity of the study, I applied to the IRB to ensure the study complies with federal regulations standards of human subject research participation. I submitted to the IRB all the corresponding documents that describe the nature of the study, treatment of the participants, and the agreements of partner organizations that will allow access to their clients for data collection or directing them to the study. I also submitted all materials distributed to the participants and their voluntary participation in the study. Data was not collected prior to IRB approval for the study number. The approval number for the study is 12-28-20-0518149.

Ethical Concerns Related to Recruitment Materials and Processes

All participants were recruited via advertisements on social media platforms. There were no concerns related to participants personal information as the survey was confidential and optionally anonymous. To limit ethical concerns within the recruitment process, all email exchange (if any) was designated to be through Survey Monkey, a secured platform that is known to be HIPAA compliant. The survey monkey account used had enabled HIPAA compliant features to ensure that participants information remained protected. Email addresses collected for gift card incentives were not linked to

participants' survey responses. Once the survey was completed, the participants were prompted with a link that will distribute their gift card if the option to collect one selected. Email addresses collected are held in a password protected file for five years. After the five years, the information will be destroyed using a shredder.

Ethical Concerns Related to Data Collection

Prior to data collection, participants were required to acknowledge their voluntary participation in the research study. Participants were informed of the nature of the study and that the study poses minimal risks or adverse health outcomes by answering the questions in the survey. There were unforeseeable risks with answering questions that could have triggered their memory to a traumatic event(s) related to stigma and discrimination. A list of services and help hotlines were made available to respond to the predicable adverse outcome. Participants were informed that their participation in the study was completely voluntary and that they can refuse to proceed or withdraw from the study at any time. If a participant refused or decided to withdraw from the study, they were notified of their ineligibility for the incentive, thanked for their time, and automatically logged off the survey portal.

Data collection did not include information that can personally identify a research participants' survey response. All files, notes, and the results from the survey (data) remained anonymous and confidential. Participants were asked if they would like to be contacted for future studies to allow detainment of contact information. All data was collected and transferred to an external document (i.e., excel spreadsheet) for analysis of data using statistical software for data analysis. To protect anonymous and confidential

data, only the research team has access to the information related to the study. All data has been stored on an external hard drive with password protection that will remain for a period of five years from the time of dissertation completion. Within the five-year period, data collected will inform the creation of health education material, conduct further analysis, and write manuscripts. After the five years, the data will be destroyed.

Summary

This chapter detailed the research methodology for a quantitative study including the research design and rationale, study population, and identified the sampling procedures and strategies used. Additionally, chapter 3 defined the procedures for recruitment and participation of study participants; data collection strategies, instrumentations and operationalization of constructs used, and explains threats to external and internal validity. The chapter depicted the ethical procedures and takes to obtain Walden University's permission to conduct the study including approval of the IRB. Ethical procedures also included the plan to address any ethical concern related to recruitment materials and processes; data collection and participant's withdrawal, the treatment of data and verification of storage, protection, and protocol to destroy.

Chapter 4: Results

Introduction

This study investigated the effects of macrosocial structural factors of individual lived experiences (i.e., daily heterosexist experiences) on the acceptance of RSBs. Specifically, analysis was conducted to determine whether perceived susceptibility to STIs/HIV, perceived barriers and motivation to condom use, and safer sex self-efficacy mediate the association between housing status and sexual behaviors in Black and Latino MSM and transgender women. Chapter 4 presents the statistical findings of the study divided into several sections: a restatement of the research questions, an overview of the study population, the research variables presented through descriptive statistics, and bivariate analyses. The following two research questions and hypotheses were analyzed using SPSS statistical software v. 27.

Research Questions and Hypotheses

RQ1- Do macro-social structural factors (i.e., housing status) explain the acceptance of risky sexual behaviors between Black and Latino MSM and transgender women?

$H_0$1: There are no statistically significant effects of macro-social structural factors (i.e., housing status) on the acceptance of risky sexual behaviors between Black and Latino MSM and transgender women.

H_A1: There are statistically significant effects of macro-social structural factors (i.e., housing status) on the acceptance of risky sexual behaviors between Black and Latino MSM and transgender women.

RQ2- To what extent does perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy mediate the relationship between macro-social structural factors (i.e., housing status) and the acceptance of risky sexual behaviors among Black and Latino MSM and transgender women?

$H_0$2: Perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy does not mediate the exposure between macro-social structural factors (i.e., housing status) and the acceptance of risky sexual behaviors among Black and Latino MSM and transgender women.

H_A2: Perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy does mediate the exposure between macro-social structural factors (i.e., housing status) and the acceptance of risky sexual behaviors among Black and Latino MSM and transgender women.

This chapter addresses data collection, discrepancies and reports of the descriptive statistics characterizing the sample, and evaluation of the statistical assumptions of the study. The chapter also addresses data interpretations from logistic regression analysis and a summary. Tables were created for the research questions to illustrate the variables and statistical test. The chapter concludes with a summary and a transition to Chapter 5.

Data Collection

Data collection began with Walden University's IRB approval (IRB No. 12-28-20-0518149). The online survey was open from December 29, 2020, to March 1, 2021. The data collection process did not deviate from the plan presented in Chapter 3 and approved by Walden university's IRB. Primary data collection consisted of active social

media recruitment posts with links to the self-administered questionnaire via Facebook, Instagram, and LinkedIn for a period of 8 weeks. Within 12 hours of posting, 468 participants completed the survey, and there were 4,262 responses by the end of 8 weeks. This number of responses increased some concerns such as duplicate responses and possible robots. To access the eligibility-screening questionnaire, respondents were required to pass a Completely Automated Public Turing Test to tell Computers and Humans Apart. This test serves a variety of applications, including spam comments on blogs, automated fake registrations on websites, registration forms, automated voting in online polls, dictionary attacks on password systems, automated posting on forums and message boards, and automated usage of an online service beyond a specific threshold (Shi et al., 2021). The eligibility-screening questionnaire asked respondents to select photos and used branching logic to deny access to ineligible respondents. Respondents who reportedly met eligibility criteria landed on the study information page. This process was used due to the distance from participants and the convenience that online research allows for individuals to participate more than once, skewing results and the overall quality of the data. Duplicate entries not only compromise the quality of the research data but also affect the budget if not caught before respondents' incentive disbursement.

Descriptive Analysis of Participant Demographics

The study sample was representative of the target population of this investigation. A total of N = 1,591 participants met the study eligibility criteria and responded to all questions. Descriptive statistics was used to summarize the sample demographics using frequency tables. After sampling, 1,591 respondents were considered in this study

analysis. The demographic table (see appendix I) summarizes the frequency distribution of categorical and continuous characteristics of the 1,591 MSM and transgender women in this study. Of the 1,591 participants in this study, 1,059 (66.6%) identified as male, and 532 (33.4%) identified as transgender women. Racial demographics showed 76% (*n* = 1,209) identified as Black/African American and 24% (*n* = 382) as Hispanic/Latino. The average age was 25 to 34 years old (56.8%). Nearly 61.7% of participants' income was $50,000 or less, and they were couch surfing, living in a shelter, transitional independent living, or in a rapid-rehousing project for homeless individuals.

Results

Data were imported into and analyzed using SPSS v. 27. Data analysis for this study included descriptive statistics, bivariate statistics, and the creation of tables. Data for the study variables, including independent and dependent variables, were examined for missing values. One participant with missing values for the independent variable and dependent variables was excluded from the data analysis. The data included demographic information and responses from five scales (Reduced HIV Concern, Safer Sex Self-Efficacy, Sexual Risk Behaviors, Daily Heterosexist Experiences, Condom Barriers and Motivation) matching the coding variables outlined in the instrumentation and operationalization of constructs section. The online survey included 45 questions displayed in three sections (consent, demographics, and questionnaire). This section includes the results of the descriptive and inferential statistics for the study sample.

Statistical Analysis

Data analysis was performed with IBM SPSS statistics V. 27 for windows, and MAC IOS and key variable correlation coefficients were calculated for MSM and transgender women for intermediate variables. Path coefficients for mediation analyses were estimated using Hayes's PROCESS macro for SPSS, Version 3.5 to test research questions. Table 6 and Table 7 illustrate the correlations of intersectional categories of lived experiences between MSM and transgender women and intermediate variable respectively.

Table 6

Correlations of Intersectional Categories of Lived Experiences

Gender/ identity			Education	Housing status	Age	Income	Anal sex without condom
Male	Education	Pearson Correlation	1	.033	-.061*	-.108**	-.022
		Sig. (2-tailed)		.287	.049	.000	.482
		N	1059	1059	1059	1059	1041
	Housing Status	Pearson Correlation	.033	1	-.157**	.098**	.035
		Sig. (2-tailed)	.287		.000	.001	.257
		N	1059	1059	1059	1059	1041
	Age	Pearson Correlation	-.061*	-.157**	1	-.071*	-.059
		Sig. (2-tailed)	.049	.000		.020	.059
		N	1059	1059	1059	1059	1041
	Income	Pearson Correlation	-.108**	.098**	-.071*	1	.006
		Sig. (2-tailed)	.000	.001	.020		.854
		N	1059	1059	1059	1059	1041
	Anal sex without condom	Pearson Correlation	-.022	.035	-.059	.006	1
		Sig. (2-tailed)	.482	.257	.059	.854	
		N	1041	1041	1041	1041	1041
Male to female (transgender woman)	Education	Pearson Correlation	1	.094*	-.106*	-.029	-.008
		Sig. (2-tailed)		.031	.014	.499	.855
		N	532	532	532	532	527
	Housing status	Pearson Correlation	.094*	1	-.069	-.115**	.089*
		Sig. (2-tailed)	.031		.111	.008	.040
		N	532	532	532	532	527
	Age	Pearson Correlation	-.106*	-.069	1	-.059	-.072
		Sig. (2-tailed)	.014	.111		.172	.097
		N	532	532	532	532	527
	Income	Pearson Correlation	-.029	-.115**	-.059	1	.056
		Sig. (2-tailed)	.499	.008	.172		.198
		N	532	532	532	532	527
	Anal sex without a condom	Pearson Correlation	-.008	.089*	-.072	.056	1
		Sig. (2-tailed)	.855	.040	.097	.198	
		N	527	527	527	527	527

Note. *. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed). Intersectional categories of lived experienced (demographic variables) Dependent Variable- Anal sex without a condom

Table 7

Correlation of Intermediate Variables

Gender	Intermediate variables		Self-efficacy	Perceived susceptibility	Perceived severity	Perceived barriers	Perceived benefits
Male	Self-efficacy	Pearson Correlation	1	.038	.073*	-.021	-.006
		Sig. (2-tailed)		.223	.019	.500	.854
		N	1041	1041	1041	1041	1041
	Perceived susceptibility	Pearson Correlation	.038	1	.163**	-.017	-.131**
		Sig. (2-tailed)	.223		.000	.576	.000
		N	1041	1041	1041	1041	1041
	Perceived severity	Pearson Correlation	.073*	.163**	1	-.005	-.038
		Sig. (2-tailed)	.019	.000		.863	.219
		N	1041	1041	1041	1041	1041
	Perceived barriers	Pearson Correlation	-.021	-.017	-.005	1	.003
		Sig. (2-tailed)	.500	.576	.863		.929
		N	1041	1041	1041	1041	1041
	Perceived benefits	Pearson Correlation	-.006	-.131**	-.038	.003	1
		Sig. (2-tailed)	.854	.000	.219	.929	
		N	1041	1041	1041	1041	1041
Male to female (transwoman)	Self-efficacy	Pearson Correlation	1	.104*	.131**	.066	-.121**
		Sig. (2-tailed)		.017	.003	.133	.005
		N	527	527	527	527	527
	Perceived susceptibility	Pearson Correlation	.104*	1	.144**	-.053	-.032
		Sig. (2-tailed)	.017		.001	.222	.461
		N	527	527	527	527	527
	Perceived severity	Pearson Correlation	.131**	.144**	1	-.047	.014
		Sig. (2-tailed)	.003	.001		.284	.752
		N	527	527	527	527	527
	Perceived barriers	Pearson Correlation	.066	-.053	-.047	1	-.072
		Sig. (2-tailed)	.133	.222	.284		.098
		N	527	527	527	527	527
	Perceived benefits	Pearson Correlation	-.121**	-.032	.014	-.072	1

Sig. (2-tailed)	.005	.461	.752	.098	
N	527	527	527	527	527

Note. *. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed). Health belief model constructs mediating the relationship between IVs and DV

Results of Hypotheses Testing

Research Question 1

Do macro-social structural factors (i.e., housing) explain the acceptance of risky sexual behaviors between Black and Latino MSM and Transgender women?

To test this hypothesis, a simple linear regression was performed to test housing status as the independent variable and anal sex without a condom as the dependent variable. The assumptions of linear regression are that (a) the independent variable must be a continuous variable, (b) the dependent variable must be a continuous variable, (c) there must be linearity between the independent and dependent variables, (d) there is independence of observations (tested with the Durbin-Watson statistic), (e) there is an absence of significant outliers, (f) there is homoscedasticity, and (g) regression residuals' lines are approximately normally distributed ("Assumptions of Linear Regression - Statistics Solutions", n.d.).

The hypothesis for research question 1 tests that housing status explains the acceptance of RSB (anal sex without a condom). The dependent variable, acceptance of RSB was regressed on the predicting variable housing status to test the hypothesis H_{a1}.

Results of the linear regression showed that housing status significantly predicted the acceptance of RSB, F (2, 1565) = 12.241 yielding an effective model. The regression also demonstrates that macrosocial structural factors (i.e., housing status) is positively and significantly associated with the acceptance of RSB (*b*=.028, R^2 =.016, *p*=.036 95%*CI* [.002, .055) and explains 1.6% of the variance in the behavioral outcome.

Following the results of the hypothesis testing, I reject the null hypothesis and accept the alternative hypothesis stating that macro social structural factors (i.e., housing stability) significantly explain the acceptance of RSB between Black and Latino MSM and transgender women. Table 8 shows the summary of the findings.

Table 8

Linear Regression Predicting RSB Based on Housing Status

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.125[a]	.016	.014	.982	.016	12.421	2	1565	.000	1.694

a. Predictors: (Constant), Gender, Housing Status
b. Dependent Variable: Anal Sex without a condom

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.936	2	11.968	12.421	.000[b]
	Residual	1507.939	1565	.964		
	Total	1531.875	1567			

a. Predictors: (Constant), Gender, Housing Status

b. Dependent Variable: Anal Sex without a condom for housing

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	2.375	.087		27.398	.000	2.205	2.545
	Housing Status	.028		.053	2.100	.036	.002	.055
	Gender	-.241	.018	.111	4.583	.000	-.344	-.138

a. Dependent Variable: Anal Sex without a condom for housing

Note: n=1591

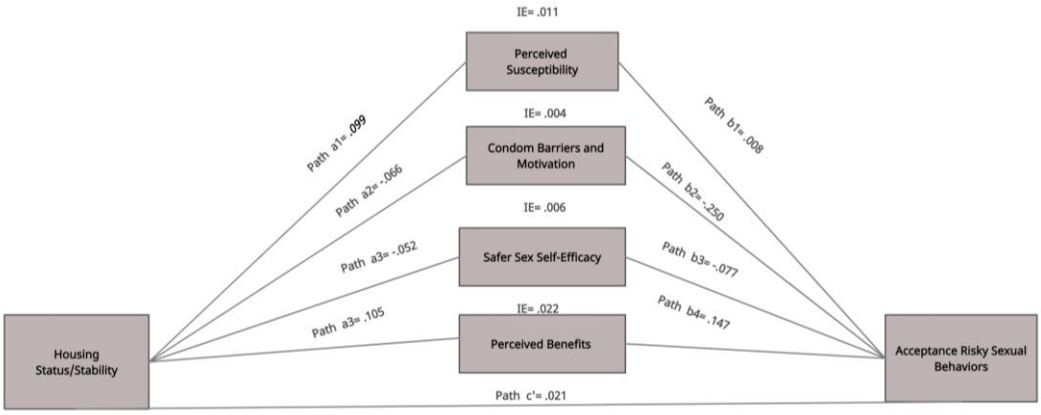
Research Question 2

To what extent does perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy mediate the relationship between macro-social structural factors (i.e., housing status) and the acceptance of risky sexual behaviors among Black and Latino MSM and Transgender women?

To test this hypothesis, a mediation analysis was performed using PROCESS procedure for SPSS v 3.5 (Hayes, 2018). To conduct this analysis, housing stability was set the predictor variable. Perceived susceptibility, condom use barriers, and self-efficacy as the mediators and acceptance of RSB as the outcome using PROCESS model 4 shown in Figure 11. Path a (1-4) predicted the mediator from housing stability Path b (1-4) predicted acceptance of RSB from the mediator controlling for daily housing stability and c' (direct effect of predictor) predicted acceptance of RSB from housing stability controlling for the mediating variables perceived susceptibility to STIs/HIV, Condom barriers and motivation, self-efficacy for safer sex.

Figure 11

Multiple Mediation Analysis, Process 4



The next step in the analysis was to look at the actual values and associated p values to the paths. As seen in figure 11, path a1 showed that housing stability is positively and statistically significantly associated with perceived susceptibility to STIs/HIV (*b*=.0990, 95% *CI* [.054, .144], R^2=.011, *p*=.000) and showing a strong (*b*= .008) and statistically significant mediation to the acceptance of RSB when controlling for housing stability. Path a2, showed that condom use motivation and barriers has a negative association to housing stability (*b* = -.066, 95% *CI* [-.116, -.016], R^2=.004, *p*<.010). When viewed as a mediator (path b2), condom use barriers and motivation was statistically significantly associated with the acceptance of RSB (*b*=-.077, 95% *CI* [.326, 1.30], *p*=.001). In path a3, safer sex self-efficacy was negatively and statistically significantly associated with housing stability (*b* = -.052, 95% *CI* [-.086, -.019], R^2=.006, *p*=002). When used as a mediator, safer sex self-efficacy was statistically significant associated with the acceptance of risky sexual behavior (*b* = -250.044, 95% *CI* [-.334,

.166], *p*=.000). Path a4, showed that perceived benefits to condom use was positively and statistically significantly associated to housing stability (*b* = .105, 95% *CI* [.070, .140], R^2=.022, *p*=000). When viewed as a mediator (path b4), perceived benefit to condom use was positively and statistically significantly associated with the acceptance of RSB (*b*=.147, 95% *CI* [.067, .227], *p*=.000). The overall model of acceptance of RSB (outcome) was regressed on housing stability, perceived susceptibility, condom use barriers, and safer sex self-efficacy. The results of *McFadden* = .028, *Cox & Snell* = .038, and *Nagelkerke* = .051 suggest that the overall model was statistically significant. The test of the direct effects of daily heterosexist experiences on acceptance of RSB was significant (*p* = .000). After testing this hypothesis and considering that intermediate variables are statistically significant in their relationship to the acceptance of RSB, I reject the null hypothesis. The results of the data analysis demonstrate that perceived susceptibility to STIs/HIV, condom use barriers, benefits/ motivation, and safer sex self-efficacy mediate the exposure between macrosocial structural factors (i.e., housing status) and the acceptance of RSB among Black and Latino MSM and transgender women. Table 9 illustrates the results of the mediation analysis.

Table 9

Mediation Analysis Daily Housing Stability, Perceived Susceptibility to STIs/HIV, Condom Barriers, Safer Self-Efficacy, and Acceptance of Sexual Behaviors

OUTCOME VARIABLE: Q27 Condom Use Self-Efficacy

Model Summary

R	R-sq	MSE	F	df1	df2	p	
.065	.004	3.50	6.65	1.00	1566.0	.010	Model

	coeff	se	t	p	LLCI	ULCI
constant	2.89	.101	28.7	.000	2.69	3.09
q8-Housing Stability	-.066	.026	-2.58	.010	-.116	-.016

OUTCOME VARIABLE: Q35- Perceived Barriers

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.078	.006	1.54	9.54	1.0000	1566.	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.43	.067	51.3	.000	3.30	3.56
q8-Housing Stability	-.052	.017	-3.09	.002	-.086	-.019

OUTCOME VARIABLE: Q45 Perceived Benefits

Model Summary

R	R-sq	MSE	F	df1	df2	p
.149	.022	1.65	35.4	1.00	1566.	.000

Model

	Coeff	se	t	p	LLCI	ULCI
constant	2.53	.069	36.6	.000	2.40	2.67
q8-Housing Stability	.105	.018	5.95	.000	.070	.139

OUTCOME VARIABLE: Q19 Perceived Threat (Susceptibility/Severity)

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1079	.0116	2.84	18.4	1.00	1566.	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.78	.091	30.6	.000	2.61	2.96
q8-Housing Stability	.099	.023	4.29	.000	.054	.144

OUTCOME VARIABLE: Q24 Sexual Behavior (no condom use)

Model Summary

-2LL	ModelLL	df	p	McFadden	CoxSnell	Nagelkrk
2077.18	60.26	5.00	.0000	.0282	.0377	.0507

Summary

Chapter 4 summarized the statistical analysis of the research study conducted among Black and Latino MSM and transgender women. The results of the linear regression showed a statistically significant association between housing stability and the acceptance of RSB. The hypothesis for RQ1 tested that housing status explains the acceptance of RSB (anal sex without a condom). Results of the linear regression showed that housing status significantly predicted the acceptance of RSB, F (2, 1565) = 12.241 yielding an effective model. The regression also demonstrates that macrosocial structural factors (i.e., housing status) is positively and significantly associated with the acceptance of RSB (b=.028, R^2 =.016, p=.036 95%CI [.002, .055) and explains 1.6% of the variance in the behavioral outcome. Following the results of the hypothesis testing, I rejected the null hypothesis and accepted the alternative hypothesis stating that macro social structural factors (i.e., housing stability) significantly explain the acceptance of RSB between Black and Latino MSM and transgender women.

For RQ2, the overall model of acceptance of RSB was regressed on housing stability, perceived susceptibility, condom use barriers, and safer sex self-efficacy. After testing this hypothesis and considering that intermediate variables are statistically significant in their relationship to the acceptance of RSB, I rejected the null hypothesis. The results demonstrate that perceived susceptibility to STIs/HIV, condom use barriers, benefits/ motivation, and safer sex self-efficacy mediate the exposure between macrosocial structural factors (i.e., housing status) and the acceptance of RSB among Black and Latino MSM and transgender women. The results of McFadden = .028, Cox &

Snell = .038, and Nagelkerke = .051 suggest that the overall model was statistically significant. The test of the direct effects of housing stability on acceptance of RSB was significant (p = .000). Housing stability was positively and statistically significantly associated with perceived susceptibility to STIs/HIV (b=.0990, 95% *CI* [.054, .144], R^2=.011, p=.000) and showed a strong (b= .008) and statistically significant mediation to the acceptance of RSB when controlling for housing stability. Condom use motivation and barriers showed a negative association to housing stability (b = -.066, 95% *CI* [-.116, -.016], R^2=.004, p<.010). However, when viewed as a mediator, condom use barriers and motivation was statistically significantly associated with the acceptance of RSB *(*b=-.077, 95% *CI* [.326, 1.30], p=.001). Safer sex self-efficacy was negatively and statistically significantly associated with housing stability (b = -.052, 95% *CI* [-.086, -.019], R^2=.006, p=002). When viewed as a mediator, safer sex self-efficacy was statistically significant associated with the acceptance of risky sexual behavior (b = -250.044, 95% *CI* [-.334, .166], p=.000). Perceived benefits to condom use were positively and statistically significantly associated to housing stability (b = .105, 95% *CI* [.070, .140], R^2=.022, p=000). When viewed as a mediator, perceived benefit to condom use was positively and statistically significantly associated with the acceptance of RSB (b=.147, 95% *CI* [.067, .227], p=.000).

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This study was performed to increase the understanding of the influence of individual lived experiences and how they associate to the disparate health outcomes experienced by Black and Latino MSM and transgender women. This research sought to provide empirical evidence that would be useful in developing interventions, measuring scales, and modeling of what health education and public health professional developing intervention and best practice strategies can consider when creating awareness materials for Black and Latino MSM and transgender women. The results of the statistical analysis indicated a significant relationship between housing stability, perceived susceptibility to STIs/HIV, condom use barriers, safer sex self-efficacy, and the acceptance of RSBs.

Chapter 5 highlights the findings of the study in the following sections: housing stability, perceived susceptibility to STIs/HIV, condom use barriers and motivation, and safer sex self-efficacy. Furthermore, this chapter highlights the initial limitations of the study and those that occurred in the study process, opportunities for social change, and recommendations for future research.

Interpretation of Findings

The sample used in this study were Black and Latino MSM and transgender women older than 18 living in NYC. Of the 1,591 participants in this study, 1059 (76%) identified as male, and 532 (24%) identified as transgender women. Racial demographics showed 76% (n = 1,209) identified as Black/African American and 24% (n = 382) as Hispanic/Latino. The average respondent's age was 25 to 34 years old (72%). The

participants had predominantly low average income with 514 (34%) under $35,000. Regarding education, 77 (5%) did not finish high school, 219 (14%) completed high school, 120 (8%) had a vocational degree, 358 (23%) had some college education, 430 (27%) had a bachelor's degree, and 83 (5%) had a graduate degree. As it related to housing, 510 (32%) were couch surfing, living in a shelter, TIL, or in a rapid-rehousing project for homeless individuals, 585 (37%) rented or shared an apartment, and 495 (31%) was a homeowner.

This study showed that Black and Latino MSM and transgender women are likely to be at increased risk of STIs /HIV, indicated by 67% of condomless anal intercourse, noting their perception for self-reported susceptibility; this is consistent with the literature demonstrating increased risk of STIs and HIV among this population. An intersectional framework was used to assert how multiple micro level factors (i.e., race/ethnicity, gender/identity, SES) and macrosocial social structural factors (i.e., heterosexism, housing) shape individual sexual risk behaviors to produce disparate health outcomes among Black and Latino people. Using intersectionality and the HBM as a theoretical framework, this study's findings demonstrate how intersections of race/ethnicity, gender identity, sexual orientation, and SES for Black and Latino MSM and transgender women in the sample reflect interlinking systems of oppression at the macrosocial structural level as they recounted daily heterosexist experiences.

A conceptual model was built based on the evidence that individual lived experiences, perceived susceptibility to STIs/HIV, condom use motivation and barriers, and self-efficacy for safer sex practices are conditionally associated with sexual high-risk

behaviors. This study sought to explain the relationship between intersectional categorical variables and sexual behavior via conditional direct effect of daily heterosexist experiences on the acceptance of RSBs. To my knowledge, this is the first quantitative study to examine intersectional lived experiences between Black and Latino MSM and transgender women in NYC using a conceptual framework founded on the intersectionality theory and HBM.

Sexual orientation, like racial identity, is socially constructed through social processes (e.g., institutional, and interpersonal discrimination against LGBTQ+ individuals). The results of this study demonstrate that Black and Latino MSM and transgender women who experienced housing instability were accepting of RSBs, thus increasing their risk for STIs/HIV, while other aspects decreased both within and across individuals. Results from the DHEQ showed that over two-thirds (70%) of participants who had other people assume they were HIV positive because they were LGBT were homeless or lived in a transitional independent facility, shelter, or group home. The same group, 41%, reported they were less concerned about having anal sex without a condom now that new drug combinations are available.

This study is unique as it adds to the literature by using a conceptual framework embedded in the intersectionality theory and HBM to explain sexual risk-taking behavior between Black and Latino MSM and transgender women. The intersectional identity of housing status demonstrated the benefits to research that was accomplished by operationalizing and statistical modeling of the relationships among identities and behaviors. The study results are consistent with the literature (see Hu et al., 2020; Reisner

et al., 2020; Sarno & Mohr, 2019), illustrating higher risk of STIs/HIV through the acceptance of RSBs and highlighting that those unique identities are independent of adverse health outcomes regardless of the level of education and income status of an individual. The HBM's construct of perceived susceptibility, perceived barriers, and self-efficacy were operationalized to interpret the acceptance of behaviors associated with the intersectional identities of individuals, such as their housing status, level of education, their income, and sexual identity.

Perceived Susceptibility

Research participants' perception of risk to STIs/HIV susceptibility remained consistent with previous studies that found high proportions of MSM and transgender women reporting high risk sexual behaviors (Alio et al., 2020; Jackson & VanderWeele, 2019; Khumsaen & Stephenson, 2017). Over two-thirds of participants responded that they are less concerned about getting HIV because by taking the new drug combinations, an HIV+ individual decreases the chance to infect their partner(s) with HIV. However, the availability of new drug combinations does not automatically depict a suppressed viral load nor that the HIV+ individual is taking prescribed drug combinations. Over two-thirds (68.7%) of participants reported engaging in condom-less receptive anal intercourse with a man in the past 3 months, with 70.6% reporting they also have a main partner. A total of 57.6% reported having anal sex without a condom in exchange for housing in the past 3 months with a casual partner. Of the participants reporting to have had anal sex without a condom in exchange for housing, 66% responded that their likely hood to get HIV from and HIV+ person decreases when taking the drug combinations.

These findings are consistent with the modeling framework of the present study. For implications of social change, this means that there should an increase in the availability of housing options to MSM and transgender women.

To explain increasing STI/HIV risk and rising rates of infection, some researchers have argued a generational disconnect in understanding the HIV/AIDS epidemic in the United States among MSM— as older populations may have seen a world without HIV compared to younger MSM who only know a world with HIV. Consequently, they may underestimate their individual risk perception because it is seen as something that will eventually happen within their community because of their sexuality and/or gender identity (Edwards et al., 2017; Sullivan & Stephenson, 2018). This research study suggests that the generational disconnect in understanding the HIV/AIDS epidemic is not due to a lack of education or understanding of HIV. The results instead suggest an increase in awareness of HIV/AIDs and its evolution along the decades among MSM and transgender women.-Still, the reality of the circumstances despite the level of education and income puts this population at a greater risk. Over 75% of participants reported levels of higher education. Yet, 60% of all participants had anal sex without a condom for housing with a main partner within the past 3 months, and 42% engaged in the same but with a casual partner. The study results suggest that the known advances in HIV treatment influences the decision to accept RSBs influenced by intersections of individual lived experiences such as housing status.

Over two thirds of participants (68%) responded that they are less concerned about getting HIV because by taking the new drug combinations, an HIV-positive

individual decreases the chances that they will infect their partners with HIV, and 27% reported that they do not worry about infecting others with HIV. Forty-four percent reported they are less concerned about their susceptibility because an HIV-positive individual whose level of virus in the blood has become undetectable is unlikely to transmit HIV to their partner. For implications to social change, this may mean that condoms use should be redefined considering prevention methods for HIV like PrEP and PEP as the study showed HIV treatment influences decisions for acceptance of RSBs.

Condom Use Barriers and Motivation

Most of the empirical research on motivations for condom use has focused on risk perception to STIs/HIV (Ajzen, 1991; Catania et al., 1990; Fisher & Fisher, 1992; Prochaska et al., 1994). Participants were asked to respond to items from the condom use barriers and motivation scale to reflect on their individual barriers and motivation for condom use. About one-third (30.7%) of participants responded that it feels better to have sex without a condom and that a guy "Cumming" inside of them is an expression of love (45%). Over half (54.6%) responded that not using a condom shows a partner that they trust them and were less concerned about having anal sex without a condom now that new drug combinations are available. Nearly half (49.7%) of study participants responded that having anal sex without a condom shows a partner that they want to see them again. About 35.4% responded that not using a condom shows a partner how much they care about them. One-third (33.5%) responded that having sex without a condom is irresponsible, and 34.8% responded that using condoms reduces their risk for STIs/HIV. The same respondents also had sex with a casual partner for

housing, suggesting that their unique living experience such as the need for housing was a barrier/motivation to whether they'd use a condom.

Safer Sex Self-Efficacy

It is universal awareness that the greatest risk reduction and protective factor related to STI and HIV transmission during sexual intercourse is the correct use of a latex or polyurethane condom with a water-based lube. Research has shown that there is a robust association between CAI and STI/HIV transmission among MSM and transgender women ages 18 to 35 (Hu et al., 2020; Reisner et al., 2020; Sarno & Mohr, 2019) and that partner relationships may influence whether sexual partners use condoms (Chamberlain et al., 2017; Satcher et al., 2017). Study results demonstrated that in addition to factors such as partner relationships that may influence condom use, individual lived experiences including housing status, perceived susceptibility, and condoms motivation and barriers suggest efficacy of safer sex practices.

Correct and consistent condom use remains as the recommended, cost-effective, reliable, and standard method to prevent the general population from unintended pregnancies and acquiring and transmitting STIs and HIV (Ruan et al., 2019). Over 30% of study participants ages 18 to 34 responded they were confident to use condoms correctly from beginning (as soon as erection occurs) to end, and 65.3% reported they were confident to use a condom under the influence of alcohol. Amongst participants ages 18 to 34, 67% reported they are not confident to refuse sex if their partner objects to use a condom; this may add to why this group is at greatest risk for STI/HIV because this group may also be more likely to find themselves in a situation where they may not have

the power to refuse sex. Twenty-three percent reported confidence to discuss condom use with a new partner and to persuade their partner to use a condom before engaging in anal intercourse. These results highlight high self-efficacy of wearing a condom but not in refusing sex with a partner who refuses to wear a condom. In addition, just because someone can wear a condom and is able to purchase a condom does not mean they intend to wear that condom. It could be that looking at intentions (maybe even using theory of planned behavior) could be useful in better understanding intentions.

Limitations of the Study

There were several challenges to consider in analyzing the factors of a study examining sexual practices of MSM. These challenges and/or barriers included but were not limited to the following:

1. The study addressed condom use among Black and Latino MSM.
2. This study did not inform condom use behavior among other racial/ethnic groups.
3. The study approach was limited by the requirement that individuals eligible to participate would not do so because of the topic (introducing potential bias into the resulting study sample).
4. Response bias was as a limitation, for the truthfulness of a participant's responses that could have impacted the validity of the research.
5. Some respondents did not complete the questionnaire that would have increased the total sample size for the study.

In addition to the preliminary limitations, some important limitations in the study process should be noted: First, the analysis relied on cross-sectional data, limiting the ability to assess causality. Second, participants in the study were limited to one location, NYC. Third, the data were obtained from an online survey with participants who tended to be relatively well educated and have medium to high income. Finally, the cross-sectional study design limits the interpretation and generalization of the results to all MSM and transgender women. This study was limited to MSM and transgender women and did not assess how other identities and social locations (e.g., based on sexuality, gender expression, disability, or immigration status) might factor into experienced multiple oppressions and correlates of sexual behaviors.

Despite these limitations, structural equation modeling allowed simultaneous regression of multiple pathways involved in predicting sexual behaviors among MSM and transgender women. Bootstrapping was also capable of producing accurate confidence intervals without the assumption of normally distributed data, such as the present study, when using the product of coefficient strategy. These findings are empirical as in previous researchers seeking to explain gender identity and sexual behaviors have not used a conceptual framework based on the intersectionality theory and HBM using a quantitative approach.

Recommendations

This research and its practicability trustily affiliated with the significance of the statistics because the study findings suggest the need to additionally discover micro and macrosocial structural factors on risk behaviors of sex among Black and Latino MSM

and transgender women. Future studies should focus on replicating this study to include other race/ ethnic communities to show how systems of oppression may affect the intersections of various identities while focusing on intentions of sexual behaviors between MSM and transgender women. Deploying intersectionality as a research paradigm has received considerable attention due to its revolutionary facets advancing critical scholarship and augmenting other critically informed paradigms (Greta, 2019) Despite the promise of intersectionality as a viable paradigm of research, its complexity includes evolving debate on effectively applying intersectionality across an entire quantitative research design (Greta Bauer, 2018)

To knowledge, there is no literature that has used an intersectional approach to examine perceptions as it relates to the acceptance to engage in RSB. As so, it is recommended that the that the Intersectionality Theory is considered as a determinant to frame quantitative studies aimed to understand the intentions to carry out health-related behaviors. A recommendation for future research is to pair the intersectionality theory with a health behavior theory to explore the multitude of factors that can influence the intentions to engage in sexual behaviors that can explain but also enable stakeholders to predict and influence condom use and other protective factors (use of PrEP) among Black and Latino MSM and transgender women.

Further investigation to determine an individual's actual power over their behavior is needed to be useful in guiding intersectional experiences and sexual behaviors. A recommendation for future research is to incorporate a larger study sample that can be generalized to the fill gaps on sexual behavior choices to further understand

and address the disparate impact of STIs/HIV on Black and Latino MSM and transgender women.

Implications

Positive social change potentials included in this study are at the community/organizational and policy levels. The results suggest that intersectional categories of lived experiences can help better understand perceived susceptibility to STIs and HIV, barriers to condom use, and housing status that influence the sexual behavior choices and furthermore explore intention of the acceptance of RSB by incorporating a health behavior theory to it's the quantitative framework.

Another implication is that researchers should re-evaluate what signifies unprotected sex and who is at risk of this behavior. The concept of unsafe sexual practices should not be limited to the use of condoms but should be redefined under the light of new methods for preventing HIV like PrEP, PEP, or treatment as prevention. The redefined sexual risk behavior as an outcome should be explored after a cautious collection of the specific intersectional factors that affect Black and Latino MSM and transgender women as sexual and ethnic minorities.

Recommendations for Practice

The intersections of Black and Latino MSM and transgender women places them at a higher risk of disparate health outcomes despite having achieved higher level of education as seen in the demographics of this study. Results showed that MSM and transgender women are less concerned about susceptibility because an HIV+ individual whose level of virus in the blood has become undetectable is unlikely to transmit HIV to

their partner because of the availability of the HIV drug combinations. Over two-thirds of participants responded they are less concerned about getting HIV because by taking the new drug combinations, an HIV+ individual decreases the chance to infect their partner(s) with HIV. However, the availability of new drug combinations does not automatically depict a suppressed viral load nor that the HIV+ individual is taking prescribed drug combinations. These results are of great concern because while there are drug treatments available for HIV+ individuals and PrEP for individuals that seek to reduce their risk prior to HIV exposure, there are other sexually transmitted infections to be considered in which drug combinations are not suitable for treatment or pre-exposure. In addition, this is alarming because this suggests that amongst this population, the HIV drug combination availability are seen as a sole risk reduction method especially when seeking basic survival such as housing stability.

As a potential impact for positive social change at the community /organizational level, a recommendation is to incorporate an intersectional approach into the work with Black and Latino individuals to better understand the factors that influence individuals' intentions. The results of this study show that housing status had a significant influence upon risk-taking behaviors between MSM and transgender women. This is interpreted as a means of basic economic survival. It is universal knowledge that Homelessness and housing stability in general is associated with suboptimal physical and mental health outcomes regardless of an individual sexual/gender identity. Given the results of this study, a recommendation is the development of affordable and sustainable housing

options specifically for Black and Latino MSM and transgender women as a potential to reduce RSB.

This study has contributed to the development of tools that can be used to quantitatively measure intersectionality. Finally, this study provides a practical framework needed to study intersectionality as the approach acknowledges diversity across multiple dimensions (i.e., sexual orientation and identity, gender and gender identity, socio-economic status, housing stability) while experiencing converging forms of oppression (heterosexism). This reinforces a commitment to highlight multiple marginalized groups as sources of knowledge and value in health education and promotion.

The study limitations notwithstanding, the study has important implications for applying an intersectional framework to theory, and health education and promotion methods for Black and Latino MSM and transgender women. At the organization and policy level, intersectionality-informed language is needed to describe Black and Latino MSM and transgender women macrosocial structural lived experiences at the intersection of racial/ethnic, gender, and sexuality discrimination and what these mean for behavioral intentions. The instrument used in this study failed to account for how discrimination based on gender and sexuality also intersected across race/ethnicity facilitating the invisibility that exist to common knowledge.

You likely noticed the absence of research articles related to intersectionality in the literature review section, a reflection that the quantitative intersectionality research field is inchoate. Nevertheless, it bears mentioning that although intersectionality

research is a vital gait on the journey to health promotion and education, it is not the finale. Intersectionality is powerfully a resistance task. An important notation to implications to social change is that an intersectional perspective does not assume that knowledge for the sake of knowledge will resolve our current public health quandaries. Instead, this approach requires a profound understanding of the practical application of intersectionality to facilitate equitable health education and promotion; access to health care, and overall understanding of individual lived experiences and how these influence overall health outcomes among the populations we serve.

Conclusion

To knowledge, this is the first quantitative study to use a conceptual framework founded on the health belief model and intersectionality theory. This study builds on the literature gap of intersectional factors associated with the acceptance of behaviors that increase risks to STIs and HIV among MSM and transgender women. Results demonstrated that despite of an individual's level of education and/or socio-economic status, every person has a unique experience that influences behaviors and health outcomes. The study results suggest that Black and Latino MSM and transgender women that experience daily heterosexism are more likely to engage in behaviors such as condom-less anal intercourse that in common knowledge increases an individual's risk for STIs / HIV but those they do not view to be susceptible. Motivation and barriers to condom use showed to have a correlation to the acceptance of RSB that were associated with the need for housing, to demonstrate to their partners a level of trust and confidence in them that is associated with levels of belongingness of individuals basic needs.

While an intersectional is invaluable to the work we do in public health and health education and promotion, this perspective does not assume that knowledge for the sake of knowledge will resolve our current public health quandaries, or to just pin in the work with Black and Latino individuals—but instead requires a profound understanding of the practical application of intersectionality to facilitate equitable health education and promotion; access to health care, and overall understanding of individual lived experiences and how these influence overall health outcomes by means of intentions among the populations we serve.

This chapter highlighted the interpretation of the findings from the results in chapter 4, presented the preliminary study limitations from chapter 1 and those during the study process, theoretical and practical implications for social change at the organizational and policy level, and recommendations for future research for intersectionality practices.

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Appendix A: Reduced HIV Concern Scale

Reduced HIV Concern Scale (Perceived Susceptibility): (Vanable et al., 2000)
For the following statements are asking you about your concerns about HIV. Response options range from strongly disagree to strongly agree, please select one for each statement.

The new AIDS combination drugs make me less anxious about unprotected sex.	Strongly Disagree	Disagree	Agree	Strongly Agree
An HIV-positive man whose level of virus in the blood has become undetectable is unlikely to transmit HIV to his partner.	Strongly Disagree	Disagree	Agree	Strongly Agree
It would be more difficult for an HIV-positive person to infect his partner through unsafe sex if he is taking the new drug combination treatments.	Strongly Disagree	Disagree	Agree	Strongly Agree
I am less concerned about having anal sex without a condom now that new drug combination treatments are available.	Strongly Disagree	Disagree	Agree	Strongly Agree
By taking the new drug combinations, an HIV-positive man decreases the chances that he will infect his partners with HIV.	Strongly Disagree	Disagree	Agree	Strongly Agree
I am a lot less worried about sexual "slipping" now that treatments may be given after unprotected sex.	Strongly Disagree	Disagree	Agree	Strongly Agree
I am more comfortable having semen in my mouth now that combination drug treatments are available.	Strongly Disagree	Disagree	Agree	Strongly Agree

Consistent safer sex is less important now that drug combinations may help prevent infection after someone has been exposed to HIV.	Strongly Disagree	Disagree	Agree	Strongly Agree

Appendix B: Sexual Behaviors Scale

Sexual Risk Behaviors (Peterson & Bakeman, 2006)

The following questions are going to ask you about both unprotected receptive and insertive anal intercourse within the last 3 months with main and casual partners. Main male partner is defined as a "lover" or boyfriend and casual partner is defined as anyone other than a main partner.

In the past 3 months, have you had anal sex with your main partner where you were the receptive partner, and you did not use a condom?	Yes	No	Doesn't Apply
In the past 3 months have you had anal sex with your main partner where you were the inserting partner, and you did not use a condom?	Yes	No	Doesn't Apply
In the past 3 months have you had anal sex with a casual sex partner where you were the receptive partner, and you did not use a condom?	Yes	No	Doesn't Apply
In the past 3 months have you had anal sex with a casual sex partner where you were the inserting partner, and you did not use a condom?	Yes	No	Doesn't Apply

Appendix C: Self-Efficacy of Safe Sex Scale

Self-Efficacy of Safe Sex

The following statements will ask you about your confidence engage in safer sex behaviors

Confidence to use condoms correctly from beginning (as soon as erection occurs) to end (ejaculation)	Very Sure I Could	I Could	Neutral	I Couldn't	Very Sure I Couldn't
Confidence to use a condom under the influence of alcohol	Very Sure I Could	I Could	Neutral	I Couldn't	Very Sure I Couldn't
Confidence to refuse sex if neither my partner nor I have a condom at hand	Very Sure I Could	I Could	Neutral	I Couldn't	Very Sure I Couldn't
Confidence to discuss condom use with a new partner	Very Sure I Could	I Could	Neutral	I Couldn't	Very Sure I Couldn't
Confidence to persuade my partner to use a condom	Very Sure I Could	I Could	Neutral	I Couldn't	Very Sure I Couldn't
Confidence to refuse sex if my partner objects to using a condom.	Very Sure I Could	I Could	Neutral	I Couldn't	Very Sure I Couldn't

Appendix D: Condom Barrier and Motivation Scale (CBMS)

Condom Barrier and Motivation Scale (CBMS) (Perceived Barriers)
Golub, S. A., & Gamarel, K. E. (2017). Psychometric evaluation of the Condom Barriers and Motivations Scale (CBMS). *Journal of Behavioral Medicine*, *40*(3), 494–505. https://doi.org/10.1007/s10865-016-9815-x

Having sex without a condom is more pleasurable	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
It feels better to have sex without a condom	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
It is too difficult to relax and enjoy myself when using condoms	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
Unprotected sex is more spontaneous	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
I worry my partner will think I do not trust him if I suggested using a condom	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
I worry that my partner would say no if I suggested using a condom	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
I worry that my partner would leave if I suggested using a condom	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel

I worry my partner would think I am having sex without someone else if I suggested using a condom	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel

Having sex without a condom could cause me to get HIV	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
Having sex without a condom could cause me to get an STD	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
Using condoms reduces my risk for HIV/STDs	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
Having sex without a condom is irresponsible	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
Not using a condom shows a partner how much I care about him	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
A guy cumming inside of you is an expression of love	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel
Not using a condom with a partner shows him that I trust him	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel

Having sex without a condom shows a partner that I want to see him again	Never Feel	Feel Occasionally	Feel About Half of the Time	Feel Most of the Time	Always Feel

Appendix E: Daily Heterosexist Experiences Questionnaire (DHEQ)

Daily Heterosexist Experiences Questionnaire (DHEQ)

The following is a list of experiences that LGBT people sometimes have. Please read each one carefully, and then respond to the following question:

How much has this problem distressed or bothered you during the past 12 months?

0 = Did not happen/not applicable to me
1 = It happened, and it bothered me NOT AT ALL
2 = It happened, and it bothered me A LITTLE BIT
3 = It happened, and it bothered me MODERATELY
4 = It happened, and it bothered me QUITE A BIT
5 = It happened, and it bothered me EXTREMELY

HIV/AIDS Subscale:

Worry about getting HIV/AIDS	1. Did not happen/not applicable to me 2. It happened, and it bothered me NOT AT ALL 3. It happened, and it bothered me A LITTLE BIT 4. It happened, and it bothered me MODERATELY 5. It happened, and it bothered me QUITE A BIT 6. It happened, and it bothered me EXTREMELY
Constantly having to think about "safe sex"	1. Did not happen/not applicable to me 2. It happened, and it bothered me NOT AT ALL 3. It happened, and it bothered me A LITTLE BIT 4. It happened, and it bothered me MODERATELY

	5. It happened, and it bothered me QUITE A BIT 6. It happened, and it bothered me EXTREMELY
Worrying about infecting others with HIV	1. Did not happen/not applicable to me 2. It happened, and it bothered me NOT AT ALL 3. It happened, and it bothered me A LITTLE BIT 4. It happened, and it bothered me MODERATELY 5. It happened, and it bothered me QUITE A BIT 6. It happened, and it bothered me EXTREMELY

Other people assuming that you are HIV positive because you are LGBT	1. Did not happen/not applicable to me 2. It happened, and it bothered me NOT AT ALL 3. It happened, and it bothered me A LITTLE BIT 4. It happened, and it bothered me MODERATELY 5. It happened, and it bothered me QUITE A BIT 6. It happened, and it bothered me EXTREMELY

Discussing HIV status with potential partners	1. Did not happen/not applicable to me 2. It happened, and it bothered me NOT AT ALL 3. It happened, and it bothered me A LITTLE BIT 4. It happened, and it bothered me MODERATELY 5. It happened, and it bothered me QUITE A BIT 6. It happened, and it bothered me EXTREMELY
Worrying about your friends who have HIV	1. Did not happen/not applicable to me 2. It happened, and it bothered me NOT AT ALL 3. It happened, and it bothered me A LITTLE BIT 4. It happened, and it bothered me MODERATELY 5. It happened, and it bothered me QUITE A BIT 6. It happened, and it bothered me EXTREMELY

Appendix F: Terms of Use for Instruments

UNC CFAR Social and Behavioral Science Research Core
SABI Database

INSTRUMENT TITLE: *Reduced HIV Concern Scale*

SOURCE ARTICLE: Vanable, P. A., Ostrow, D. G., McKirnan, D. J., Taywaditep, K. J., & Hope, B. A. (2000). Impact of combination therapies on HIV risk perceptions and sexual risk among HIV-positive and HIV-negative gay and bisexual men. Health Psychology, 19(2), 134-145.

RESPONSE OPTIONS:

4-point rating scale, with response options ranging from strongly disagree to strongly agree.

SURVEY ITEMS:

1. The new AIDS combination drugs make me less anxious about unprotected sex.
2. An HIV-positive man whose level of virus in the blood has become undetectable is unlikely to transmit HIV to his partner.
3. It would be more difficult for an HIV-positive person to infect his partner through unsafe sex if he is taking the new drug combination treatments.
4. I am less concerned about having anal sex without a condom now that new drug combination treatments are available.
5. By taking the new drug combinations, an HIV-positive man decreases the chances that he will infect his partners with HTV.
6. I am a lot less worried about sexual "slipping" now that treatments may be given after unprotected sex.
7. I am more comfortable having semen in my mouth now that combination drug treatments are available.
8. Consistent safer sex is less important now that drug combinations may help prevent infection after someone has been exposed to HIV.

Appendix G: Email Permission to Use Instrument and Response

May 7, 2020

Sarit Golub

XXX@hunter.cuny.edu

Dear Sarit Golub,

My Name is Vanessa Mejia, Doctoral student at Walden University completing a dissertation in health education and promotion. I am writing to ask written permission to use the Condom Barriers and Motivation Scale (CBMS) in my research study. My research is being supervised by Dr. Cheri N. Langley, Committee Chair.

The purpose of this study is to use an intersectional approach to examine how micro-level of individual lived experiences (i.e. race/ethnicity, gender, sexuality, SES, education, age, sexual behaviors) interact with macrosocial structural factors (i.e. racism, heterosexism, housing stability, sexism, poverty) to influence condom use among Black and Latino MSM and transgender women while operationalizing perceived barriers to condom use.

I would also appreciate receiving copies of supplemental material that will help me administer the test and analyze the results; for example, (1) the test questionnaire, (2) the standard instructions for administering the test, and (3) scoring procedures.

In addition to using the instrument, I also ask your permission to reproduce it in my dissertation appendix. The dissertation will be deposited in the ProQuest Dissertations & Theses database and I will submit manuscripts to several journals for publication.

I would like to use and reproduce your CBMS under the following conditions:
I will use the CBMS only for my research study and will not sell or use it for any other purposes
I will include a statement of attribution and copyright on all copies of the instrument. If you have a specific statement of attribution that you would like for me to include, please provide it in your response.
At your request, I will send a copy of my completed research study to you upon completion of the study and/or provide a hyperlink to the final manuscript
If these are acceptable terms and conditions, please indicate so by replying to me through e-mail at XXX@waldenu.edu.

Appendix H: Email Permission to Use Instrument

May 7, 2020

Dear: Kimberly F. Balsam,

My Name is Vanessa Mejia, Doctoral student at Walden University completing a dissertation in health education and promotion. I am writing to ask written permission to use the Daily Heterosexist Experiences Questionnaire (DHEQ) in my research study. My research is being supervised by my professor, Dr. Cheri N. Langley, Committee Chair.

The purpose of this study is to use an intersectional approach to examine how micro-level of individual lived experiences (i.e. race/ethnicity, gender, sexuality, SES, education, age, sexual behaviors) interact with macrosocial structural factors (i.e. racism, heterosexism, housing stability, sexism, poverty) to influence condom use among Black and Latino MSM and transgender women.

I would also appreciate receiving copies of supplemental material that will help me administer the test and analyze the results; for example, (1) the test questionnaire, (2) the standard instructions for administering the test, and (3) scoring procedures.
In addition to using the instrument, I also ask your permission to reproduce it in my dissertation appendix. The dissertation will be deposited in the ProQuest Dissertations & Theses database, and I will submit manuscripts to several journals for publication.

I would like to use and reproduce your DHEQ under the following conditions:
I will use the DHEQ only for my research study and will not sell or use it for any other purposes.
I will include a statement of attribution and copyright on all copies of the instrument. If you have a specific statement of attribution that you would like for me to include, please provide it in your response.
At your request, I will send a copy of my completed research study to you upon completion of the study and/or provide a hyperlink to the final manuscript.
If these are acceptable terms and conditions, please indicate so by replying to me through e-mail at XXX@waldenu.edu.

Appendix I: Descriptive Characteristics of Study Participants

Table 10

Descriptive Characteristics of Study Participants

Measure	Frequency	Percent
Male	1059	76
Transgender woman	532	24
Race/Ethnicity		
Black or African American	1209	76
Hispanic or Latino	382	24
Age (%)		
18-24	236	15
25-34	903	57
35-44	417	26
45+	35	2
Education (%)		
Did not finish high school	77	5
High school diploma or GED	219	14
Some college	358	23
Vocational degree	120	8
Associates degree (2-year degree)	304	19
Bachelor's degree (4-year degree)	430	27
Graduate degree (Masters, Ph.D, JD, MD, etc)	83	5
Income (%)		

Less than $20,000	56	4
$20,000 to $34,999	83	8
$35,000 to $49,999	375	24
$50,000 to $74,999	431	27
$75,000 to $99,999	406	26
$100,000 to $149,999	147	9
$150,000 or more	55	4
Housing status (%)		
I am a homeowner	495	31
I am couch surfing	2	0
I am homeless	32	2
I rent an apartment or a room	585	37
Live in a housing project (i.e., NYC Housing Authority [NYCHA], Section 8, Rapid re-housing)	321	20
Residential Group home (Transitional Independent Living)	123	8
Shelter	32	2