EXPLORING HIV TRANSMISSION RISK BEHAVIORS THROUGH PERSPECTIVES OF AFRICAN AMERICAN MSM AND TRANS WOMEN: MIXED METHODS APPROACH

by

Maricus L. Gibbs, MSN, MHA

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Approved by:

_____
Dr. Diana Rowan

_____
Dr. A. Suzanne Boyd

_____
Dr. Christine Elnitsky

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Dr. Stephanie Moller

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ABSTRACT

MARICUS L. GIBBS. Exploring HIV Transmission Risk Behaviors Through Perspectives of African American MSM and Trans Women: Mixed Methods Approach

African American men who have sex with men (MSM) and Trans Women have been considered the highest sexual risk group with new cases of HIV for over a decade. The purpose of this paper is to explore and understand the motivators for higher HIV transmission risk factors through the perspective of members of an African American MSM and Trans women population. Due to inconsistencies in measurements, results, education, and adherence, understanding motivators for HIV transmission risk behaviors present challenges for public health clinicians and health services researchers. The current study acknowledges the perspectives of the population through multiple approaches to gain clarity to a gap of knowledge ineffectively reached through a single method. From the feedback of the focus population, themes and statistical correlations are used to update the popular Andersen-Newman Model of Health Care Utilization. The current study suggests that the modification of current public health models or interventions to fit the truths of the population could be a fruitful approach only when the population is empowered and understood. Future studies can focus on modifying the interventions and education of public health clinicians through the involvement of more mixed method approaches.

ACKNOWLEDGMENTS

I want to acknowledge Dr. Diana Rowan and Statusboiz/Statusgurlz Research Group for the use of the database and memos created during team meetings. I also would like to acknowledge the Center for Graduate Life at The University of North Carolina at Charlotte for the use of their writing, editing, researching, and software resources.

DEDICATION

I want to dedicate this work to my families (in their various forms: a home family where I sleep, work family of Wake Forest Baptist at Lexington Medical Center / Atrium Health where I enjoy practice what I learn, and academic family at the University of North Carolina at Charlotte where I learn what I practice). Without your support and tissues to wipe my tears, I would never have taken the steps necessary to write or speak a word. Special thanks to Monty ("my little white man") and Dr. Diana Rowan (my mentor, friend, and "Queen Mother"). Finally, and without exception, I dedicate every word and truth spoken within these pages to my deceased mother, Nora Gibbs. Although she was there at the beginning, she passed on before the completion. She was the first to give me courage by telling me she was proud of me during a time when single black mothers never spoke such words to their gay sons. To my families: thank you for helping me acknowledge, appreciate, and communicate TRUTH.

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LIST OF ABBREVIATIONS

Acquired Immune Deficiency Syndrome (AIDS): beginning when an HIV positive person has a CD4 cell (a type of immune cell count) below 200 and recognized as the final stage of HIV (Division of HIV/AIDS Prevention (DHAP), 2018b).

The Centers for Disease Control and Prevention (CDC): United States agency of public health protection and prevention through timely education of national and local public health, safety, and security threats (U.S. Department of Health and Human Services, 2018).

Community-based Participatory Research (CBPR): public health research partnership including stakeholders such as community members, organizational representatives, and academic researchers (Sun, Sutfin, Bachmann, Stowers, & Rhodes, 2018).

Human immunodeficiency virus (HIV): reference to the virus or chronic disease that weakens the immune system and transmissible with body fluids (blood, semen, pre-seminal fluid, rectal fluids, vaginal fluids, and breast milk) of an infected person through contact with a mucous membrane, damaged tissue, or intravenously into the bloodstream, making one most vulnerable to opportunistic infections and cancers (Division of HIV/AIDS Prevention (DHAP), 2018b).

Men Who Have Sex With Men (MSM) and Trans women: Although MSM and Trans Women are two distinct groups, the current study defines the participants as MSM to maintain focus on a population of gay, bisexual, and biologically born males that continue to be the most disproportionately affected by HIV in the United States (Sun, Sutfin, Bachmann, Stowers, & Rhodes, 2018; Poteat, German, & Flynn, 2016). MSM is

a term coined by the CDC surveillance systems about gay and bisexual men, the risk group most severely affected by HIV in the United States (CDC, 2017).

NVivo: qualitative and mixed methods analysis software tool used by researchers in academic and professional arenas. The name of the software is a wordplay on "in vivo" or something done in real life. The software is successful at integrating, exploring, and helping the researcher make sense of rich data recording human experience or social phenomena (QSR International, 2018). Utilized in the current study, NVivo 11 helped analyze 211 open-ended responses to three questions about three online videos (totaling 1,899 responses) and three verbatim transcripts of the online videos created by members of the focus population.

Nodes: NVivo term for a collection of references or codes of related material that allows the researcher to look for emerging patterns or ideas (themes) (QSR International, 2018).

Pre-exposure Prophylaxis (PrEP): daily HIV medications are taken to lower chances of contracting and transmitting HIV through sex (by more than 90%) or intravenously (by more than 70%) (CDC, 2018). PrEP is the first biomedical intervention proven through random control trials to reduce transmission of HIV among MSM and trans women (Cohen, et al., 2015).

Treatment as prevention (TasP): HIV prevention methods and programs that use antiretroviral treatment to decrease the risk of HIV transmission (Avert, 2017).

INTRODUCTION

African American Men who have Sex with Men (MSM) and Trans women have the highest rates of the human immunodeficiency virus (HIV) than any racial, ethnic, or sexually-based grouping in the United States (Centers for Disease Control and Prevention, 2016). Due to inconsistencies in previous findings, health services research has moved away from behavioral studies in exchange for the pharmaceutical and other biomedical-based approaches (Maulsby et al., 2014). Not understanding and acknowledging the significance of psychosocial factors limits the impact of culturally-tailored prevention methods for the population. The current exploratory study focuses on the psychosocial factors, particularly depressive symptoms, social support, and HIV-related stigma to clarify their associations with behaviors that promote HIV transmission within a sample of African American MSM and Trans women. This research will provide data for clarifying the significance of behavioral studies behind biomedical interventions, inform the development of new HIV prevention strategies, and provide the foundation for future public health policies specific for sexual minority populations.

Research Question and Specific Aims

The overall research question is to explore the prevalence of depressive symptoms, social support, and HIV-related stigma and how the three variables relate to behavior perspectives in a population at high risk for HIV transmission. The hypothesis is that higher depressive symptoms, lower social support, and higher HIV-related stigma is significantly associated with behaviors that promote the transmission of HIV through the perspective of the sample population. The hypothesis is tested by exploring a data set collected initially via surveys and community-based participatory videos in an online safe

space research study. A sample from Status-boiz / Status-gurlz Research Study (PI – Dr. Rowan) data set with a focus on depressive symptoms, HIV-related stigma, social support, and behaviors promoting HIV transmission is explored and analyzed.

The first specific aim is to analyze the data set for thematic variation of behaviors surrounding HIV risk within the population. The objectives are: a) evaluate the data for what is being expressed, b) evaluate the current investigator's subjectivity to what is being expressed in the data, c) evaluate the data for differences in behavioral responses to experiences expressed in videos, and d) evaluate the data for variation in perspectives surrounding risk of HIV transmission.

The second specific aim is to analyze the data set with validated scales related to depressive symptoms, social support, and HIV-related stigma. The objectives are: a) evaluate the data on the Kessler Psychological Distress scale (K10), b) evaluate the data on the Shortened Relationship Conflict Tactic, and c) evaluate the data on the Berger's HIV Stigma Scale.

The third specific aim is to analyze the data set for behaviors that place the participants at high risk of HIV transmission. The objectives are a) evaluate the data for the prevalence of sex without condoms, b) evaluate the data for the prevalence of IV drug usage or drug abuse, and c) evaluate the data for the prevalence of sex without knowing HIV status of self or partner**.**

Background and Significance

Human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) are known to have existed in the United States since the mid-to-late 1970s (U.S. Department of Health and Human Services, 2015). Once the bloodborne pathogen

infects the human host, it attacks the immune system, limiting the body's ability to fight off opportunistic infections and related cancers. The bloodborne pathogen and resulting infection are referred to as HIV. Without health care intervention or barriers to prevent succumbing to other opportunistic infections or cancers, HIV leads to the terminal stage called acquired immunodeficiency syndrome (AIDS). Without medical treatment, the estimated survival rate of AIDS patients is about three years (U.S. Department of Health and Human Services, 2015). The Centers for Disease Control and Prevention suggests that everyone between the ages of 13 and 64 gets tested at least once (U.S. Department of Health and Human Services, 2014). Sexual intercourse without the proper use of condoms/barriers and participate in intravenous drug use are two of the known ways of transmission of the virus. Another significant promoter of HIV transmission includes sexually active individuals within a high transmission risk population not being aware of their HIV seropositive status (Lima, Hogg, & Montaner, 2010). Therefore, medical treatment, testing, and relevant education are necessary for decreasing the health threat to survival within threatened populations.

President Obama updated the National HIV/AIDS Strategy for the United States in December 2016 to propose a place where new HIV infections are rare but treated with uninhibited access to high-quality care free from stigma and discrimination by 2020 (The White House Washington, 2016). Incidence rates over the past ten years suggest the goal set by President Obama is attainable only when not referring to one of the hardest hit minority sub-populations, such as African American men who have sex with men (MSM). The national strategy promotes the utilization of psychosocial and biomedical construction to combat new HIV infections. Contrary to the goal, HIV health services

research has moved away from psychosocial-based research in favor of entirely biomedical-based research.

The Centers for Disease Control and Prevention (CDC) reports 1 in 2 (or half) African American MSM will be diagnosed with HIV during their lifetime in the first-ever comprehensive national lifetime estimate risks of HIV diagnosis (National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, 2016). Figure 1 displays new HIV diagnoses in the United States by race and sexual identity in 2015. African American MSM had the highest diagnoses of new cases (10,315), even though they are a smaller population than Caucasian MSM (7,570) and total new HIV diagnoses had dropped by 19% since 2005 for the total population (Centers for Disease Control and Prevention, 2016). Figure 2 reveals ages 13-34 account for the majority of new diagnoses in 2015 in African American MSM (Centers for Disease Control and Prevention, 2016a). Therefore, younger minority generations have the highest potential to benefit or suffer from the current move away from psychosocial-based research funding.

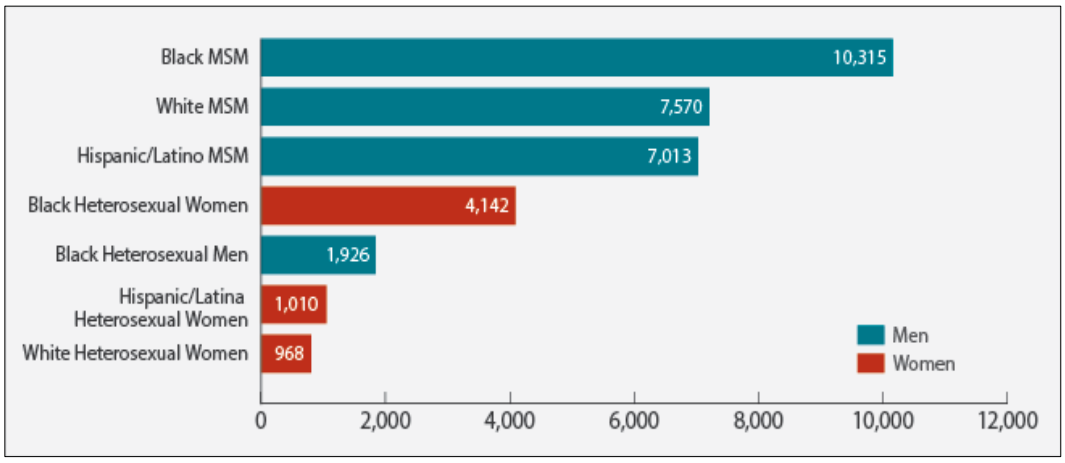

Figure 1. New HIV Diagnoses in the United States for the Most-affected Subpopulations, 2015 (Centers for Disease Control and Prevention, 2016)

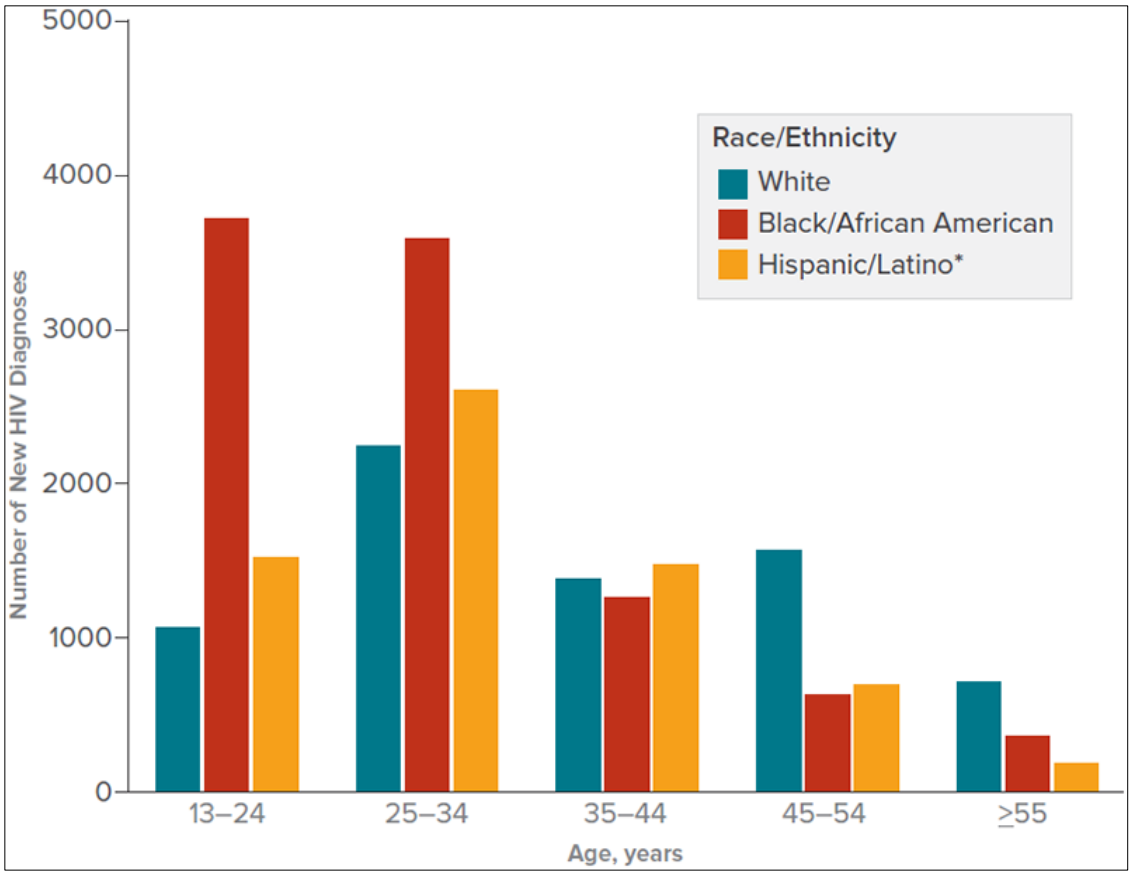

Figure 2. HIV Diagnoses Among Men Who Have Sex with Men, by Race/Ethnicity and Age at Diagnosis, 2015-United States.
Hispanics/Latinos can be of any race.
Source: HIV Surveillance Report 2016. (2019, June 04). Retrieved June 20, 2019, from http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html.

Behaviors Promoting Transmission of HIV

African American MSM has represented the largest group of new cases of HIV in the United States since at least 2008 (Reif, Safley, & McAllaster, 2015). Unprotected anal intercourse, multiple sexual partners, and IV drug use within a pool of proportionally higher HIV-positive individuals have been identified as highly efficient modes of transmission and recognized as at-risk behaviors for African American MSM. Stigma, depression, and social support have been studied as precursors to behaviors that promote HIV transmission in African American MSM. However, it is critical to recognize there is

a lack of conclusive evidence that these behavioral factors affect or explain higher risk behaviors in the population, exposing the wide knowledge gap in HIV research (Reif, Safley, & McAllaster, 2015). Therefore, conclusive empirical evidence supporting or debunking previous beliefs of factors preceding the higher risk behaviors in the focus population is necessary to clarify the risk and prevent HIV transmission.

HIV-related Stigma

Erving Goffman influenced the concept of stigma 56 years ago in sociology as an attribute or characteristic, which resulted in widespread social disapproval. Before 1963, stigma was a physical mark placed on the skin of the tainted or immoral to signify individuals that should be avoided (Goffman, 1963). Even though the process is thought to begin internally (psychological) for an individual, it manifests at the social level through social interactions.

Erving Goffman's concept of stigma and the process of stigmatization has been the basis for theoretical stances on the manifestation of stigma at the individual and population level for over 50 years (Yang et al., 2007; Westbrook, Bauman, & Shinnar, 1992; Bos, Pryor, Reeder, & Stutterheim, 2013). Three-fourths of the stigma publications found in the 2013 PsycINFO search on stigma publications by Arjan E. R. Bos and colleagues have published within the previous decade (Bos, Pryor, Reeder, Stutterheim, 2013). Over the past 50 years, the concept of stigma has become interdisciplinary, leading to the popularity of HIV-related stigma research within the most recent 15 years. Public health has based initiatives on the negative relationship between HIV stigma and HIV prevention education/ treatment/testing. Research published in 2014 on the social climate surrounding HIV education proposes a negative association

between HIV stigma in African Americans and willingness to engage in HIV prevention, testing, and treatment (Bogart, Derose, Kanouse, Griffin, Haas, & Williams, 2014).

Depressive Symptoms

Depressive symptoms are defined as the presence of two or more simultaneous symptoms of depression (as understood by the DSM-IV and ICD-10) lasting for at least two weeks (Ayuso-Mateos, Nuevo, Verdes, Naidoo, & Chatterji, 2010). Clinically significant depressive symptoms in African American MSM have been studied as an HIV risk factor for three decades. The negative impact of depression on health outcomes and quality of life has been established in the general population and African American MSM (Brown, Serovich, & Kimberly, 2016). Strong associations between religiosity and African Americans have also been established (Pryor, Gaddist, & Johnson-Arnold, 2015; Snowden, 2001). African American churches are significant revenues of community health engagement within The South (Snowden, 2001). Research study surveys reflect that 87% of African Americans acknowledge affiliation with a religious group (Pryor, Gaddist, & Johnson-Arnold, 2015). Unfortunately, many African American southern churches have been the medium for HIV stigmatization process. Homosexuality and bisexuality are subject to open condemnation in many black churches, leading to the manifestation of HIV stigma surrounding a very vulnerable population (Coyne-Beasley & Schoenbach, 2000). African American MSM remains socially excluded from health initiatives in expectation of keeping their sexuality closeted in the church (Pryor, Gaddist, & Johnson-Arnold, 2015). This particular exclusion has the potential to sever a significant link to HIV health services. A review of previous studies is inconclusive about the existence of an association between a higher incidence of depression and

religion in African American MSM (Otey & Miller, 2016). If the religious association is a significant factor of depression in African American MSM, focus on resilience factors and religion may be a productive avenue to reduce depression in the population. Therefore, the current study will evaluate depressive symptoms.

Social Support

Literature defines the construct of social support in various ways. Social support receives attention in HIV studies based on the assumption that it is a tool to prevent at-risk behavior in MSM (Schwarzer, Dunkel-Schetter, & Kemeny, 1994). While higher levels of social support relate to a decrease in behaviors that promote HIV transmission in heterosexual adults and female sex workers, inconsistencies in measuring social support create inconsistent associations among drug users, adolescents, and MSM (Qiao, Li, & Stanton, 2014). The effort is needed to focus on social relationships with a consistent, useful measurement as perceived by African American MSM. The definition of social support through the perspective of the focus population is necessary before understanding associations with risk behaviors. The current study explores multiple perspectives.

A study of African American MSM with high-risk behaviors suggests that social support in peer networks are highly effective in lowering at-risk behaviors (Garcia, Parker, Parker, Wilson, Philbin, & Hirsch, 2016). Social support broadly defines an encompassing of the received and the perceived availability of social resources when associated with mental and physical health (Barger & Cribbet, 2016). A qualitative analysis of the perception of social support compliments a quantitative look at associations between social support, depression, HIV-related stigma, and at-risk behavior (Barger & Cribbet, 2016). The current study defines social support as verbal and

nonverbal communication that reduces one's uncertainty about their current situation, self, relationships, and others by enhancing perceptions of internal locus of control (Albrecht & Adelman, 2011).

Biomedical (Fluid-based Transmission) Research and Social Determinants of Health

Fluids and behaviors are two categories for HIV transmission interventions that health services researchers and public health clinicians have based studies and interventions over the last three decades. The decrease in behavior-based or psychosocial-based studies allow a stronger focus on biomedical or fluid-based treatments. Biomedical interventions focus on the reduction of HIV through blood, semen, vaginal secretions, breast milk, and anal secretions. The most famous examples of the biomedical studies are Treatment as Prevention (TasP), Test and Treat, pre-exposure prophylaxis (PrEP), post-exposure prophylaxis (PEP), and microbicides.

Each mentioned biomedical intervention has access and psychosocial barriers to engagement. Limitations of purely biomedical interventions also include education, social gradient, transportation, early life (morbidity and mortality due to side effects and misuse), work, and food. The exclusion of psychosocial factors in biomedical studies has the potential to remain a limitation as funding and research attention decrease for behavioral studies in health services research. Concurrently, biomedical studies concentrate on the what and who of health services, psychosocial studies potentially provide clarity on how and why. The current study provides clarity to the significance of interrupting the symbiotic relationship between psychosocial and biomedical factors in health services research and public health initiatives. More specifically, are specific psychosocial factors, such as depressive symptoms, social support, and HIV-related

stigma significantly associated with behaviors that promote the transmission of HIV in African American MSM?

Article 1:
Statistical Associations of HIV Transmission Risk Behaviors Among MSM and Trans Women

OBJECTIVE

African American MSM and Trans Women are considered the highest sexual risk group with new cases of HIV for over a decade. The purpose of this paper is to describe and model the relationships between psychosocial factors and HIV transmission risk in a sample of African Amercian MSM and Trans Women: depressive symptoms, social support, and HIV-related stigma.

DATA SOURCE

The current study used extant data from Statusboiz/Statusgurlz online database. Data selected for this secondary analysis included psychosocial factors (depressive symptoms, social support, and HIV-related stigma) and HIV transmission risk. The current study also described demographic characteristics of the sample included in the original study.

STUDY DESIGN

The current study examined the relationships between psychosocial factors and HIV transmission risk in a cross-sectional descriptive design. Logistic regression analyses was used to analyze the data.

RESULTS

High depressive symptoms (aOdds =1.09; 95% Wald CI =1.05-1.22) and high HIV stigma (aOdds =0.91; 95% Wald CI =0.838=0.992) have a significant association with higher HIV transmission risk categories than lower risk. Surprisingly, HIV stigma has a negative association, and social support has no significant association with higher HIV transmission risk.

CONCLUSION

Future studies can provide further clarification to the relationships and promote stronger screening for particular psychosocial factors by health service providers of high-risk populations.

Statistical Associations of HIV Transmission Risk Behaviors Among MSM and Trans Women

The Centers for Disease Control and Prevention (CDC) report one out of every two African American men who have sex with men (MSM) will be diagnosed with human immunodeficiency virus (HIV) during their lifetime if current HIV conditions persist (CDC, 2016). Once the HIV bloodborne pathogen infects the human host, it attacks the immune system, limiting the body's ability to fight off opportunistic infections and related cancers. HIV may lead to the final stage called acquired immune deficiency syndrome (AIDS). Without medical treatment, the estimated survival rate of AIDS patients is about three years (U.S. Department of Health and Human Services, 2015).

African American MSM and Trans Women have been considered the highest sexual risk group for new cases of HIV for over two decades. Compared to Caucasian MSM with HIV, African American MSM with HIV are three times more likely to go undiagnosed (amfAR, 2015). By the time many of the African American MSM become diagnosed, they are already ill due to lack of treatment (CDC, 2018a; CDC, 2018b). Health care institutions and communities have failed this vulnerable populations by not adequately addressing particular psychosocial factors associated with HIV transmission risks unique to this population. Lack of focus or acknowledgment of associations among psychosocial factors creates a gap in knowledge on associated transmission risk, further burdening the population. The current secondary analysis narrowed an existing knowledge gap by identifying the relationship of specific psychosocial factors as tools health service providers and researchers can potentially utilize with populations at higher risk for HIV transmission.

Research Questions or Hypotheses

The purpose of this study was to examine the relationships of psychosocial factors (depressive symptoms, social support, and HIV-related stigma) to focus population behaviors that risk HIV transmission. Therefore, this study endeavored to address the following hypotheses: a) higher depressive symptoms are related to HIV transmission risk behaviors in African American MSM and Trans Women, b) lower social support is related to HIV transmission risk behaviors in African Americans MSM and Trans Women, and c) higher HIV-related stigma scores are related to HIV transmission risk behaviors in African American MSM and Trans Women. The current study examines directionality and significance through an exploration of an existing dataset, part of the Centers for Disease Control and Prevention-funded safe space research initiative, the Statusboiz/Statusgurlz Research Study (PI –Rowan) dataset.

This secondary analysis of an existing dataset aimed to:

1. Analyze the existing data set with a combination of validated scales related to depressive symptoms, social support, and HIV-related stigma.
2. Analyze the dataset for behaviors that place the participants at high risk of HIV transmission.
3. Analyze the dataset for significant associations and directionality with HIV transmission risk behaviors.

Methods

Data Source

The researcher gathered data from an extant dataset as part of the CDC Safe Spaces Research Initiative, specifically, the Statusboiz/Statusgurlz study dataset for this

study. The extant dataset was based on a purposive sample of African American MSM or Trans Women aged 18 or over, born with male genitalia, and residing within the southern United States for at least three months. Participants responded to advertising at public health events, conventions, symposiums, and local bars and clubs in the Charlotte-metro area, who replied to an online survey with links to short videos and gay-themed discussion boards. The extant dataset included 211 MSM and Trans Women who completed online surveys and videos augmented with open-ended questions on depression symptoms, social support, stigma, and risk behaviors. The extant data were gathered from Summer 2012 to Fall 2015.

Sample from Extant Dataset for Current Study

Two hundred and eleven participants completed the demographics, but 203 participants completed the questions of interest to the current study. Several ethnicities are noted within the African American race. The ethnic composition of the participants were described as African American (n=154, 75.86%), Black Hispanic/Latino (n=20, 9.85%), Afro-Caribbean/Latino (n=7, 3.45%), Mixed Race (n=20, 9.85%) and Other (n=2, 1%). The minimum requirement for the birth year was 1994 (18 years of age in 2012). The majority of the participants were born in 1981 (n=23, 10.95%). The furthest birth year was 1970 (n=6, 2.86%).

Table 1 reveals the completed education and self-described ethnicity of the participants. Most participants considered African American as their ethnicity as well as their race (n=117, 76% of participants) and had completed some college. Black Hispanic/Latino ethnicity received a high school diploma or GED (n=11, 55%). The majority of Afro-Caribbean/Latino ethnicity received at least a high school diploma or

GED (n=2, 29%) or a graduate school degree (n=2, 29%). The majority of Mix-race ethnicity received a college degree (n=5, 25%), some college education (n=5, 25%), and a high school diploma or GED (n=5, 25%). The "Other" ethnicity category received at least some college (n=1, 50%) or a high school diploma or GED (n=1, 50%). Very few of the total respondents (n=21, 10%) only received some high school. Out of the total participants, 7% completed at least a graduate school degree. The majority of the participants grossed between $21,000 and $30,000 a year (n=83, 40.89%). The range of gross individual income was $10,000 or less (minimum, 18.72%) and $71,000 or greater (maximum, 0.49%). Most of the participants were employed full-time (n=116, 57.14%) and/or working students (n=40, 19.70%).

Table 1 Characteristics of African American MSM and Trans Women in StatusBoiz and StatusGurlz Dataset (N=211)

Completed Education and Ethnicity

Frequency Column %	**AAB**	**BHL**	**ACL**	**MR**	**Other**	**Total**
Grade School	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%
Some High School	18 12%	0 0%	1 14%	2 10%	0 0%	21 10%
High School Diploma or GED	31 20%	11 55%	2 29%	5 25%	1 50%	50 25%
Some College	70 45%	4 20%	1 14%	5 25%	1 50%	81 40%
College Degree	26 17%	5 25%	1 14%	5 25%	0 0%	37 18%
Graduate Degree	9 6%	0 0%	2 29%	3 15%	0 0%	14 7%
Total	154 76%	20 10%	7 3%	20 10%	2 1%	203

Note. Frequencies of responses when asked: "What is the highest level of education you have completed?" and "Which best describes you?" Chi-square 27.49, p-value 0.12. 2018 by Statusboiz/Statusgurlz HIV Research Group.

AAB = African American/Black

BHL = Black Hispanic/Latino

ACL = Afro-Caribbean/Latino

MR = Mixed Race

In the sample, 35% of respondents considered from African American (Black) and Mixed-Race ethnicities were having sex with more than one partner (Table 2). Across ethnicities of the African American race, Table 2 shows the number of the current

sexual partner(s) based on the ethnicity of the respondent. The majority (64%) of respondents report having sex with only one partner.

Table 2 Sexual History of African American MSM and Trans Women in the StatusBoiz/Statusgurlz Dataset (N=211)

Number of Current Sexual Partner(s) by Respondent's Ethnicity

	Ethnicity					
Frequency Column %	**AAB**	**BHL**	**ACL**	**MR**	**Other**	**Total Row%**
Currently having sex with one partner	100 65%	12 60%	4 57%	13 65%	1 50%	130 64%
Currently having sex with multiple partners	54 35%	8 40%	3 43%	7 35%	1 50%	73 36%
Total **N Total %**	154 76%	20 10%	7 3%	20 10%	2 1%	203

Note. Frequencies of responses. Chi-Square 0.52 (p-value 0.97). 2018 by Statusboiz/Statusgurlz HIV Research Group.
AAB = African American/Black
BHL = Black Hispanic/Latino
ACL = Afro-Caribbean/Latino
MR = Mixed Race

As part of the social demographics, participants described their sex and gender. Table 3 displays the 203 responses. The majority described themselves as gay and a man who has sex with men. Very few of the respondents described themselves as straight or questioning. The majority (87%, n=177) of the respondents referred to themselves as born as a male and living as a man. Very few referred to themselves as born as a male and living as another gender identity (1%, n=1) or living as a female while utilizing hormones or surgery (transgender) (2%, n=4).

Table 3
Sex and Gender of African American MSM and TransWomen (N=203)

Frequency Column Percentage	**Straight**	**Gay**	**Bisexual**	**On the Down Low**	**Man Who Has Sex With Men**	**Questioning**	**Queer**	**Total Row %**
Born as a male, living as a male	4 100%	127 91%	45 94%	23 100%	33 89%	10 100%	3 21%	177 87%
Born as a male, experimenting with living as a female	0 0%	7 5%	0 0%	0 0%	3 8%	0 0%	4 29%	11 5%
Born as a male, living as a female (transgender)	0 0%	4 3%	2 4%	0 0%	0 0%	0 0%	4 29%	10 5%
Born as a male, living as a female, taking hormones or had surgery (transgender)	0 0%	2 1%	0 0%	0 0%	1 3%	0 0%	3 21%	4 2%
Born as a male, living as another gender identity	0 0%	0 0%	1 2%	0 0%	0 0%	0 0%	0 0%	1 1%
Total	4	140	48	23	37	10	14	203

***Note*. Frequencies of responses when asked: "How would you describe yourself?" Chi-Square 80.37 (p-value 0.00). 2018 by Statusboiz/Statusgurlz HIV Research Group.**

Very few (13% of participants) acknowledged they were HIV positive. Table 4 and Table 5 note participants' knowledge of the HIV status of self or partner. 100% of non-dating, monogamous, and married respondents and 83% of respondents dating with many partners had been tested for HIV (Table 4). Ninety-two percent of HIV positive respondents knew the HIV status of their partner(s) in the last 30 days (Table 5). 65% of the respondents HIV negative respondents knew the HIV status of their partner(s) in the last 30 days (Table 5).

Table 4
Testing and Dating/Relationship Type

Frequency Column Percentage		ND	DPP	DMP	SCLM	SCLN	M	O	T
Have you ever been tested for HIV?	**Yes**	62 100%	53 95%	30 83%	22 100%	6 86%	5 100%	9 90%	187 94%
	No	0 0%	3 5%	6 17%	0 0%	1 14%	0 0%	1 10%	11 6%
	T	62	56	36	22	7	5	10	198

Note. Frequencies of responses to being tested within their lifetime. n=198, Chi-square 15 (p-value 0). 2018 by Statusboiz/Statusgurlz HIV Research Group.

ND = Not dating

DPP = Dating Primary Partner

DMP = Dating Many Partners

SCLM = Serious, Committed Long-term Relationship (Monogamous)

SCLN = Serious, Committed Long-term Relationship (Non-monogamous)

M = Married

O = Other

T = Totals

Table 5
Knowledge of HIV Status of Self and Sex Partner(s)

		What is your HIV status?		
Count Column Percentage		**I have HIV**	**I don't have HIV**	**Total**
In the last Month, did you know the HIV status of any of your sex partners?	**Yes**	12 92%	65 82%	77 84%
	No	1 8%	14 18%	15 16%
Count Row Percentage	**Total**	13 14%	79 86%	92

Note. Frequencies of responses. n=92, Chi-Square 0.8 (p-value 0.8). 2018 by Statusboiz/Statusgurlz HIV Research Group.

Design

This cross-sectional descriptive study explores the relationship among depressive symptoms, social support, HIV-related stigma, and HIV transmission behaviors (e.g., a combination of condom/barrier use, HIV testing, IV drug-use, knowledge of HIV status, sexual risk cognitions, and alcohol abuse) using secondary analysis of an extant dataset.

Measures

Figure 1 displays the independent variables (depressive symptoms, social support, and HIV-related stigma) and the scales used to measure the extant data. The current paper reports only the scales validated (*) and used (+) in the current study for secondary analysis.

Kessler Psychological Distress Scale (K10) measured depressive symptoms because it was validated and stayed closer to the study's concept of depressive symptoms (Kessler, 2001). The Shortened Relationship Conflict scale was used because it was validated and referred specifically to social support without multi-ethinic identiy measures (Barrera, Sandler, & Ramsay, 1981). Berger's HIV Stigma scale was chosen

because it validated and only measured HIV stigma. Stigma and homophobia are recognized as different measures under HIV-related stigma because homophobia is a result of stigma/stigmatization.

Depressive Symptoms. The current study only used Kessler Psychological Distress Scale (K10) is used. K10 was a validated 10-item questionnaire intended to measure depressive symptoms and anxiety symptoms (Kessler, 2001). "Feel so depressed that nothing could cheer you up?" and "Feel that everything was an effort?" are questions on the scale.

K10 consisted of 10 questions, asking the participant to rate how often in the last month they have felt a particular symptom of depression: depressed, hopeless, restless/fidgety, tired, everything takes a great effort, worthless, and nervous. The responses were Likert-type choices: none, little, some, most and all of the time.

Social Support. Social support was measured using the Social Support Scale. "Do you presently have a mother in your life?" was a question posed on the Social Support Scale. If "yes" was chosen, the participant moved to "Please rate how much you agree or disagree with the following statements about your relationship with your mother…" Questions, such as "My mother enjoys hearing about what I think" and "I rely on my mother for emotional support" are followed by a Likert-type scale: Not true, A little true, Somewhat true, Pretty true, Very true, and Not applicable. The Social Support Scale was chosen for the secondary analysis because the questions focused more on the aspects of social support in a broader and less restrictive sense that does not specify cultural and family dynamics of the other social support scales. A broader social support

scale helps to statistical control for more characteristics within the parameters of social support when creating the best fitting statistical model.

HIV-related Stigma. Stigma was measured by the Berger's HIV Stigma scale (questions 91 through 94). Berger's HIV Stigma scale is a reliable and valid scale for large and diverse populations with HIV (Berger, Ferrans, & Lashley, 2001). "I have stopped socializing with some people because of their reactions to my having HIV" and "I worry that people who know I have HIV will tell others" are two questions from Berger's HIV Stigma scale. The current study used Berger's HIV Stigma scale because it has been validated by previous literature, refers to stigma concerning HIV, and is the most widely used stigma scale in African American MSM literature on stigma. For example, a possible result of the evaluation may show individuals measuring high on Berger's HIV Stigma scale have a more massive tally of behaviors than individuals with lower scores on the Berger's HIV Stigma scale.

HIV-Risk Behavior. An investigator-developed survey items were used to measure behaviors that promote HIV transmission risk behavior (dependent variable). The HIV-Risk Behavior variable was a combination of HIV transmission risk assessment tools acknowledged by the Centers for Disease Control and Prevention and other national and international authorities of public health (Centers for Disease Control and Prevention, 2018; Purcell, 2016; (Wilton, Kain, Fowler, Hart, Grennan, Maxwell, & Tan, 2016; University of California San Francisco Prevention Science Department of Medicine, 2018). A tabulation of the risk behaviors (sex without condoms/barriers for HIV transmission, Illegal IV/oral drug usage, and sex without the knowledge of HIV status of oneself or partner) was gathered to denote frequency. Figure 2 shows that each risk

behavior ranks by increasing frequency of thought for ordinal logistic regression analysis: CAGE (Yes =1, No =0), Sexual Risk Cognitions (Never =0, Rarely =1, Occasionally =2, Frequently =3, Very Frequently =4), Knowledge of Partner's HIV status (Yes =0, No =1), Illegal IV/Oral Drug Use (No =0, Yes =1, 1-2 days per week =1, 3-4 days per week =2, 5-6 days per week =3, daily =4, No answer =0).

The CAGE Questionnaire was developed by Dr. John Ewing, founder and director of the Bowles Center for Alcohol Studies at the University of North Carolina at Chapel Hill. As an internationally used assessment tool for identifying alcoholism in an individual, CAGE most often gathers health history in the clinical setting (Ewing, 1984; Islam, Oni, Lee, Hayman, Wilson, Harrison, Hummerston, Ivers, & Conigrave, 2018). The questionnaire consists of four questions: Have you ever felt you should cut down on your drinking; have people annoyed you by criticizing your drinking; have you ever felt bad or guilty about your drinking; have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover? Dr. Ewing discouraged preceding the tool with questions about the frequency at which the patient drinks (Ewing, 1984). Cage has been positively validated against other alcohol consumption measures with a greater focus on the dependence on alcohol (Islam, Oni, Lee, Hayman, Wilson, Harrison, Hummerston, Ivers, & Conigrave, 2018).

The Sexual Risk Cognition assessed how strongly participants relate to reasons to abstain from condom usage (Figure 2). Participants are asked to rate their thoughts on a statement from 0 to 4 (Never =0, Rarely =1, Occasionally =2, Frequently =3, Very frequently =4). The statements were: "I enjoy sex more without a condom", "I want to show my partner that's he's somebody special (so we don't use condoms)", "sex is more

exciting without a condom", "I've already had unsafe sex with my partner, what's the point of using a condom this time", "my partner is the same HIV status as me so it doesn't matter", "unsafe sex is just one of life's many risks" and other rationalizations for abstaining from condoms.

The lack of knowledge of sexual partner's HIV status is lower in the United States (37% in 2018 secondary analysis study from the iPrEx study on serodiscordant HIV status disclosure) than European countries (Hojilla et al., 2018). Non-disclosure has a substantial effect on public health efforts to increase awareness in the United States (Hojilla et al., 2018). Disclosure has potential to increase awareness of HIV risk and decrease transmission rates by influencing behavior (Hojilla, at al., 2018; Grov, Rendina, Moody, Ventuneac, & Parsons, 2015; Grov, Whitfield, Rendina, Ventuneac, & Parsons, 2015). Therefore, assessing knowledge of sexual partner's status is included within the HIV transmission risk variable of the current study: "In the last month, did you know the HIV status of any of your sex partners?" (No =1, Yes =0). "No" increases the overall risk score.

The scoring of risk behaviors includes the illegal use of oral and IV drugs not prescribed to the individual (Figure 2). Illegal use is recognizes the consumption of any substance (oral or intravenous) without a prescription from the consumer's health care clinician. At the time of data collection, marijuana was not legal in southern states of the United States. The term "illegal" was not used during data collection about a participant's behavior. Participants were asked: "1) Have you ever used marijuana (pot, weed)? Have you used in the past month? On average, how many days per week did you use marijuana (pot, weed)? 2) Have you ever used inhalers (whippets, poppers, etc.)?

Have you used in the past month? On average, how many days per week did you use inhalers (whippets, poppers, etc.)? 3) Have you ever used cocaine (powder)? Have you used it in the past month? On average, how many days per week did you use cocaine (powder)? 4) Have you ever used crack (rock)? Have you used in the past month? 5) Have you ever used crystal meth? 6) Have you ever used ecstasy (X)? Have you used in the past month? On average, how many days per week did you use ecstasy (X)? 7) Have you ever used laced cigarettes? Have you used it in the last month? On average, how many days per week did you use laced cigarettes? 8) Have you ever used steroids? 9) Have you ever used hormones not prescribed to you by a doctor? Have you used it in the past month? On average, how many days per week did you use hormones? 10) Have you ever used silicone? 11) Have you ever used Viagra/Cialis/Levitra? Have you used it in the past month? 12) Have you ever used unknown pills? 13) Have you ever used alcohol? Have you used it in the past month? On average, how many days per week did you use alcohol? 14) Did you use needles to inject any of these drugs in the past month?" If the participant admitted consumption of a particular drug, the tool graded the participant on the consistency: No =0, Yes =1, 1-2 days per week =1, 3-4 days per week =2, 5-6 days per week =3, Every day =4, No answer = 0.

HIV transmission risk scores were an accumulation of the ranks of each scale. Figure 2 displays a list of the scales (CAGE, Sexual Risk Cognitions, Knowledge of Partner's HIV Status, and Illegal IV/Oral Drug use), questions asked, and ranks given the responses. The participant's HIV transmission risk score was equal to the total. For example, Participant 1 scored three on CAGE, six on Sexual Risk Cognitions, one on Knowledge of Partner's HIV Status, and one on Illegal IV/Oral Drug use. Participant 1

had a score of eleven for HIV transmission risk. Participant 2 scored four, three, one, and zero. Participant 2 had a score of eight. Participant 1 is considered to have reported a higher HIV transmission risk than Participant 2.

Data Analysis

Do HIV-related stigma, depressive symptoms, and social support have a statistically significant association with behaviors that promote HIV transmission within a group of southern African American MSM? The hypothesis is that high HIV-related stigma, high depressive symptoms, and low social support are statistically significant associates of behaviors that promote HIV transmission. Descriptive statistics of socio-demographic data allowed sorting and dichotomizing of variables. For example: have you tested positive for the HIV (yes = 1 or no = 0). After dichotomizing, the data is sorted into questions asked on Berger's HIV Stigma tool. For example, HIV positive participants are asked how much they agree with the following statement: I have been hurt by how people react to learning I have HIV (Strongly Agree =2, Neither Agree nor Disagree =1, Disagree =0, Strongly Disagree =0, (no answer) = 0). Logistic regression via (SAS 9.4) looked at HIV transmission risk behavior as illegal IV or oral drug use, sex without condoms/barriers of transmission, and sex without knowing HIV status of self or partner. Even though knowing the HIV status of self and knowing the HIV status of partner are distinguished within the data, the secondary analysis will not distinguish them as separate dependent variables. Logistic Regression of quantified variables address how the rank of transmission risk by the number of depressive symptoms score, social support score, or HIV stigma score? The study regards direction and correlation. Chi-squared

tests how well the ordinal logistic regression models fit the data and differences in predictive odds.

Ordinal logistic regression is used to create regression models of HIV transmission behaviors (e.g., a combination of condom/barrier use, HIV testing, IV drug-use, knowledge of HIV-status, sexual risk cognition, and alcohol abuse). As a variable, HIV HIV transmission risk behavior is intuitively recognized as ordinal and categorical. Participant responses to the survey questions are not infinite as is necessary for linear regression modeling. Thereofer, logistic regression becomes suitable with a response variable categorical in nature (Hellevik, 2007). Ordinal logistic regression model provides data description and explains the relationship between HIV transmission behaviors (ordinal dependent variable) and one or more independent variables (e.g., depressive symptoms, social support, and HIV stigma). Risk behavior has levels from low to high risk, recognizing a specific order. Logistic regression assigns a probability to the transition between levels of risk instead of the less significant values assigned by linear regression. The ranked order assumed by the current study violates the linear regression assumption (e.g., continuous and normal distribution). Even after multiple transformations, the linear regression assumption of normality remains violated. Due to the exploratory factor of the current study, questioning whether the three independent variables predict the dependent variable or display a nonlinear causal relationship with possible interactions purely is of minimum concern. The focus is more on direction and association between independent and dependent variables.

Power analysis. G*Power is a powerful analysis tool to compute the desired sample size for a study given levels of alpha and effect size before performing the

analysis. According to G*Power analysis, a data set with at least 111 participants is necessary for an effect size of 30% and a power of 95%. The larger the size, the more sensitive the analysis is to detect the effect of social support, stigma, and depressive symptoms have on behaviors promoting HIV transmission. The current study has a sample size of greater than 180 participants. Therefore, the power of the current quantitative study with a sample size greater than 180 is sufficient.

Controls. Controls were determined by past literature on each independent variable. Even though the literature on depression, social support, and stigma are not consistent in measures or findings of significance, review of literature indicates high depression, low social support, and high stigma within the population (Maulsby et al., 2014). Therefore, during the logistic process, the highest depression score, lowest social support score, and highest stigma score were used as controls. For example, when testing to see if depression scores change behavior within each model, the lowest social support and highest stigma score will be held as controls. When testing the effect of social support, the highest depression score and highest stigma score will be controlled. When testing for the effect of stigma, the highest depression score and lowest social support score will be controlled. Three logistic models will be run (one for each dependent variable: condom/barrier use, illegal IV/Oral drug use, and HIV-status knowledge) in which this will be done. The frequency scores were combined to create one dependent variable as a measurement of risk behavior in a fourth model to test overall association.

Ordinal logistic regression is used to determine whether three independent variables (depression, social support, and HIV-stigma) are significantly associated with the ordinal dependent variable (risk behavior, as measured using an increasing ranked

categories) that is increasing risk behavior. The ordinal ranks of risk behavior increase with increasing number of reported risk behaviors. For example, “Rank 2” level of risk behavior has a higher number of risk behaviors than “Rank 1” level.

Results

The first hypothesis suggested was high depressive symptoms positively correlate to higher transmission rates in the population of African American MSM and Trans Women. Table 6 displays 5 models with the differences in the scoring of dependent variables (HIV transmission risk): Model 1 = Sexual Risk Cognition, Model 2 = Illegal IV / Oral Drug Use, Model 3 = Alcohol Abuse, Model 4 = No knowledge of Partner's Status, and Model 5 = combined transmission scores. Each model had depressive symptoms, HIV-related stigma, and social support as independent variables. Model 5 does not reject the hypothesis that high depressive symptoms are positively associated with high HIV transmission risk.

The second hypothesis of the study was that lower social support is related to HIV transmission risk behaviors in African Americans MSM and Trans Women. Table 5 displays social support had a negative association but is not significant to HIV transmission risk behavior. Therefore, we reject the hypothesis that lower social support was related to HIV transmission risk behavior in African American MSM and Trans Women.

The third hypothesis of the study was that high HIV-related stigma was associated with high HIV transmission behavior. Model 5 in Figure 6 displays HIV-related stigma is negatively associated with high HIV transmission risk. Therefore, we reject the

hypothesis that HIV-related stigma is positively associated with high transmission risk behavior.

Table 6					
HIV Transmission Risk Models					
Dependent Variables Independent Variables	Model 1 Cumulative logit (Sexual Risk)	Model 2 Cumulative logit (Illegal IV /Oral Drug Use)	Model 3 Cumulative logit (Alcohol Abuse)	Model 4 Binary logit (No Knowledge of Partner's Status)	Model 5 Cumulative logit (Combined Risk Scores)
Depression	1.09*	-0.06*	-0.005	0.03	0.09***
Social Support	-0.68	0.11*	0.007	-0.05	-0.02
HIV Stigma	-0.07	0.09	0.08*	-0.05	-0.09*
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 N =194; Proc Logistic formula used in SAS 9.4 fitting cumulative logit model or binary logit (unkstat =1). The probabilities modeled are summed over the responses having the lower Ordered Values in the Response Profile for cumulative logit models.					

Depressive symptoms and HIV stigma were significantly related to HIV risk behavior. African American MSM and Trans Women with higher depressive symptoms are more likely to be at higher risk of HIV transmission than those scoring lower in depressive symptoms (Table 7). The adjusted odds ratio of higher depressive symptoms is 1.09 times higher (or 9% increase in odds) than those scoring lower depressive symptom scores (95% CI =1.05-1.22) (Table 8).

African American MSM and Trans Women with higher HIV stigma scores were less likely to score in the higher risk categories than those with lower HIV stigma scores (Table 7). The adjusted odds ratio of higher HIV stigma scores is 0.91 (CI =0.838-0.992) which is 1.10 lower odds of being in higher risk categories than those having lower HIV stigma scores (Table 8).

Social support scores were not significant but were retained in Model 1 and Model 2 due to previous literature reports of significant associations between HIV

transmission and social support (Table 7). African American MSM and Trans Women reporting in higher social support were less likely to score in the higher risk categories than those reporting lower in social support (Table 7). The higher social support scores have 1.02 times (or 2%) lower odds of being in higher risk categories (adjusted odds ratio =0.98, 95% CI =0.931-1.039) than those scoring lower in social support (Table 8).

Tau-a and Somers' D are measures of ordinal association for non-parametric tests. Table 9 implies Rank4 as the dependent variable with social support included in the logistic regression (Model 2) has better scores of association (Tau-a =0.28 and Somers' D =0.39) than the other models. The model shows the marginal effect of depressive symptoms on HIV risk scores is 0.05, which implies for each unit of increase in depressive symptom score, the participant is 5% more likely to be in the highest risk of HIV transmission (Table 9). For each unit increase in HIV stigma score, the participant is 6% less likely to be in the highest risk of HIV transmission while controlling for social support scores and depressive symptoms scores.

Table 7
Ordinal Logistic Regression Results
Dependent Variable = HIV Transmission Risk

	Model 1 (Rank8)	Model 2 (Rank4)	Model 3 (Rank8)	Model 4 (Rank4)
Depressive Symptoms (B, Pr>ChiSq)	**0.04 (<0.0001)**	**0.05 (<0.0001)**	**0.08 (<0.0001)**	**0.09 (<0.0001)**
Social Support (B, Pr>ChiSq)	-0.01 (0.5845)	-0.02 (0.2692)	N/A	N/A
HIV-stigma (B, Pr>ChiSq)	**-0.05 (0.0334)**	**-0.08 (0.0046)**	**-0.09 (0.0357)**	**-0.11 (0.01)**
Global Likelihood Ratio (B =0)	X^2_3 =31.61 (<0.0001)	X^2_3 =37.44 (<0.0001)	X^2_2 =34.88 (<0.0001)	X^2_2 =36.56 (<0.0001)
Test for Proportional Odds Assumption (Chi-Square, DF, Pr>ChiSq)	FAIL: X^2_{18} = 40.97 (0.0015)	PASS: X^2_6 =3.04 (0.8035)	FAIL: X^2_{12} =31.58 (0.0016)	PASS: X^2_4 =2.14 (0.7097)

Notes. N=194. Alpha =0.05 (Bold is significant variables with 95% confidence). N/A means variable was not included in this model. For example, social support is not included as an independent variable in Model 3 or 4. Social support, race (not ethnicity), and geographic location (southern United States) are controlled for in Models 1 and 2. Likelihood ratio tests the overall null hypothesis (Beta =0) with alpha level 0.05. SAS coding for Depressive Symptoms was "depression"; SAS coding for Social Support was "ss"; SAS coding for HIV-stigma was "stigma." **2018 by Statusboiz/Statusgurlz HIV Research Group.**

Table 8
Adjusted Odds Ratio (95% Wald Confidence Interval)

	Model 1 (Rank8)	Model 2 (Rank4)	Model 5 (Rank8)	Model 6 (Rank 4)
Depressive Symptoms	**1.09 (1.057, 1.122)**	**1.10 (1.06, 1.13)**	**1.09 (1.057, 1.121)**	**1.10 (1.061, 1.130)**
Social Support	0.98 (0.931, 1.039)	0.97 (0.92, 1.03)	N/A	N/A
HIV-stigma	**0.91 (0.838, 0.992)**	**0.89 (0.81, 0.97)**	**0.92 (0.843, 0.994)**	**0.89 (0.818, 0.974)**

Note. N =194. Bold estimates are significant at alpha 0.05. N/A means variable was not included in this model. For example, social support is not included as an independent variable in Model 3 or 4. Social support, race (not ethnicity), and geographic location (southern United States) are controlled for in Models 1 and 2. SAS coding for Depressive Symptoms was "depression"; SAS coding for Social Support was "ss"; SAS coding for HIV-stigma was "stigma." **2018 by Statusboiz/Statusgurlz HIV Research Group.**

Table 9 Association of Predicted Probabilities and Observed Responses				
	Model 1 Rank8	Model 2 Rank4	Model 3 Rank8	Model 4 Rank4
Somers' D	0.33	0.39	0.32	0.37
Tau-a	0.28	0.28	0.27	0.27
Marginal Effect of Depressive Symptoms on DV	**0.11**	**0.05**	**0.11**	**0.05**
Marginal Effects of Social Support on DV	-0.03	-0.02	N/A	N/A
Marginal Effect of HIV-stigma of DV	**-0.13**	**-0.06**	**-0.12**	**-0.06**

Note. N =194. Bold estimates are significant at alpha 0.05. Marginal Effects (magnitudes) gives predicted measures of mean probability on the highest risk category in the model. For example, interpreting the magnitude of depressive symptoms in Model 1, 0.11 implies for each unit of increase in a depressive symptom score, the participant is 11% more likely to be in the highest risk of HIV transmission. For each unit increase in stigma score, the participant is 13% less likely to be at the highest risk of HIV transmission. N/A means variable was not included in this model. For example, social support is not included as an independent variable in Model 3 or 4. Social support, race (not ethnicity), and geographic location (southern United States) are controlled for in Models 1 and 2. SAS coding for Depressive Symptoms was "depression"; SAS coding for Social Support was "ss"; SAS coding for HIV-stigma was "stigma." **2018 by Statusboiz/Statusgurlz HIV Research Group.**

Discussion

The current research provides new insight into the perceived HIV transmission risk among an at-risk population of African American MSM and Trans Women. The researcher goes beyond the cross-sectional description to integrate a modeling approach for greater understanding of the relationship between psychosocial factors and HIV transmission risk. I address a current gap in the health services research discipline by outlining specific relationships within the focus population.

In American pediatric literature, it has been discussed that depressive symptoms are longitudinal predictors of sexual risk behaviors among middle and high school students (Lehrer, Shrier, Gortmaker, & Buka, 2006; Kim, Bassett, Takahashi, & Voisin, 2018; Dalton & Hammen, 2018). Not controlling for age and ethnicity with African American race adds a limitation to the current study. These limitations are not significant because of the exploratory focus of possible associations on only four variables: HIV transmission risk, depressive symptoms, HIV stigma, and social support. Future studies could control a multitude of factors that are included in the original database.

Depressive symptoms and HIV stigma are significantly associated with HIV transmission risk. The current findings coincide with the existing literature discussed. The direction of the association between risk behavior and HIV stigma is unexpected. The insignificance of social support scores to HIV transmission risk behavior is additionally surprising. Historically, social support as measured is expected to influence HIV transmission risk behavior significantly. The current study does not support this assumption. Future studies can take a more focused look at social support and HIV stigma to clarify their roles in HIV transmission.

The study does not go without limitations. A limitation or threat to validity is lack examination of HIV transmission risk among a sample who are HIV positive. Only 11% reported in the sample reported to be HIV positive. The sample was taken during a time when CDC reported one out of every two within the focus population would be diagnosed with HIV in their lifetime (CDC, 2016). A report of only 11% is not surprising to the researcher because the focus population with HIV is three times more likely to go undiagnosed than Caucasian MSM with HIV (amfAR, 2015). Perhaps lack

of knowledge of status and reluctance to report factor into the lower report of HIV in the sample population.

The measure of HIV transmission risk is a combination of standardized or validated factors in the extant database. The combination of the factors to create the dependent variable can be a limitation because HIV transmission risk is difficult to capture as a single, uncombined standardized measure. The current study does not retest reliability given it is a secondary analysis of extant database. This is a typical problem in health services research. The current researcher suggests focusing on how to correct this problem in future studies.

Depressive symptoms and HIV transmission risk are associated, but the nature or cause of the relationship is outside of the parameters of this exploratory study. Future studies can provide further insight into the relationship implied by the results of the current study. Depressive symptoms and HIV stigma has a negative impact on the quality of life. International studies have already positively associated HIV stigma and depression within HIV populations (Tao et al., 2017; Onyebuchi-Iwudibia & Brown, 2013; Mohite & George, 2015). Therefore, health care service providers and researchers have an intervening role in lowering HIV risk. The results of the current study promote the significance of screening for HIV stigma and depression symptoms in the MSM and Trans Women population to lower higher risk of HIV transmission.

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ARTICLE 2:
Listening to the Flock to Promote Dignity: Thematic Analysis of HIV Risk Perceptions

African American men who have sex with men (MSM) and trans women have proportionately higher transmission rates and mortality due to HIV-related illnesses in the United States (CDC, 2017). Even after more than 30 years of research describing the physiology of HIV and lowering of transmission rates, little has been successfully done to relinquish the psychosocial burdens of membership in a sexual risk group with the highest transmission rates and mortality of HIV-related illnesses. A perceived disdain of gay African American culture by health service researchers may enable or even increase HIV transmission risk within the population. The current study is an exploration of the perspectives of a population of African American MSM and trans women as they discuss HIV risk and sexual health in a series of videotaped scenarios they scripted. Through this exploration, themes are discovered and acknowledged for their role in increasing understanding of HIV transmission and psychosocial health. Therefore, themes closely reflect the truths of the population. The open-ended responses provide themes involving risk (risking), stigma (stigmatizing), social support, and depression (depressive symptoms). The relationship between the participant's risking theme and video creator's harm theme can be acknowledged as a perception gap between the provider of education and focus population. As the findings of the current study suggest, traditional perceptions are limited in their acknowledgment of truths or understandings of the African American LGBTQ+ (+ meaning positive HIV status) community even if members of their community carry the messages. The current study proposes a diversity of truths concerning HIV health and risk still unacknowledged throughout the population.

The unacknowledged truths create a communication gap between health care professionals and the focus population.

Listening to the Flock to Promote Dignity: Thematic Analysis of HIV Risk Perceptions

African American men who have sex with men (MSM) and trans women have proportionately higher transmission rates and mortality due to HIV-related illnesses in the United States (CDC, 2017). A subpopulation of African American MSM and trans women admit to feeling stigmatized and targeted as "the flock with HIV" in a study published in 2014 by Rowan, DeSousa, Randall, White, and Holley. In Rowan et al.'s 2014 study, a sample of 10 Black MSM and Trans Women living in Charlotte gives voice to their perceptions of a variety of themes within a larger African American MSM and trans women populations: feelings of being targeted; being labeled as congregating but flighty, as in "a flock" (shallow and lacking intelligence); and being stigmatized as inevitable transmitters of HIV. Colorful, playful but bittersweet undertones in the quotes shared from the study in the 2014 article hint at strong social components to a thriving HIV epidemic within the population of African American MSM and trans women. Even after more than 30 years of research describing the physical technicalities of the HIV and lowering of transmission rates, little has been successfully done to relinquish the psychosocial burdens of being "the flock" or sexual risk group, with the highest transmission rates and mortality of HIV-related illnesses.

Contrary to the prejudgment and stigmatizing health service research categorizations of for "at-risk" groups, perhaps Rowan et al.'s 2014 study taps into a significantly deeper weapon against HIV spread to revolutionize public health standards through very closely listening, without judgments, to voices of the Black MSM/trans women community. While much public health literature uses the term "target population" to identify an area of study, Rowan et al. use the term "focus community"

rather than target population, in order to be less stigmatizing and more collaborative in tone. Here, the same terminology will be utilized. Although well-meaning, generalized public health labeling and stigmatization of the diverse sub-population have the potential to promote the internalization of negative self-worth, cause poor participation in offered health services, and directly silence many significant voices. A perceived disdain of gay African American culture by health service researchers may enable or even increase HIV transmission risk within the population (Avert, 2018; Rossier, 2016; Rowan et al., 2014). Through psychosocial paths not examined with quantitative measures, the current study analyzes the voices to the focus population through closer listening.

A non-judgmental exploration of choices and perceptions requires leaning in closer to evaluate how and why something is done instead of just what is done. The term "Psychosocial" implies understanding of an individual's behavior by exploring their perception. Understanding the psychosocial components behind the higher sustained HIV transmission rates require an exploration of risk perceptions within the population. Discussion of IV opioid crisis, access to antiretroviral treatment, homelessness related to HIV comorbidity, public support and surveillance of HIV, HIV funding, and training rely on understanding perceptions of HIV transmission risk through the eyes of those at greatest risk (Beckham, 2018; Brizay et al., 2015; Coughlin, 2016; CDC, 2018).

Statement of the Problem

Worldwide, MSM and trans women are more likely to contract HIV than the general population, accounting for 57% of reported new HIV infections (AVERT, 2018; CDC, 2018). Public health officials blame biological, behavioral, legal, and socio-cultural factors for elevated risks in minority populations (AVERT, 2018). Biomedical

(biological) factors provide physiological and technological emphasis in areas such as antiretroviral and prophylaxis. Investment in psychosocial (behavioral, legal, and socio-cultural) factors can open dialogue about risk and reasoning within the hardest hit populations.

The poorly understood psychosocial components of HIV transmission create barriers between public health researchers and African American MSM and trans women. The resulting barriers become a knowledge gap evidenced by irrelevant research questions, unsuitable research instruments, and outdated dissemination tools, thereby sustaining the higher rates of transmission within the focus community. Despite advancements in technology, lengthening of life through traditional research, and resulting interventions for populations affected by HIV, the push for empowerment and psychosocial health remain low in minority groups, such as African American MSM and trans women (Brizay, Golob, Globerman, Gogolishvili, Bird, Rios-Ellis, Rourke, & Heidari, 2015). Biomedical certainties within the field of HIV far outweigh sound psychosocial knowledge. As a result, health service researchers and clinicians can meet the biomedical needs of the population at greater extents than psychosocial needs. For example, Pre-exposure prophylaxis (PrEP) can prevent transmission of the HIV between individuals through a pill regimen such as Truvada without substantial knowledge of the psychosocial stressors that initially created the risk (Division of HIV/AIDS Prevention (DHAP), 2018).

The investment of technology by health care systems increases with the success of biomedical advancements. Technology increases the length of life for populations affected by HIV, improves health outcomes, reduce cost, and eases the entry of

assessment information, surveillance, and treatment. Unfortunately, the challenge in health care becomes the preservation of human dignity, human contact, and caring about human differences (Laplante, Laplante, & Voas, 2016). The patient's perception of caring is not captured completely through improved health outcomes and reduced costs. The overshadowing of psychosocial needs of patients become more apparent as technological packages eliminate intangible assets of care in healthcare budgets. The need for a more effective way to capture the psychosocial perspective of populations at the highest risk of HIV transmission is necessary to honor the health care mission of caring about patient suffering, feelings, and emotional well being.

Purpose of the Study

The current study is an exploration of the perspectives of a population of African American MSM and trans women as they discuss HIV risk and sexual health. Through this exploration, themes are discovered and acknowledged for their place in HIV transmission and psychosocial health. Therefore, themes closely reflect the truths of the population. Analysis of psychosocial factors discussed in previous literature as having significance, such as depressive symptoms, social support, and stigma question their placement in the discovered themes. The analysis could help verify the relevance of research based on the psychosocial factors as seen through the perspectives of African American MSM and trans women. Hence, the purpose of the current study is to explore, from their perspective, some of the thematic factors that they recognize as important surrounding HIV transmission risk.

Significance of the Study

The current study aims to lower the barrier between public health researchers and a population of African American MSM and trans women by acknowledging themes from their perception of HIV transmission risk. Throughout the responses, the current analysis acknowledges resonating themes of the focus population. The recognized psychosocial factors or themes provide empowerment through voice and paths for improving the quality of health services provided to the population most at risk of HIV transmission. The exploration identifies themes of psychosocial factors that create barriers to preventing HIV transmission, as the focus population understands them. Also, the study provides clarity regarding the need to focus on culturally defined approaches and promotes stronger collaboration between clinician, researcher, and community.

Theoretical Perspectives

Incongruencies of perspectives is a complex social topic. The current section presents two conceptual theories to explore the positioning of the present issue within current theoretical literature. The field of nursing provides background for Human Caring Framework. Psychology with education research provides a foundation for the theory of variation. The intersection of the theories creates direction to begin investigations of the proposed phenomenon. Interdisciplinary knowledge provides a broader context with the necessary components.

Human Caring Framework. Kuhn's post-positivist perspective suggests that the power of the study lies within its historical/cultural implications as reflected in the data (Glesne, 2015). Jean Watson, Madeleine Leininger, and a group of doctoral students presented research and philosophical reflections 39 years ago, providing a foundation for the International Association for Human Caring (IAHC). As an example of Thomas Samuel Kuhn's paradigm shift, the science of caring became the essence and foundational core of nursing (Turkel, Watson, & Giovannoni, 2018). In 2007, as a leader

in the nursing discipline and respected among health services researchers, Dr. Jean Watson created the Watson Caring Science Institute to promote the advancement of philosophies, theories, and practices of human caring through the bridging of caring science and health practice. The current study understands caring as promoting health, healing, and well being of an individual within the context of family, community, and society as it intermingles and "bridges" with health services and science through the perspective of the individual receiving care (Turkel, Watson, & Giovannoni, 2018). As a participant in care, health researcher/nurse/provider actions rely on the perception of the researched/patient/client. Therefore, health services research is never without bias. For the current study, the health researcher provides interpretation and historical insight to create a perspective in concurrence with perspectives provided by a population of African American MSM and trans women. The bias of the researcher must remain as small as possible as not to taint the perspective of the population provided in the data. The current researcher intends to provide a lens for analyzing the truths of African American MSM and trans women to lower boundaries created by conflicting bias for future health service research. As health service research within a human caring framework, the theory of relational caring complexity insists on maintaining a balance of scientific integrity, social justice, and human rights must in order to advance human science (Ray & Turkel, 2014).

Variation Theory. Swedish psychologist of education research, Professor Ference Marton developed Variation Theory. Initially introduced to Dr. Marton's work on identifying distinctions in surface and deep learning approaches as a graduate student during an applied qualitative research course, the current researcher found links between education research and health services research. Although introduced by a psychologist,

Variation Theory has not been used significantly in health services research. At the time of this writing, only minimal research literature in health care management and administration has used variation as a framework in approaching health care (Stoecklein, 2015). In a 2015, case study by Thedacare Center for Healthcare Value, understanding and managing variation in health care to promote a lean (restricted and frugal) style of management that emulates the Toyota Production System came the closest by questioning the absence of understanding variation (Stoecklein, 2014; Stoecklein, 2015). Within the scarce literature on health care-based variation, variation within managing health care services and populations is recognized as an obstacle to overcome or remedy by health researchers, health care managers, and clinicians (Stoecklein, 2014; Stoecklein, 2015; Wennberg, 2002). Variation in health services has been suggested to be unwarranted and without basis in clinical science, leading to poor health care and health outcomes (Wennberg, 2002). While health management researchers claim a lack of research on variation, epidemiological studies focus on ways to increase the uptake of current research findings by health care professionals (Eccles, Grimshaw, Walker, Johnston, & Pitts, 2005; Schuster, McGlynn, & Brook, 1998; Battista, Hodge, & Vineis, 1994). The epidemiological studies acknowledge a lack of science-based research to implement variation findings, but an increase of health practitioners utilize existing research findings will promote further research in the area (Eccles, Grimshaw, Walker, Johnston, & Pitts, 2005).

In 2012, the Dartmouth Atlas of Health Care emphasized the unwarranted variations in health care utilization, cost, quality, and patient experiences across the United States. The variations were deemed as unwarranted because they were

based/blamed on differences in health system performances (Goodman, 2012). In order to streamline health services to meet broader needs of the overall population, a majority of health service research in the United States focuses on bureaucratic frustration over aspects of variation involving clinicians and researchers (NHS Confederation, 2004). Bureaucratic frustrations with health care variation are mimicked throughout levels of the health care system and funnel into the populations receiving health services. Variation can carry a negative connotation without an understanding of the critical aspects underlying its existence. The vulnerable population also carry a negative connotation in public health because their potential to produce a variation in health outcomes under a health system that prefers to streamline services to benefit the financial interests and quality of the majority. Health services research use quantitative approaches that emphasize the health needs of the majority. Health researchers in areas such as health education and health literacy embrace more qualitative approaches that embrace the minority. Therefore, health services research has the potential to create a barrier for minorities, increasing vulnerability under health services.

Hiding a stigmatized behavioral characteristic, such as sexuality, is seen as necessary to receive the social, psychological, and physical security offered as part of the majority. For the thematic analysis presented here, the assumption made is that sexual and racial minorities, which are those most vulnerable to poor health outcomes, would rather be recognized as part of the majority. Therefore, they mimic the same bureaucratic frustrations believed to be associated with the majority population. Over time, the minority learns attitudes and responses society expects and how to respond accordingly. In some cases, the minority may respond in a total opposite way of what is expected,

thereby rebelling against what they believe the majority expects from them. Therefore, the subpopulation produces a variety of responses.

Subjectivity Statement of Researcher. As a health services research doctoral student and registered nurse, health disparities of marginalized communities garner most of the current researcher's attention. Based in Jean Watson's Human Caring Science model, over 11 years as a registered nurse in an acute care setting has taught the current researcher to intertwine what is familiarized as art and science to promote better health outcomes (Turkel, Watson, & Giovannoni, 2018).

The word "better" is a subjective term on a continuum. At one end of the continuum is poor health or a state of incapability of meeting one's health needs. At the other end of the continuum is wellness or a state of having the capability of fulfilling one's health needs. The current researcher defines health as one's overall system of psychological, physiological, and sociological processes.

There is an interchange between one's system of health and the environment. While the environment consists of other realities or constructions, the interchange must reflect a bridge of science or accepted knowledge. Therefore, the post-positivist ideologies exist throughout the education of the current researcher.

The researcher must maintain a firm footing on the bridge of knowledge throughout the study. The bridge often moves for the researcher to create and maintain a relationship of trust with the subjects. At all times, the researcher must discreetly take account of the bridge. Discretion is called for when the subjects require closer bonds.

In order to maintain a cohesive relationship with the subjects as the goal of the study requires, the researcher may encounter ethical dilemmas. An acknowledgment of

one's theoretical standing and subjectivities is mandatory pre and post study. Therefore, a journal was required to keep track of the research journey.

The variation theory suggests that the researcher will get more of a variety of responses that are more representative of the true experience or essence than either of the extremes. From the variations in themes, the current research can identify the critical aspects in which the pattern of variation hinges. Therefore, the variation theory as a framework for this article will help one to understand the critical aspects and features of experiencing depressive symptoms, social support, and HIV-related stigma within a context of HIV-risk behaviors.

Research Method

In a $1.2 million 2012-2017 longitudinal research study funded through a Minority AIDS Research Initiative (MARI) of the study funded by United States Centers for Disease Control and Prevention (CDC), principal investigator Dr. Diana Rowan (Associate Professor in the School of Social Work at UNC Charlotte) led a large research team of social work and public health masters and doctoral students with a focused interest in health empowerment of African American MSM. This researcher was an integral part of this research team. Therefore, while this thematic analysis is technically done on a secondary data set, the researcher was present for the data collection in the original study, as part of the Rowan research team.

The thematic analysis identifies, analyzes, and reports patterns (themes) within data in rich detail (Braun & Clarke, 2006). The thematic analyses presented here will be done on several qualitative elements of the Rowan study. The data were collected in several ways. Through multiple, focused community events and dialogue with informal

leaders in the local Black MSM community, the Rowan research team cultivated trust with a friend group of about 15 young Black MSM. The current study is a thematic analysis of the data based on patterns the researcher acknowledges from the data. The dataset contains open-ended responses from participants after viewing gay-themed online videos about sexual health. The data analysis occurs after the original study had ended in 2015. By seeking and identifying patterns across the open-ended responses and verbatim scripts of the online videos, the researcher acknowledges how the population makes meaning of their social context and how those meanings impinge on their health/life. The qualitative approach provides an understanding and representation of experiences as the participants encounter, engage, and live the experiences (Bowen, Edwards, Simbayi, & Cattell, 2014). A thematic inductive bottom-up approach is used to link the data to the identified themes without directing the analysis to theory development as with ground theory (Bowen, Edwards, Simbayi, & Cattell, 2014; Charmaz, 2006; Braun & Clarke, 2006).

Definition of Key Terms

Acquired Immune Deficiency Syndrome (AIDS): beginning when an HIV positive person has a CD4 cell (a type of immune cell count) below 200 and recognized as the final stage of HIV (Division of HIV/AIDS Prevention (DHAP), 2018b).

Compassion: empathy and a necessary element of caring for patients and populations (Costello & Barron, 2017).

Caring: the moral ideal of nursing whereby the outcome is protecting, enhancing, and preserving human dignity (Ozan, Okumus, & Lash, 2015).

The Centers for Disease Control and Prevention (CDC): United States agency of public health protection and prevention through timely education of national and local public health, safety, and security threats (U.S. Department of Health and Human Services, 2018).

Community-based Participatory Research (CBPR): public health research partnership including stakeholders such as community members, organizational representatives, and academic researchers (Sun, Sutfin, Bachmann, Stowers, & Rhodes, 2018).

Dignity: psychosocial empowerment without self-depreciation (McAllister et al., 2012)

Human immunodeficiency virus (HIV): reference to the virus or chronic disease that weakens the immune system and transmissible with body fluids (blood, semen, pre-seminal fluid, rectal fluids, vaginal fluids, and breast milk) of an infected person through contact with a mucous membrane, damaged tissue, or intravenously into the bloodstream, making one most vulnerable to opportunistic infections and cancers (Division of HIV/AIDS Prevention (DHAP), 2018b).

In Vivo coding: the term given to NVivo codes that contain the actual wording of the participants instead of labeling of what the researcher interprets as being said (QSR International, 2018).

Men Who Have Sex With Men (MSM) and Trans women : Although MSM and trans women are two distinct groups, the current study defines the participants as MSM to maintain focus on a population of gay, bisexual, and biologically born males that continue to be the most disproportionately affected by HIV in the United States (Sun,

Sutfin, Bachmann, Stowers, & Rhodes, 2018; Poteat, German, & Flynn, 2016). MSM is a term coined by the CDC surveillance systems about gay and bisexual men, the risk group most severely affected by HIV in the United States (CDC, 2017).

NVivo: qualitative and mixed methods analysis software tool used by researchers in academic and professional arenas. The name of the software is a wordplay on "in vivo" or something done in real life. The software is successful at integrating, exploring, and helping the researcher make sense of rich data recording human experience or social phenomena (QSR International, 2018). Utilized in the current study, NVivo 11 helped analyze 211 open-ended responses to three questions about three online videos (totaling 1,899 responses) and three verbatim transcripts of the online videos created by members of the focus population.

Nodes: NVivo term for a collection of references or codes of related material that allows the researcher to look for emerging patterns or ideas (themes) (QSR International, 2018).

Pre-exposure Prophylaxis (PrEP): daily HIV medications are taken to lower chances of contracting and transmitting HIV through sex (by more than 90%) or intravenously (by more than 70%) (CDC, 2018). PrEP is the first biomedical intervention proven through random control trials to reduce transmission of HIV among MSM and trans women (Cohen, et al., 2015).

Qualitative thematic content analysis: thematic analysis technique that includes the process of reading, coding, data display, and reduction (Greene, Pack, Stanton, Shelus, Tolley, Taylor, El Sadr, Branson, Leider, Rakhmanina, & Gamble, 2017; Braun & Clarke, 2006).

Stigma: a physical or psychosocial mark of disgrace, setting a person or group apart in order to stereotype or discriminate (Rossier, 2016). Stigma differs from discrimination. Stigma produces discrimination. Discrimination is unfair treatment due to stigma (Canadian Mental Health Association, 2018).

Theme: a patterned response, idea, key, topic, or meaning (Braun & Clarke, 2006).

Trans women: plural for trans woman; a person assigned male at birth but identifies as female (Trans woman. (n.d.) Sergen's Medical Dictionary, 2012).

Treatment as prevention (TasP): HIV prevention methods and programs that use antiretroviral treatment to decrease the risk of HIV transmission (Avert, 2017).

Watson's Theory of Human Caring on Human Being Healing: considering the human being as merely an object cannot achieve healing (an outcome of caring). The human being must be seen holistically as herself, environment, nature, and the larger universe (Ozan, Okumus, & Lash, 2015).

Delimitations

Historically, HIV researchers conflate populations of transgender women and MSM to reach neat conclusions or summaries (Sun, Sutfin, Bachmann, Stowers, & Rhodes, 2018; Poteat, German, & Flynn, 2016). Although the distinctions between the two populations are significant and carry weight in recruitment and dissemination, the current study includes the population under the traditional label: MSM. The current study does not follow the same definition of MSM found in the literature gathered for the literature review between 1997 and 2015. An important finding of initial Rowan study is the interviewed trans woman did not like to be grouped with MSM due to same anal sex

behaviors as public health currently recommend. Notwithstanding, the proportion of Trans women to MSM in the participants within the study is considered small but present and considered not to be the focus of this exploratory study at the time. The original dataset has data to separate the groups, including males not considered gay but have sex with men. The results from the current study may prompt further investigations into the differences in experiences.

HIV risk correlates with multiple comorbid conditions or illnesses, such as homelessness, substance abuse, viral hepatitis, and virus causing cancers (Beckham, 2018). Therefore, exploratory studies to understand HIV transmission risk can identify or strengthen understanding of risks related to other conditions, illnesses, or viruses. While recognizing the perception of risk as a link to various comorbidities is important and can be a basis for lowering mortality, it remains outside the exploratory basis of the current study. Knowledge of the link between comorbidities further emphasizes the importance of the current study.

Limitations of the Study

As with any study (qualitative or quantitative), the researcher cannot eliminate researcher bias. The results reflect a lens held by the researcher. Unfortunately, the qualitative researcher inherits the greatest skepticism of researcher bias. The current study limits the bias with tracking tools, such as memos and journaling. A qualitative consensus method called nominal group technique (aka, expert panel) is also used to recognize themes from the codes developed. Two experts and research team members verified the themes developed and helped the researcher come to a consensus. A thematic analysis technique from recent public health study by Elizabeth Greene and

colleagues in 2017 create a methodological consistency in the current study (Greene, Pack, Stanton, Shelus, Tolley, Taylor, El Sadr, Branson, Leider, Rakhmanina, & Gamble, 2017). The exploratory aspect of the current study generalizes results in a population higher than the 211 participants. As per the variation theory, an expectation or essence of existing themes is more attainable. The current study does not distinguish urban and rural participants, but the original dataset participation criterion is African American males within the southern United States. Future studies may be able to further dichotomize participants or their responses into further distinguishable socioeconomic and geographical categories. Before 2015, PrEP medications were not popular or well known within African American MSM and trans women populations in the United States. Therefore, the perceptions of HIV risk behavior may be different from within the population than a population with more knowledge of the medication. As an exploratory study, the current study may serve as a baseline for change in perception of HIV risk within the population and improve the cultural competence of health care workers. Improvement of cultural competence and decreasing HIV stigma is a current goal of national public health leaders as part of the National HIV/AIDS Strategy and National Viral Hepatitis Action Plan in 2018 (Beckham, 2018).

Summary

African American MSM and trans women have been disproportionately affected by transmission and mortality rates of HIV and AIDS for over thirty years. In 2017, African American MSM accounted for two-thirds of new HIV infections (CDC, 2017). CDC projects one in two African American MSM will have HIV if current diagnoses rates persist (CDC, 2017). Current estimates describe more than half (estimated 56%) of

African American trans women are living with HIV (National Center for HIV/AIDS, 2018). While medical advances have helped stabilize the rates of transmission and mortality for all sexual groups, African American MSM and trans women remain the highest rates due to suspected unique vulnerability to HIV. Multi-level, intersecting factors such as stigma, discrimination, lack of social support and legal recognition, lack of tailored educational opportunities, mental health susceptibilities and other social determinants of health-based factors contribute to unique vulnerability to HIV or HIV risk (Poteat, Reisner, & Radix, 2014). CDC data suggest young African American MSM (aged 13-24 years) are least likely to know they are infected and receive medical care (CDC, 2017).

Biomedical technology, such as PrEP, has helped stabilize the rates of HIV transmission and mortality, but have not decreased the unique complex factors that increase the risk of HIV in African American MSM and trans women. African American Men and trans women have the slowest uptake of PrEP services due to distrust and lack of knowledge (Wilson, Chen, Pomart, & Arayasirikul, 2016). Multiple factors, such as the highest prevalence of HIV within the population as they age, lack of knowledge of HIV status, social discrimination, cultural issues, and substance abuse, make the HIV risk in the population durable to even the most advanced medical technology (CDC, 2017). The current study is an exploration of the psychosocial aspects of HIV risk in MSM and trans women. By understanding perceptions of HIV risk within African American MSM and trans women population, public health researchers and clinicians can tailor more effective assessment techniques, treatment, and education. Understanding HIV risk from the perception of the individuals at highest risk of HIV may strengthen trust and uptake

of future public health interventions within the population. Community-Based Participatory Research (CBPR) approaches to preventing mortality risk within diverse communities can be strengthened through incorporating results of the current exploratory study into future process planning of topics broader than HIV risk (Coughlin, 2016). The population must define risk.

Literature Review

As we approach the fourth decade since the official acknowledgment of the first cases of HIV on United States soil, health services researchers still attempt to uncover barriers to accessing and utilizing HIV transmission education for vulnerable populations. Despite considerable efforts in public health, gay and bisexual men still account for at least 70% of new HIV infections and 83% among males as of 2016 (Division of HIV/AIDS Prevention (DHAP), 2018c). The opioid crisis, access to antiretroviral treatment once diagnosed with HIV, decreasing stigma, homelessness related to HIV comorbidities, public support and surveillance, funding, and training rely on understanding perceptions of HIV risk (Beckham, 2018; Brizay et al., 2015; Coughlin, 2016; Centers for Disease Control and Prevention, 2018).

Federal and private funding dwindle as death rates lessen for gay Caucasian men (Jeffries, Marks, Lauby, & Murrill, 2013). At the same time, the infection rate and the need for resources to fund health services continue to increase for low and middle-income African American communities (The Economist, 2011). The lack of support for a narrower at-risk population marginalizes the neediest population. The public health and CDC term, men who have sex with men (MSM), replace the term gay or homosexual to focus on sexual behavior instead of an arbitrary label that carries stigma throughout focus

populations. The term eliminates inter-turmoil and may include males who do not consider themselves gay but occasionally have sex with other males.

Within the first eight years and 50,000 diagnosed cases of AIDS into the declared epidemic, epidemiological studies revealed minorities at least three times more likely than Caucasians to be within the diagnosed cases (Curran, Jaffe, Morgan, Selik, & Dondero, 1988). The United States Centers for Disease Control and Prevention (CDC) surveillance report 17,528 cases of the cumulative estimated number of AIDS diagnoses in 2016 accounted for 44% of HIV diagnoses but only 12% of the U.S. population (Division of HIV/AIDS Prevention (DHAP), National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, and Centers for Disease Control and Prevention, 2018). These cases were Black/African American (non-Caucasian). In the United States, the highest prevalence of HIV infection are African American MSM, acquiring almost as many cases as the larger Caucasian MSM population (Jeffries, Marks, Lauby, & Murrill, 2013). Individual-level risk behavior did not explain differences in rates because African American MSM reported engagement in less known HIV risk behavior (e.g., drug use and unprotected anal sex) than other MSM populations (Millett, Flores, Peterson, & Bakeman, 2007). Social factors, such as homophobia and socioeconomic disadvantages, had been found to contribute in older black MSM using the social-ecological theory but such studies left out critical factors of the younger generation of black MSM (Millett, Flores, Peterson, & Bakeman, 2007).

High-risk behaviors within the population correlate with age-discordant and race-discordant relationships (Miller, Forney, & McNall, 2014). A smaller pool of potential HIV negative mates within the population heightens the risk of sexual relations within the

same race. Studies as recent as 2013 reveal an increasing internalized shame, creating a hierarchy within the population (Rowan, DeSousa, Randall, White, & Holley, 2014). Very little if any research has been published on characteristics of those at the bottom of this hierarchy. Therefore, the even more vulnerable subpopulation of MSM remains hidden from health care initiatives.

The enlarging stigma within and around the population may prevent one from receiving effective, culturally tailored health education and health care services. The lowering of HIV/AIDS mortalities within the United States has created a disassembling of arsenal within mainstream populations. Lack of research into the characteristics of subpopulations of black MSM along with steadily increasing mortality rates within the population signifies the lowering of arsenals has been premature. The vast army of HIV-health education from a more than 30-year battle with AIDS in the United States is being put away, deaf to the mortal cries of the yet unexplored shadows of a stigmatized population. The young gay African American male is left to fight his battle alone.

In 2018, the U.S. Preventive Services Task Force (USPSTF) recommended that health care clinicians should screen and offer PrEP to anyone between the ages of 15 and 65 or considered at high risk for HIV. As a daily medication, PrEP has been noted to be successful in preventing HIV transmission in at-risk populations (Division of HIV/AIDS Prevention (DHAP), 2018a). Before finalizing the recommendation as national policy, the USPSTF invites public (including non-clinicians) to comment on the suggestion before finalizing it by December 26, 2018. As part of the U.S. Department of Health and Human Services, the Agency for Healthcare Research and Quality provides ongoing scientific, administrative, and dissemination support to the USPSTF.

Original Safe Space Initiative Study

The current study used a sample from Statusboiz/Statusgurlz Research Study (PI – Dr. Rowan). The existing database collected responses from a population of self-identified African American MSM and trans women from the southern United States through an online Qualtrics survey from 2012 through 2016. The initial study intended to acknowledge perceptions of the focus population and their correlations with risk behavior over time within an online safe place.

Principal Investigator Dr. Rowan of the University of North Carolina at Charlotte completed the original study in 2016 as part of the Online Safe Space Initiative for young African American gay/bisexual men and transgender women. It was funded by a $1.1 million CDC grant for HIV Prevention Intervention and Research as part of the Minority AIDS Research Initiative (MARI) to build HIV research capacity for racial minority communities. The online survey sampled 214 African American MSM and trans women from the Southern United States through a series of web-based behavioral surveys and learning tools. As a longitudinal study, the baseline survey gathered demographic, sexual, and psychosocial health information. Following the completion of the first survey, the treatment interventions consisted of links to an online chat room, message board, and videos (created by and for the focus community) to discuss issues of sexual and psychological health. The treatments followed the surveys presented at one month, four months, and seven months. The treatments were intended to develop for better skills in negotiating condom use, increasing participation in health-seeking behaviors (such as HIV testing), gaining social support through online discussion boards and chat rooms, and exploring culture through online videos and discussion. Several open-ended and

semi-structured questions asked after the short videos consisted of themes surrounding drug abuse, social support, depressive symptoms, HIV-related stigma, and HIV risk behaviors. Data were gathered and analyzed to measure differences in risk behavior scores and behavior over time.

Stigma in Traditional Southern African American Culture

In the southeastern United States, African American gay and bisexual men have the highest prevalence of new HIV infections and HIV health disparities within the MSM population (CDC, 2015). The term MSM has been adopted by the CDC to focus specifically on sexual behavior instead of sexual identity/orientation of the population as early as 1990 (Glick, Muzyka, Salkin, & Lurie, 1994). The focus on behavior was an attempt to identify AIDS as a disease effect of risky sexual behavior instead of a disease effect of gay men, potentially decreasing the gay stigma surrounding the disease. By decreasing the gay stigma connected to the disease, populations outside of gay culture and populations based in anti-gay ideologies are more likely to increase and adhere to HIV testing and prevention methods. Unfortunately, the focus on behavior instead of sexual or social identity attempted by the CDC had little of the intended effect on the gay stigma associated to the disease in traditional southern cultures with an already stressed appreciation for medical and research industries. The percentage of reported HIV transmission within MSM populations of the South is lower than the West and Midwest but reported an association between MSM and HIV/AIDS is higher in the South (Reif, Pence, Hall, Hu, Whetten, & Wilson, 2015). The association potentially increases HIV stigma surrounding the African American MSM population in the South, decreasing the desirability to be tested or associated with the disease.

African American MSM of the southern U.S. bear a disproportionately larger burden of HIV than any publicly recognized population in the United States, while rates of HIV infections decrease for more mainstream populations (Silverberg, Leyden, Quesenberry, & Horberg, 2009). Low uptake of prevention, treatment, and early testing challenges act as barriers for African American MSM populations in the South. As with broader population-based factors (such as HIV laboratory testing methods, HIV prevention education in health organizations, and policy manipulation), individual-level factors do not sufficiently explain differences in behavior (such as condom usage, knowledge of HIV status). African American MSM report engaging in less known HIV risk behaviors (e.g., drug use and unprotected anal intercourse) than other surveyed MSM populations (Millett, Flores, Peterson, & Bakeman, 2007). Despite this claim, rates of HIV in the population remain proportionately higher instead of lower. If these reports are accurate, focus on risk factors alone are not sufficient. Stigmatization of HIV is the suggested missing variable by this researcher. Stigma manifestations related to HIV, such as homophobia and socioeconomic disadvantage, have been found to contribute in southern African American MSM throughout multiple studies on stigma (Millett, Flores, Peterson, & Blakeman, 2007).

Over the past 50 years, stigma research has become an interdisciplinary concept. HIV-related stigma research has gained popularity over the past 15 years. Public health clinicians base their initiatives on the negative causal relationship between HIV stigmatization and group-based uptake of HIV prevention, treatment, and testing. Research published in 2014 on the social climate surrounding HIV education proposes the negative relation between HIV stigma in African American congregants and

willingness to engage in HIV prevention, testing, and treatment (Bogart, Derose, Kanouse, Griffin, Haas, & Williams, 2014). Multiple studies suggest lack of transportation and financial barriers are other barriers of engagement to care and prevention (Bogart, Derose, Kanouse, Griffin, Haas, & Williams, 2014; Millett, Flores, Peterson, & Blakeman, 2007; Pryor, Gaddist, & Johnson-Arnold, 2015). This paper focuses on the role of HIV stigmatization.

Health disparities in southern MSM African American populations revealed by CDC surveillance data since 2002 have become the basis for HIV stigma research in nine targeted southern states. African American churches produce significant revenues of community health engagement within The South. Research study surveys yield 87% of African Americans acknowledge affiliation with a religious group (Pryor, Gaddist, & Johnson-Arnold, 2015). Unfortunately, many African American southern churches have been the medium for HIV stigmatization process. Homosexuality and bisexuality are subject to open condemnation in many black churches, leading to the manifestation of HIV stigma surrounding a very vulnerable population. African American MSM remains socially excluded from health initiatives in expectation of keeping their sexuality closeted in the church (Pryor, Gaddist, & Johnson-Arnold, 2015). This particular exclusion has the potential to serve as the lack of a significant link to HIV health services.

Theoretical Construct

The researcher approaches the current study with Jean Watson's Theory of Human Caring in mind. Two human caring concepts are central to the combined theoretical approaches (Theory of Human Caring and Variation Theory) taken in the current study: caring and human. Human caring focuses on patient-centered,

collaborative care, and identifies the human as more than a passive object (Ozan, Okumus, & Lash, 2015). Caring is a concept involving authentic concern for the focus population by preserving, protecting, and enhancing human dignity (Pajnkihar, Stiglic, & Vrbnjak, 2017). Human is a holistic concept of an individual's self with environment, nature, and surroundings that cumulatively make the individual unique (Ozan, Okumus, & Lash, 2015).

Theory of Human Caring. According to Watson's Theory of Human Caring, the goal of caring is to allow or attempt a pathway in which the patient/client/cared can reach the maximal potential of health or actualization over a specified period (Herrmann, Wilbur, & Williams, 2015). This goal occurs through encounters of the health service provider or researcher, in which provide opportunities of compassion, dignity, and ease of patient's/family's suffering (Hyde, Innes, Mccord, & Nicoud, 2016). Allowing one to feel compassion requires the caregiver to have a sense of self-actualization because one must understand self-limitations or evaluate one's perspective.

Understanding the focus population as a human requires compassion and dignity. Due to daily patient loads, stigma, and various comorbidities that seem to come along with providing care and research-based initiatives to populations hardest hit with HIV, the provider and researcher potentially burn out (Herrmann, Wilbur, & Williams, 2015). Burnout can place limits on the amount of compassion and dignity the health provider provides to the population. Without a sense of self-actualization, the health provider has less of an opportunity to provide successful care to the most at-risk population.

Extensive teaching and research health care systems, such as Wake Forest Baptist Health, have based their Model of Caring, practice, and research on Jean Watson's

Theory of Human Caring. Based in North Carolina, Wake Forest Baptist Health is a nationally prominent academic medical center and integrated health care network of hospitals, clinics, physician practices, diagnostic centers, primary care facilities, and specialty care facilities serving at least 24 surrounding counties (Wake Forest Baptist Health, 2019). Theory of Human Caring acts a guide for practitioners and health researchers in health care delivery throughout the health care system by concentrating on developing genuine caring relationships between clinicians, researchers, patients, families, and self (Wake Forest Baptist Health, 2018). The quality of care is a reflection of how well one creates an environment fostering a culture of learning, mutual support, and respect for each other's unique contribution.

Successful caring for a human being requires authenticity and respect from the caregiver as per Watson's definition of the human being. Health researchers or clinicians, relying on stereotypes fall short of successfully providing quality care. Stereotypes ignore the fully integrated self and respect required to view an individual as greater than or different from the sum of his or her parts. Figure 3 represents Jean Watson's Hierarchy of Needs for Healthy Human Beings. Lower (most basic) of fundamental needs carry greater necessity than the higher needs that come into focus only once lower needs resolve. Similar to Maslow's self-actualization, the individual reaches full potential as a human being meet psychosocial needs. Current advances in medical treatment for HIV fall short of meeting the psychosocial needs in populations at the highest risk of HIV. PrEP meets the biophysical (lowest) and psychophysical (middle) but not psychosocial (lowest) of the needs. The relationship between health care provider/researcher and the population can only promote or achieve the healthiest state of

the population by nourishing the psychosocial needs of the population. Understanding the perceptions of the population provides the knowledge to meet psychosocial needs.

Jean Watson's Hierarchy of Needs for Healthy Human Beings		
Order Level	**Example of Needs**	**Types of Health Services Research Meeting Needs**
Psychosocial (Highest Order) Needs	Achievement, affiliation, and self-actualization	Met through treatments of the CDC-funded Rowan study (involvement of Collaborative Council, Scriptwriting Team, and acting in the sexual health PSAs) but is not met by traditional public health interventions
Psychophysical (Middle Order) Needs	Activity, inactivity, and sexuality	Met by TasP/PrEP
Biophysical (Lowest Order) Needs	Need for food, water, elimination, and ventilation	Met by PrEP and other medical treatments once identified

Figure 3: Current medical treatment for HIV meets every order of Jean Watson's Hierarchy of Needs for Healthy Human Beings except for the highest order (psychosocial needs).
Petiprin, A. (2016). *Jean Watson Nursing Theory*. Retrieved from http://www.nursing-theory.org/theories-and-models/watson-philosophy-and-science-of-caring.php.

Due to the success of PrEP and a slight overall increase in early detection of HIV status, treatment as prevention (TasP) has been adopted in current HIV medical care (Avert, 2017). Although TasP can potentially be successful in decreasing HIV transmission, it is has been slow in uptake for populations with the highest risk of HIV transmission (Wilson, Chen, Pomart, & Arayasirikul, 2016). Mistrust, lack of education, and stigma are likely reasons for hesitation. The current study questions if the lack of

understanding of what and how MSM and trans women perceive the risk of HIV transmission can add to the list of possible reasons for hesitation. In order to undertake an exploratory study based on the study question, one must adapt Watson's definition of caring as authentic concern and human through a unique, holistic perspective.

Variation Theory. A population at high risk for HIV transmissions, such as MSM and trans women, are historically elusive and may provide rich or unique responses. The variation theory recognizes the value in variation. Conceptual variation may occur with non-essential elements in responses, but the essential elements or essences remain highlighted. Understanding the themes recognizes essences. Variation is an example of how essential features are apparent as non-essential features vary (Figure 4).

Another essential aspect of rich responses critical to the current study and theory is how different people can understand the same phenomenon differently. There are a given number of features to a phenomenon, which we can pay attention to at any given period. Our experience is determined by which specific features we direct our attention. Three different people may direct their attention to three different features of the same phenomenon (e.g., HIV transmission risk) and come to understand the phenomenon differently. Examples of variation display in Figure 4. Figure 4 is an example of discovering a theme within multiple responses.

Variation Theory Examples		
Calculate 2 + 8 = ?	Variation 1: 2 + ? = 10 Variation 2: ? + 8 = 10 Variation 3: ? + ? = 10 Variation 4: 10 = 2 + ?	Teaching addition with variation
Multiple Responses referring to Risk	Variation 1: Response 1 Variation 2: Response 2 Variation 3: Response 3	Theme (essential) of responses
What are the characteristics of someone with high HIV transmission risk?	Response 1: High depressive symptoms + Low social support + High stigma Response 2: Low social support + High stigma Response 3: Sex without condoms + Depressive symptoms + Low stigma	The theme contains one characteristic and stigma
Figure 4. Variation Theory Examples. Developed by Maricus Gibbs (2018).		

Summary

During the time of the initial study funded by CDC and creation of the database, African American MSM and trans women are a very elusive population. The theoretical approach required to analyze the resulting database should take into account the richness and possibly non-intuitive perceptions of the population may seem. Even though technology within health care systems increase the overall length of life, caring and how the health system interacts with even the most elusive populations should remain an even higher consideration in health care missions (Laplante, Laplante, & Voas, 2016). Jean Watson's Theory of Human Caring fosters respect and incorporation of the unique perspectives necessary to determine culturally adequate health practices. Variation Theory prevents the loss of significant data that would otherwise be lost because it

reflects the truths of minorities. Variation Theory is also a theory of learning from alternatives or variations. The discussed theories provide a framework of respecting differences in understanding/comprehending and providing human dignity through research. The two-theory approach helps preserve human dignity, promote closer relationships between researchers, clinicians, and minority populations, and elicit perspectives from the focus population usually unheard.

Research Methodology

Research Question

As the hardest hit behavioral groups, African American MSM and trans women are the focus population for the current exploratory study. What are thematically different ways the focus population perceives or discuss HIV transmission behaviors? What psychosocial factors are involved in their perceptions of risk for HIV transmission? Are depressive symptoms, social support, and HIV-stigma among the resulting themes?

Setting and Data Source

President Obama updated the National HIV/AIDS Strategy for the United States in December 2016 to propose a place where new HIV infections are rare but treated with uninhibited access to high-quality care free from stigma and discrimination by 2020 (The White House Washington, 2016). Incidence rates over the past ten years suggest the goal set by President Obama is attainable only when not referring to one of the hardest hit minority sub-populations, such MSM. The national strategy during the end of the original study promotes the utilization of psychosocial and biomedical constructs to combat new HIV infections. With the entry of the new administration, cutbacks to the public health budget limits focus areas shown to be the most efficient for general

populations. Therefore, contrary to Obama's 2016 goal, HIV health services research moves away from psychosocial-based research in favor of entirely biomedical-based research.

CDC reports 1 in 2 (or half) African American MSM are being diagnosed with HIV during their lifetime in the first-ever comprehensive national lifetime estimate risks of HIV diagnosis (National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, 2016). Figure 5 displays new HIV diagnoses in the United States by race and sexual identity in 2015, the last year of the original study. African American MSM had the highest diagnoses of new cases (10,315), even though they are a smaller population than Caucasian MSM (7,570) and total new HIV diagnoses had dropped by 19% since 2005 for the total population (CDC, 2016). Figure 6 reveals ages 13-34, accounting for the majority of new diagnoses in 2015 in African American MSM (CDC, 2016). Therefore, younger minority generations have the highest potential to benefit or suffer from the current move away from psychosocial-based research funding.

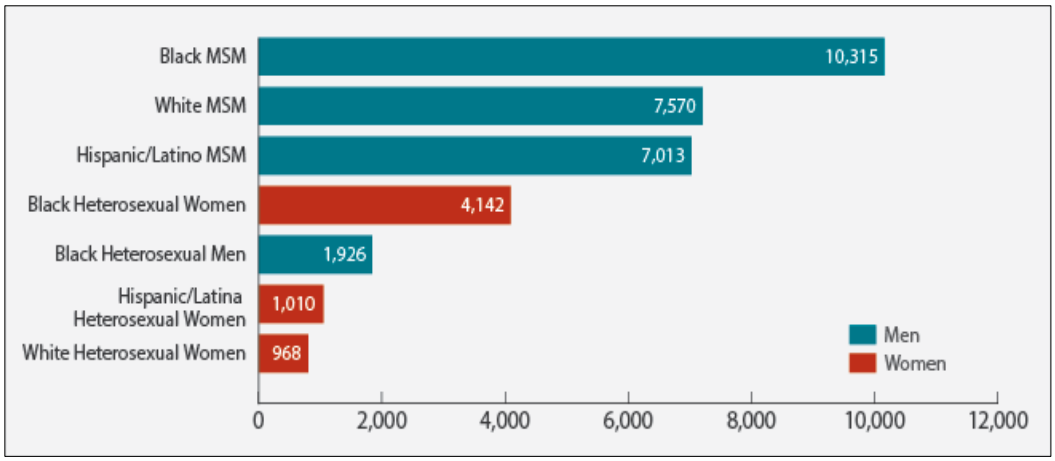

Figure 5. New HIV Diagnoses in the United States for the Most-affected Subpopulations, 2015 (CDC, 2016)

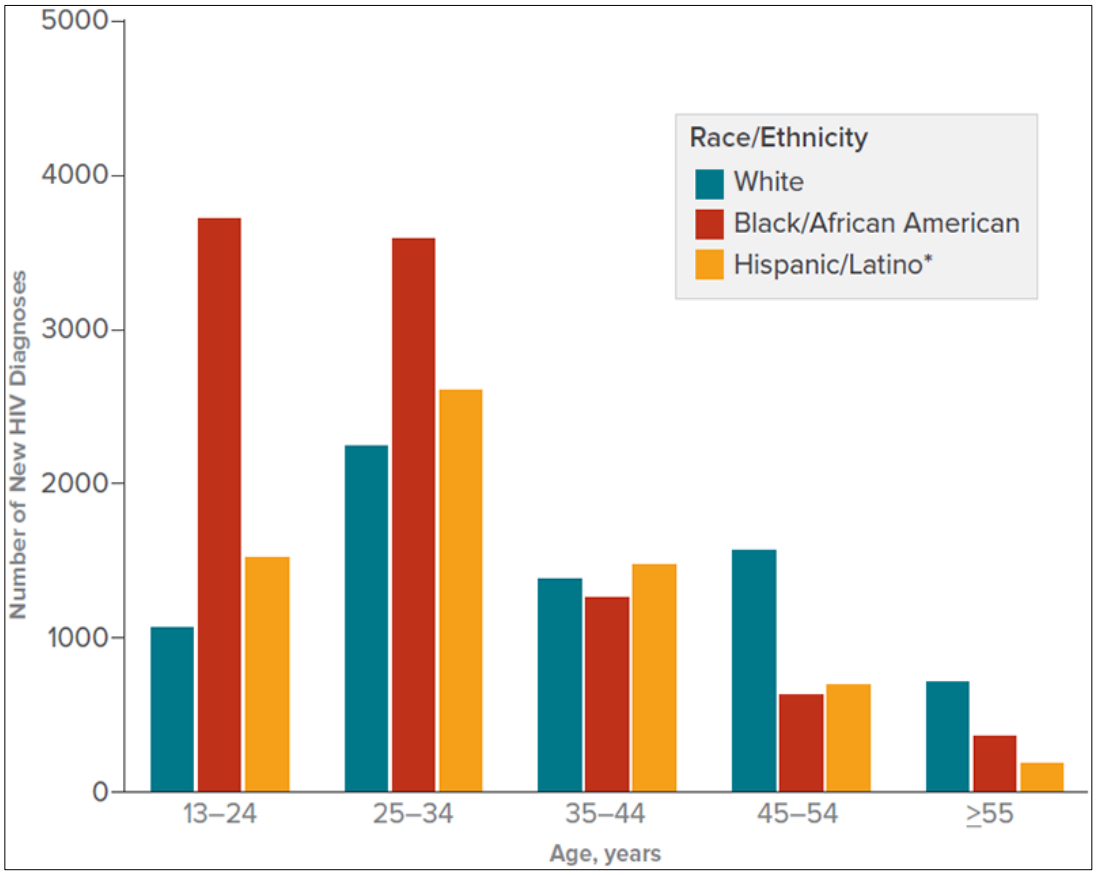

Figure 6. HIV Diagnoses Among Men Who Have Sex with Men, by Race/Ethnicity and Age at Diagnosis, 2015-United States.

Hispanics/Latinos can be of any race.

Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2015. HIV Surveillance Report 2016; 27.

The current research involves secondary use of identifiable private information. The PI was a member of the original study team and covered by the original study IRB at the University of North Carolina at Charlotte (Protocol number 12-01-18 ROWAN). The study team removed participant identifiers. The original study collected data as confidential. The current study is a secondary analysis of the data with no identifiers linked to the participants. Reviewers of the study can in no way trace gave responses

back to the original participants. Researchers obtained consent during the original study (Protocol number 12-01-18 ROWAN). The current researcher will not solicit new responses from the participants. The PI of the current study will not have contact with the participants or personal identifiers of participants but will assume the same ethical and confidential promises of the original study.

Population and Sampling

The data source for the current study is the CDC-funded online safe space project for African American MSM and trans women. The extant data include responses from a total of 211 MSM and trans women who have completed surveys and videos augmented with open-ended questions on depression symptoms, social support, stigma, and risk behaviors. The subset of 211 MSM and trans women are conveniently selected to respond to questions regarding their experience of HIV risk behaviors to create the original data set that undergoes secondary analysis in the proposed analysis.

As part of the community-based participatory action design, the original study formed a focus group of 10 members from the population to create a three-part online video series focusing on their experiences of behaviors that promote transmission of HIV. The videos are positioned at the end of the first survey session and accompanied with four questions about characters and themes of the videos.

In the original safe space study, convenience and purposive sampling are applied to participate in an online survey with links to short videos and discussion board. MSM are recruited conveniently but selected for participation purposively if they meet the criteria. The study advertises online via discussion boards, local bars, and clubs frequented by members of LGBTQ communities. Public health events, such as

conventions and symposiums, are also locations for advertising. Well-known community members in the LGBTQ population are seeds to advertise by word of mouth. Inclusion criteria are identifying as an African American MSM or Trans-woman, being at least 18 years of age at the time of completing the survey, born with male genitalia, and residing within the southern United States for at least three months at the time of participating in the project.

Two hundred and eleven participants completed the demographics, and 194 participants completed the 12 questions of interest to the current study. Each of the three videos has four open-ended questions. Participants had recently lived in the Southern United States (North Carolina, South Carolina, Florida, Arkansas, Louisiana, Alabama, Mississippi, Tennessee, Georgia, Virginia, West Virginia, and Oklahoma. Several ethnicities are within the African American race. Recognizing African American as the overall race, the ethnic compositions of the participants were described as African American (n=154, 75.86%), Black Hispanic/Latino (n=20, 9.85%), Afro-Caribbean/Latino (n=7, 3.45%), Mixed Race (n=20, 9.85%) and Other (n=2, 1%). The minimum requirement for the birth year was 1994 (18 years of age in 2012). The majority of the participants were born in 1981 (n=23, 10.95%). The furthest birth year was 1970 (n=6, 2.86%).

Ethical Considerations and Human Subjects

The analysis is on a de-identified secondary data set. There are no known risks of psychosocial harm, economic harm, risk of pain, or physical injury. The University of North Carolina at Charlotte approves the original study and current secondary study IRB. The PI for the current study is part of the research team approved in the original study.

The three online videos augmented with open-ended questions are written, directed, and acted by ten members within the Charlotte population of MSM and trans women. By attending writing and editing meetings for the videos, the author and PI of the current study can reflect on memos and notes created during the thought-process of the videos. Memos and notes of reflection help to remain closer to the perceptions of the population at the time of the creation and study.

Qualtrics survey software stores all participant survey data, except the data copied into a password-protected Excel file, analyzed through NVivo 11 qualitative software and SAS quantitative software. Access to data is limited to only the principal investigator and two other reviewers to review and validate the analysis. Computers, where data are input, are password-protected with additional password protection on all data files. NVivo 11 software analyzes open-ended video responses under the same restrictions as the other password-protected data.

Research Design

While there have been many quantitative studies of HIV transmission risk in the population, the author wanted to gain the kind of in-depth knowledge of this issue that comes from the perspective of the population. An exploratory qualitative approach is necessary because the richness and unique perceptions of an elusive population require delicateness the rigidity of quantitative designs lack. The researchers gathered survey responses between 2011 and the end of 2016. During the period, the perspectives of sexual risk and stigma of the population highly stigmatized for spreading HIV are more than likely very different from a more recent period in which PrEP and Ryan White steadied and even slightly decreased the transmission rates. Therefore, perceptions pre-

2011 and pre-2016 (but post-2011) may be not only quite different but also be incomprehensible in comparison to the perceptions of the present-day population and health service researchers. Self-reflection and an evolving understanding of meaning through observation are necessary for collecting, exploring, and interpreting such data. An evolving qualitative lens far removes from the rigidity of quantitative numerical confirmation.

For example, when asked how an online video displaying the rape and ongoing abuse of a female character by a closeted MSM, participants before the Me-Too Movement of 2017 might respond differently than present-day responders. The data set of the current study gathers truths before the Me-Too Movement of 2017. The majority of the responses, such as "sneaky feeling but I love it," "don't like sneaky people," "cautious," and "…alcohol can impair everyone's judgment" refer to feelings of shared apprehension and impaired judgment. Responses such as "sexy" are few but not less relevant to the analysis.

A thematic analysis of an extant dataset created by Statusboiz/Statusgurlz research team is used in the current study to identify and explore perceptions of African American MSM and trans women in the southern United States. The current study specifically examines online gay-themed videos and the responses to the videos by the population. As part of the original community-based participatory research effort, the online videos are created by and for the population of African American MSM and trans women. The involvement of the population in creating the videos and thematic analysis process aims to ensure the relevance/emphasis of current research focus on psychosocial factors, in particular, stigma, depressive symptoms, and social support. The study process

gathers rich information through initial and process coding to form participant perceived themes about their place in HIV transmission risk.

Data Analysis Strategy

Focusing on MSM and trans women characters with experiences of behaviors that promote transmission of HIV, the online videos are positioned at the end of the first survey session and accompanied with four questions about characters and themes of the videos. Thematic analysis via NVivo 11 is used to examine responses to the four open-ended questions posed after watching each of the online videos. The four questions posed at the end of each video are: "how did this video make you feel?", "did you relate to any of the characters? If so, how?", "what actions would you change in any of the characters? What would you have done differently?", also, "what personal actions would you change in your life after watching this video?"

The investigator transcribes each video verbatim. The secondary data set consists of survey responses from open-ended questions, verbatim video transcripts, memos, and notes written during video creation. The memos consist of notes created during the coding process. NVivo 11 promotes retracing of steps, memo writing, and comparing of codes.

Following a thematic analysis method by Braun and Clarke, the three verbatim transcripts and 2328 qualitative responses are analyzed through initial and axial coding to recognize themes. Virginia Braun and Victoria Clarke (2006) provide clear guidelines for thematic analysis of psychosocial and qualitative work. The summary table compares recognized themes, original transcript data, and responses.

Published works on gender and sexuality recognize Braun and Clarke (Braun & Clarke, 2006). The authors create a step-by-step guide for thematic analysis (See Appendix C: Figure 7) and a 15-point checklist of criteria for proper thematic analysis (See Appendix E: Figure 8). The current study follows the six phases of a thematic analysis of Figure 7 and provides a summary report with examples from responses (See Appendix C: Figure 7). Familiarizing oneself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report are the six stages defined in Figure 5 (See Appendix C: Figure 7).

Thematic analysis captures patterns across qualitative datasets. Criteria for proper thematic analysis was set initially by Braun and Clarke to provide practical guidance (Braun, Clarke, Hayfield, & Terry, 2019). The current study follows the checklist to provide high quality analysis. Figure 8 provides criteria for proper thematic analysis that reinforces rigor clearly and explicitly (Braun & Clarke, 2006) (See Appendix E: Figure 8).

Summary

African American MSM and trans women of the southern United States provide truths on experiences of HIV transmission risk within their population within an extant database provided by Dr. Rowan and Statusboiz/Statusgurlz Research Team. Thematic analysis is a qualitative approach used to identify, analyze, and report patterns for understanding and/or representing experiences of people as they encounter, engage, and live their truths (Braun & Clarke, 2006; Denzin & Lincoln, 2005; Elliott et al., 1999; Ritchie et al., 2003; Bowen, Edwards, Simbayi, & Cattell, 2014). The current study uses NVivo 11 for thematic analysis of 194 respondents (2328 responses) and three verbatim transcripts. Although flexible in process implementation, thematic analysis in the current study follows the guidelines provided by Braun and Clarke (2006), psychosocial researchers frequently quoted for their critiques on the qualitative analysis (Bowen, Edwards, Simbayi, & Cattell, 2014; Braun and Clarke, 2006). Following thematic analysis guidelines, the data goes through 6 phases: familiarizing with the data, initial coding, searching for themes, reviewing themes, finding and naming themes, and producing a report. Like grounded theory, this is a bottom-up approach. In the current study, unlike grounded theory, it is not moving toward theory development. The current study is non-traditional because a priori codes add to the initial codes based on a literature review. The a priori codes are depressive symptoms, social support, and stigma. Despite the intentional search for the a priori codes in the data, the identified themes strongly link the data due to the overall inductive thematic analysis applied

(Charmez, 2006; Braun & Clarke, 2006; Patton, 1990). The thematic analysis provides exploration and discussions that (eventually) lead to clinical responses.

Figure 9 and Figure 8 are representations of the thematic analysis coding process discussed and used in the study. Figure 9 is a template of thematic analysis coding on extant data. The data consists of 2328 responses, notes, memos, and three verbatim transcripts. Emergent and a priori codes appear through a process of initial or free coding over multiple reads and familiarization of data. A priori codes result from searching the extant data for examples of depressive symptoms, HIV transmission risk, stigma, and social support. The term 'emergent' refers to the coding and not the data. As mentioned in the thematic analysis criteria list by Braun & Clarke (2006), themes do not just emerge (as if coming into existence) because the themes are expected to already exist within the data. The researcher's interpretation notices themes. The term 'emergent' or 'in vivo' is used in the current study as a label resulting from an initial (free) coding about the coming out or arising properties of the labels (or codes) to the senses of the researcher.

In contrast, a priori codes are codes the researcher expects are there and need data attached as an example. If the researcher does not recognize examples of the a priori codes, the final report does not include the a priori codes. The findings discuss the result of a priori codes search.

Thematic Analysis Process of Extant Data

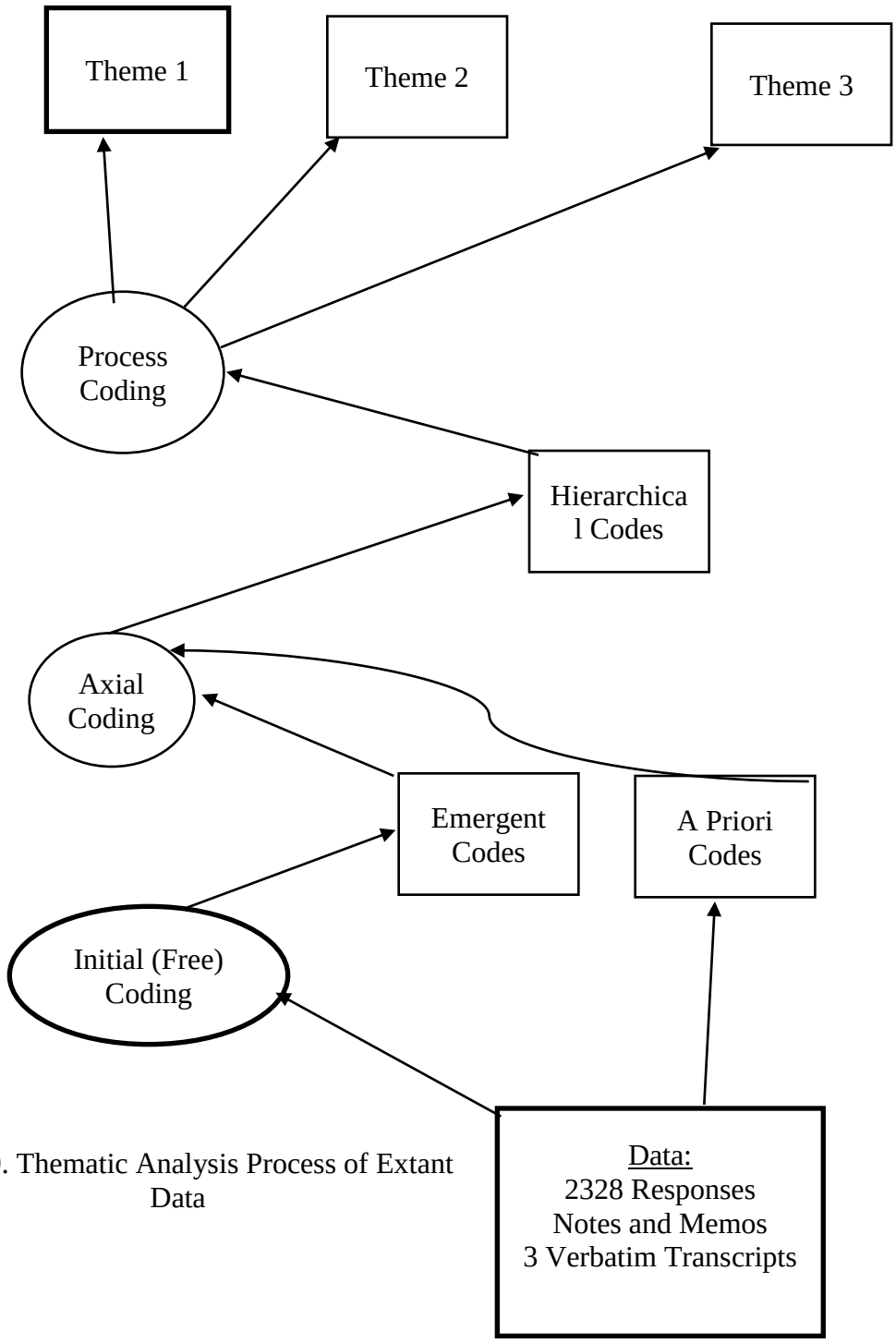

Figure 9. Thematic Analysis Process of Extant Data

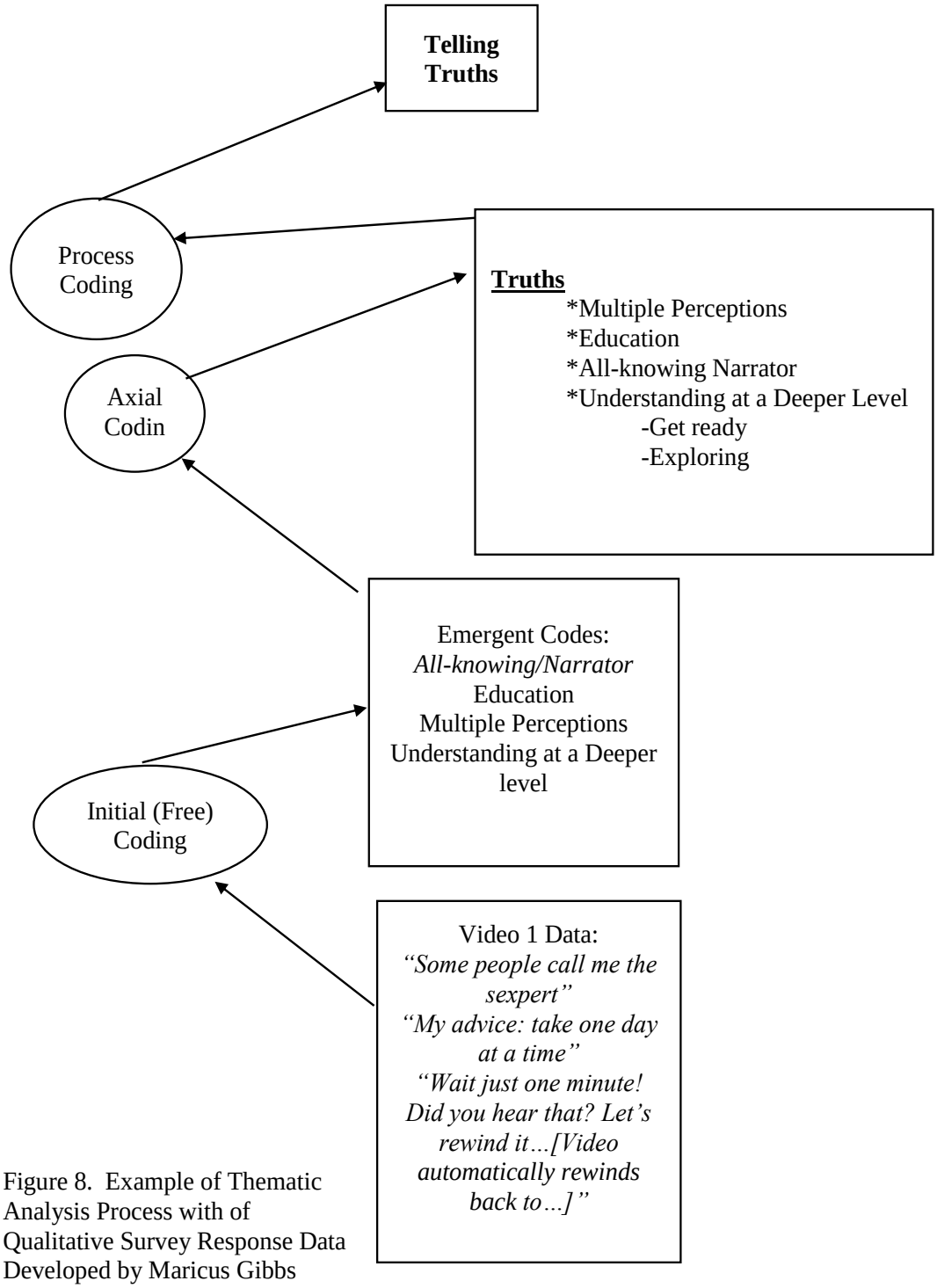

Figure 8. Example of Thematic Analysis Process with of Qualitative Survey Response Data Developed by Maricus Gibbs (2019)

Axial coding is the process of gathering the emergent and a priori codes within a hierarchical structure, resulting in hierarchical codes. Figure 8 displays an example of the collection of emergent codes into a hierarchy. Notice ‘understanding at a deeper level' is on the same level as ‘multiple perceptions,' ‘multiple perceptions,' education, and ‘all-knowing narrator,' but is lower than Truths and higher (subdivided by) ‘get ready' and exploring.

The highest levels of the hierarchical structures are submitted to process coding. Process coding is a qualitative and quantitative process of capturing active or the process meaning of words. Process coding allows themes to become more apparent or easily interpreted by the researcher. For example, the code or sub-theme Truth becomes the theme ‘Telling Truths' in Figure 8 example. The transforming of passive into active phrases promotes the recognition of themes. Process coding mostly uses gerunds (‘-ing' words) to capture action or processes in data. In the current study, themes represent the experiences or thought processes reflected in the responses.

Findings

Inductive and Deductive Coding

Although thematic analysis starts and ends as an inductive process, the current study creates a codebook with a deductive strategy. As an overall inductive process, the current thematic analysis interprets raw or rich qualitative responses (from the extant data set) into something useful or practical for health service researchers and clinicians. As Figure 8 displays, responses such as ‘some people call me the sexpert' promote or develop the process code ‘Telling Truths.' A codebook has to be created with a list of ‘in vivo' and ‘a priori' codes with definitions and examples to supplement the process.

Developing the codebook is a deductive process. The codebook is used to define codes for further inquiry as to how the researcher interprets the data. Figure 10is an example of the codebook for the current study. As an in vivo or emergent code, ‘All-knowing Narrator' is described as ‘an overseer that knows all or is expected to know what is or going to occur; can see through stage walls; speaks directly to the audience and sometimes appears as an above-average knowledgeable character' (Figure 10). Examples from the raw data (online video dialogue) are "some people call me the sexpert," "my advice: take one day at a time," and "Wait just one minute! Did you hear that? Let's rewind it…[video automatically rewinds to…]". All-knowing Narrator code has four sources (data from three online videos and one of the transcripts). The total references cited for the code are 29.

Video One Codebook			
Code Names	Description	Source	References
All-knowing Narrator	Emergent code for an overseer that knows all or is expected to know what is or going to occur; can see through stage walls; speaks directly to the audience and sometimes appears as an above-average knowledgeable character; "Some people call me the sexpert" or "My advice: take one day at a time" or "Wait just one minute! Did you hear that? Let's rewind it…[Video automatically rewinds back to…]"	4	29
Being black and gay takes greater effort	Emergent code; "Narrator: After having sex with a man and thinking he needs to regain his masculinity, Tyquan decides to rape his girlfriend, not considering the emotional, physical, mental, and other health risks" or "Camera shows a pamphlet titled 'Man to Man Transmission. Young and Gay. Protect Yourself from HIV', three boxes of gloves, and a box of tissues" or "Sometimes people find it hard to be black and gay sort of like Jamie and oftentimes people don't identify."	4	16
Consumption of Food or Drinks is Freeing	Emergent code for thinking food or drinks decreases inhibition and lightens what could be awkward or monotonous situations; "Jami sitting at his computer with vitamin water beside his laptop [secretly looking at gay porn]: or "The way you staking them dogs up there like that, I think you got the right thing on your mind" or "We're all aware that alcohol can impair your judgment and decrease the chances of you making the right decision. So just sit back and watch. What do you think is about to happen?..."	3	13
Figure 9. Codebook Examples from Online Video One. Developed by Maricus Gibbs (2018).			

Data Analysis Strategy and Coding

The data analysis process follows excerpts from the existing data through three categories of coding (initial coding, axial coding, and process coding) to recognize the theme. The creation of the online videos required two types of initial coding labels: pre-set (‘a priori’) codes and emergent codes. The pre-set codes are necessary for the initial coding of the video creation. Even though the creators of the videos are local members of the African American MSM and trans women community, they are required to have pre-set truths or educational themes they intend to communicate within the video scripts. As a member of the team, creating the videos, the author of the current study attends kept notes of intentions behind scenes that become memos useful in analyzing the videos. The memos coincide with pre-set codes acknowledged in literature review discussing higher rates of HIV in African American MSM and trans women. Therefore, unlike the separation of researcher and participants necessary to analyze open-ended responses discussed in Figure 11 (See Appendix B), Figure 12 (See Appendix F) displays the freedom taken by the researcher to assume or bring expectations in the form of pre-set codes into the analysis. The historical literature and memos based on meetings with the original research team members and online video creators support the assumption of the researcher. Based on the literature review, the researcher expects to find themes of social support, depressive symptoms, stigma, and risk in the transcripts.

Several close readings of the verbatim transcripts and viewings of the videos find support for the four pre-set codes and over 30 emergent codes. Safety, Shade, Lies, Stratification of power, Sexuality matters, and Invasion of privacy are a few of the

emergent codes. Figure 12 displays the initial coding labels grouped as pre-set and emergent codes (See Appendix F).

Axial coding is the next step of the analysis process. Axial codes consist of parent codes (top of the hierarchy) and child codes (highly expressed or variant codes). The initial codes are ranked based on similarity in meaning, variation to a meaning/ideal/notion, or how highly expressed. Truths and depressive symptoms are examples of axial parent codes because each is at the top of a hierarchy. Education, all-knowing narrator, multiple perceptions, and understanding at a deeper level are child codes on sublevels of the parent code Truths. Depressive symptoms have denial, frustration, lies, and monotonous as child codes. Get ready and exploring are even deeper sublevels of understanding at a more in-depth level. Therefore, understanding at a deeper level acts as a parent code to its sublevels. Figure 12 displays the multiple hierarchies acknowledged through axial coding (See Appendix F).

Parent codes are shared characteristics of child codes that help create process codes. Process coding is the next step of the analysis. Truths become telling truths. Depressive symptoms become suggesting depressive symptoms. Process codes reveal action behind themes.

Acknowledging the theme revealed in the process codes is the last step of analysis and theme recognition. Themes are a combination of process codes (such as telling truths and suggesting depressive symptoms become Truths theme) or an expression of a process coding (such as emphasizing sexuality becomes Sexuality Matters theme). Truths, sexuality matters, self-expression, harm, and passive positioning of others, and depressive symptoms are themes recognized throughout the online videos and their creation.

Unlike during the video creation analysis, the analyst does not have the freedom to search for pre-set codes within the open-ended responses. Taking such freedoms has the potential to violate the authenticity of the participant's truths revealed within their responses. Figure 11 displays initial coding provides emergent codes and In vivo codes (See Appendix B). In vivo codes are direct quotes provided from participants. A similar process analyzes 2,328 open-ended responses through as the three verbatim transcripts analysis (See Appendix B). Initial coding aides in axial coding. Figure 12 displays the multiple hierarchical relationships recognized during axial coding. Anticipating, amusing, and realizing are free codes. They are not a part of a hierarchy. Controlling your situation, anticipating, realizing, trust, and ending of life are a few of the themes acknowledged in Figure 11 (See Appendix B). An analysis of the 2328 open-ended responses reveals 22 themes. Examples instead of definitions are given in order to limit misinterpreting the participant's intended meaning.

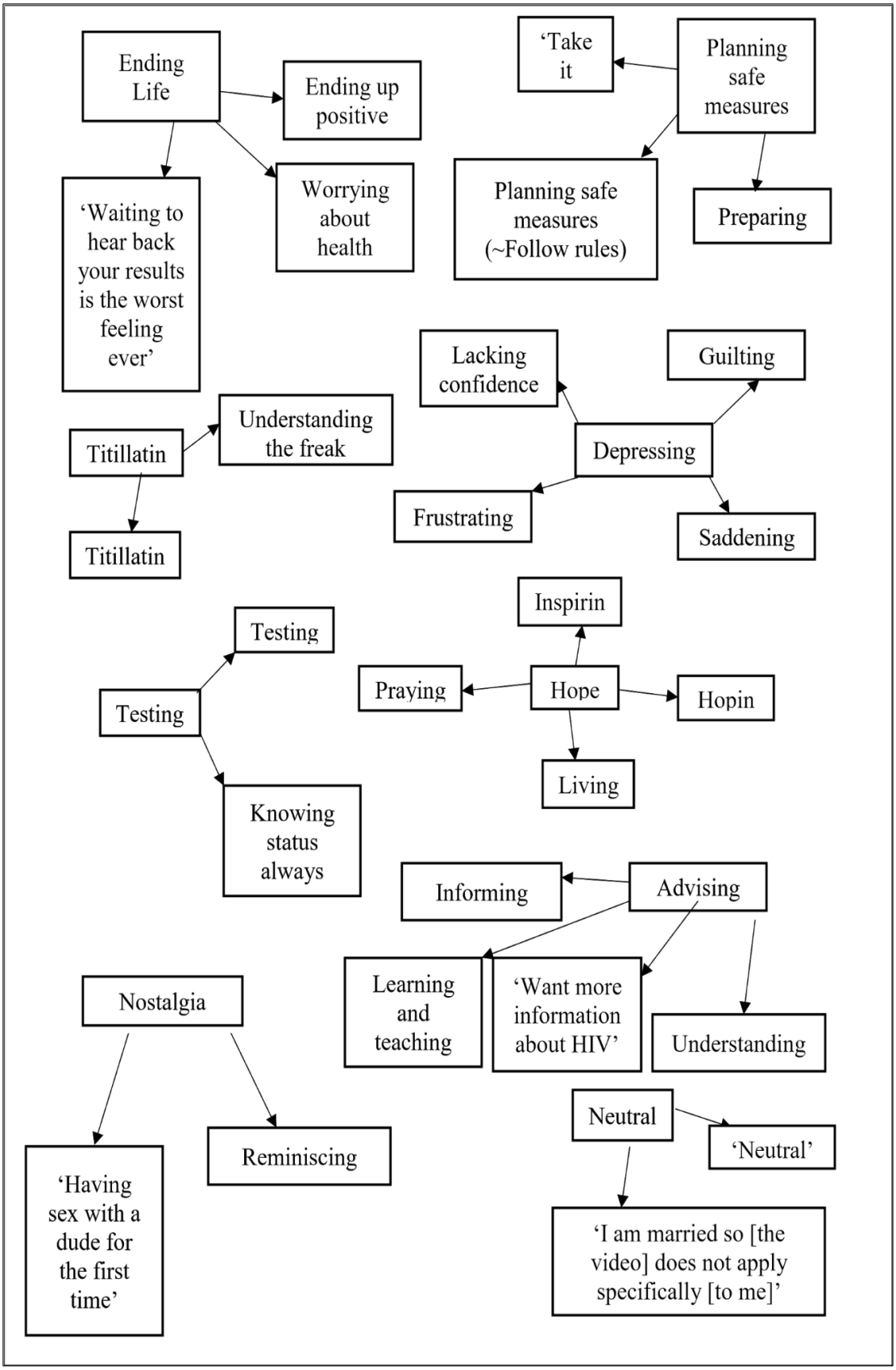

Figure 12 Axial Codes for Survey Extracts

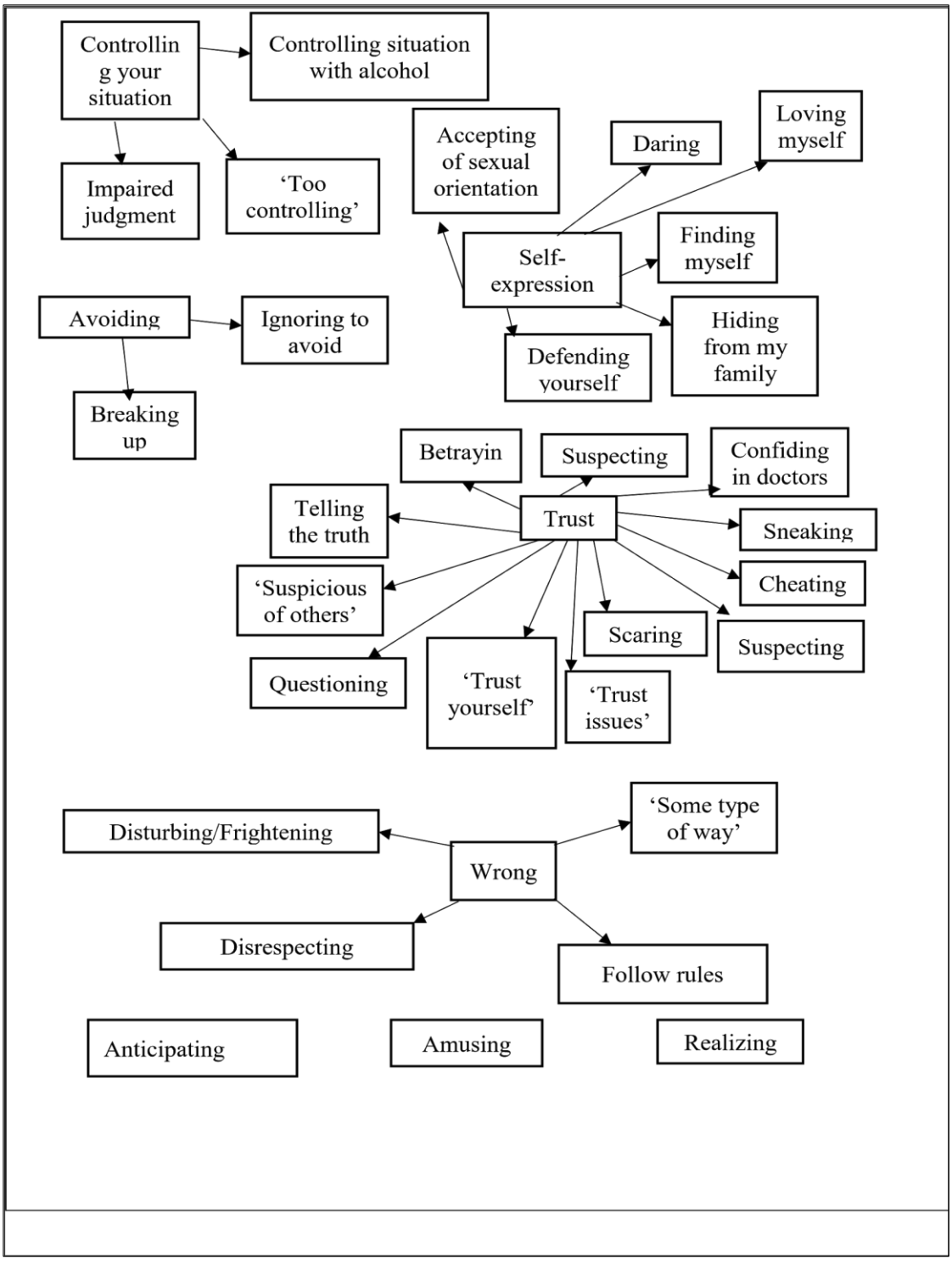

Figure 12 Axial Codes for Survey Extracts (continued)

Axial coding describes the hierarchical relationship between two or more codes: parent codes, child codes, and free codes. Parent codes have arrows pointing away from the

code. Child codes have an arrow pointing toward the code. For example, *Wrong* is a parent code of *Follow rules*. Free codes are codes that have no perceived hierarchical association with the other codes. For example, *Anticipating, Amusing, and Realizing* are free codes.

Summary

The creation of the three online videos, multiple viewings of the videos, and verbatim transcripts provide six themes: truths, sexuality matters, self-expression, harm, passive positioning of others (social support), and depressive symptoms. The creators of the videos are members of the focus population with an agenda to provide HIV health information. Therefore, one would expect an analysis of the videos that acknowledges preconceived themes, such as depressive symptoms, risk, stigma, and social support. Surprisingly, pre-set codes acknowledge depressive symptoms and a version of social support. Figure 13 reveals examples of the themes acknowledged from the video creation and open-ended responses. For example, Truths is a theme recognized within the original data set through In vivo video quotes. 'Some people call me the sexpert' and 'The way you stacking them dogs up there like that, I think you got the right thing on your mind' are two examples of the theme of truths.

The open-ended responses provide themes involving risk (risking), stigma (stigmatizing), social support, and depressing (depressive symptoms). The survey responses acknowledge 22 themes. In Figure 13, "know what you are getting involved with before it gets too serious" and "be more careful of who I approach for a "one night stand" are examples of the theme risking. Risking examples are a precursor to the video's harm theme examples (See Appendix D). Risking involves being careful and

approaching. "Narrator: As you see, alcohol was a major factor in Tyquan's decision to have sex with Raheem. What we don't know is whether or not they used protection. But I hope they are both ready for the consequences" is a harm example from the video creation. Harm involves an action that has already happened. The relationship between a participant's risking theme and video creator's harm can be acknowledged as a perception gap between the provider of education and focus population. The video provides information on the consequences for one's negative actions and risk shaming. The participant provides acknowledgment of approaching with caution, exploring, experiencing, and increasing knowledge. Themes, such as "playing," "controlling," "amusing," "testing," "planning safe measures," "anticipating," and "hope" follow youthful, learning, and less chastising examples.

Discussion

Traditional public health perceptions of HIV risk have informed the creators of online videos of traditional educational products needed in the focus population. The preconceived values contained in traditional perception carries over into the messages provided in the videos intended for their peers. As the findings of the current study suggest, traditional perceptions are limited in their acknowledgment of truths or understandings of the African American LGBTQ+ community even if members of their community carry the messages. A few similarities exist in perceptions, such as themes of truth, social support, and depression. The current study proposes a larger diversity of truths about HIV health and risk still unacknowledged throughout the population and the existing communication gap between health care professionals and the focus population. As technology moves us away from considering HIV as mortality risk, and funding for

HIV care and education dwindles, it becomes even more important to acknowledge the unheard truths provided by the flock before we move on to work on other public health challenges.

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ARTICLE 3:
Triangulation of HIV Risk Perspectives by African American MSM and Transwomen: An Adaptation of Andersen-Newman Behavioral Model

While previous studies suggest African American MSM have fewer sexual partners, unprotected anal intercourse, and substance abuse issues than Caucasian MSM, African American MSM are less likely to receive consistent HIV health care as well as have higher rates of HIV incidence and prevalence (Maulsby et al., 2014; Jayathunge et al., 2014; Millett, Flores, Marks, Reed, & Herbst, 2009; Millett et al., 2007). The current study is an exploratory mixed methods example with a convergent design, adapting the Andersen-Newman Behavioral Model of Health Service Use to a triangulation of two previous studies on HIV risk perceptions of African American MSM and Trans-women. The purpose of the study is to understand how understood population-based perceptions of HIV transmission risk fit into accessing health services according to the well-known Andersen-Newman Behavioral Model. The current study reveals the complexity involved in relying on traditional public health perceptions and community-based educators instead of allowing perceptions of the individual. Adding Trust as a contextual and individual characteristic is a step toward allowing the individual to be an individual and not a type.

Triangulation of HIV Risk Perspectives by African American MSM and Trans-Women

Human immunodeficiency virus (HIV) is a virus that attacks the immune system and potentially prevents defense against opportunistic infections and cancers (HIV.gov, 2017). In 2014, the U.S. Centers for Disease Control and Prevention (CDC) reported more than half (59%) of HIV positive African American men who have sex with men (MSM) and Trans-women are not aware of their infection (Maulsby et al., 2014). Being unaware of HIV status and not accessing HIV health care places the HIV positive person and those within their population at risk of HIV transmission. While previous studies suggest African American MSM have fewer sexual partners, unprotected anal intercourse, and substance abuse issues than Caucasian MSM, African American MSM are less likely to receive consistent HIV health care (Maulsby et al., 2014; Jayathunge et al., 2014; Millett, Flores, Marks, Reed, & Herbst, 2009; Millett et al., 2007). Higher rates of unrecognized HIV infections and other sexually transmitted diseases (STDs) than Caucasian MSM may coincide with less HIV health care and higher unknown HIV status. Therefore, the risk of HIV transmission within the populations of African American MSM and Trans-women may correlate with access to consistent HIV care. Inconsistencies in the definition of access, the elusiveness of the high-risk populations, and lack of perceptions of HIV risk within the population create a gap in health service knowledge on the possible correlation.

The current paper defines access to health care as the potential for visiting and utilizing sufficient health care services to promote improved health outcomes. The Andersen-Newman Behavioral model adds everything that facilitates and impedes access to the definition of access. The conceptual model includes the perception of health care services and health risk as part of one of the three dynamics (predisposing factors,

enabling factors, and need) determining one's use of the health care systems and outcomes. The Andersen-Newman model is the prevailing conceptual, behavioral model of health services and has adapted psychosocial factors to enhance its explanatory power when applied to race/ethnicity health behaviors (Tesfaye, Chojenta, Smith, & Loxton, 2018; Petrovic & Blank, 2015).

The current study is an exploratory mixed methods example with a convergent design, adapting the Andersen-Newman Behavioral Model of Health Service Use to a triangulation of two previous studies on HIV risk perceptions of African American MSM and Trans-women. The purpose of the study is to understand how understood population-based perceptions of HIV transmission risk fit into accessing health services according to the well-known Andersen-Newman Behavioral Model. The data is collected during a period that the focus population is projected to have one out of two (half) diagnosed HIV positive within their lifetime by the CDC (U.S. Department of Health and Human Services, 2016). The study triangulates the results of quantitative and qualitative studies as a basis for understanding the link between high-risk population behavior and HIV health care services.

Focus Population

African American MSM and Trans-women have a higher vulnerability to HIV than any sexual group as a result of socioeconomic inequalities and psychosocial factors (Samuel, 2018). African American MSM, particularly in the southern United States, are least likely to be tested for HIV but account for the highest rates of new HIV cases of those tested in 2016 (Marano & et al., 2018). Even though Trans-women are not self-described as MSM, national studies statistically group them with gay, bisexual, and other

men who have sex with men, due to high-risk sexual behaviors they have in common which are anal insertive and receptive sex. More than half (56%) of African American transgender women are living with HIV (Centers for Disease Control and Prevention, 2018). The current study explores perceptions of HIV transmission risk as described by African American MSM and Trans-women.

Theoretical Approach

History

The Andersen-Newman Behavioral Model of Health Service Use has provided a conceptual basis for comprehending human behavior concerning the use of health services for over 55 years. The model goes through multiple iterations. The initial model attempts to predict and explain the family use of health services (Andersen & Newman, 1973). In the further iterations from the 1970s to present, iterations included systematic concepts of health, health status (perceived and evaluated), and consumer satisfaction as health service outcomes of interest (Aday & Andersen, 1974). Over time, the models began emphasizing the effect of personal health practices on health care utilization outcomes. The individual became the unit of analysis instead of the model being purely population-based (Andersen, Davidson, & Baumeister, 2015); Evans & Stoddart, 1990).

The sixth iteration of the conceptual framework maintains the focus on the individual as the unit of analysis and health outcomes as the endpoint interest. The existing conceptual framework is a move beyond the focus on health care utilization by including feedback loops, genetic information impact, mutability, technology, and vulnerability. The adaptability of the current iteration lends the conceptual framework as

most suitable for understanding the rich perceptions of African American MSM and Trans-women.

Recent attempts have used the framework as a conceptual base for understanding the behavior of MSM and adherence to medical services. In 2015, Kimberly Petrovic and Thomas O. Blank published a study understanding the influence of trust on medication adherence in older people living with HIV and cardiovascular disease (Petrovic & Blank, 2015). In 2017, Dr. Mary Hawk and colleagues published an exploratory study of the influence of health care environments on clinical outcomes of people living with HIV/AIDS (Hawk et al., 2017). The publications suggest the ease and reliability of the Andersen-Newman Behavioral Model of Service Use provides a conceptual basis in exploring the potential psychosocial complexities between individuals of the elusive population and health services. While not testing the model, the current paper proposes the positioning of given psychosocial influences or recognized perceptions within the model to understand how perceptions of HIV transmission risk influence access to health services. Very few, if any, studies provide an exploratory framework based on risk perceptions provided by the creation of online videos and survey responses from African American MSM and Trans-women in the South during a time the CDC recognized the population as the most high-risk sexual group.

Concepts

The current paper defines access as one's use of health services and factors that facilitate or impede a link to health services. The concepts of the Andersen-Newman Model potentially allow one to predict, promote, and improve access to health care by understanding the multiple dimensions of the framework. Figure 14 refers to the sixth

revision/iteration of Andersen-Newman Model. Unlike previous versions, the figure includes concepts such as genetic susceptibility, quality of life, and feedback loop between outcomes and contextual characteristics.

Andersen-Newman Model suggests contextual and individual characteristics are factors of health behaviors and, therefore, health outcomes to determine health care use. Contextual and individual characteristics are divided into predisposing factors, enabling factors, and needs. Health outcome can create a feedback loop by affecting health behaviors, individual characteristics, and contextual characteristics.

Contextual characteristics. Contextual characteristics are psychosocial and environmental circumstances surrounding the doorway into or access to health care systems. Contextual characteristics measure aggregate characteristics instead of individual characteristics. The characteristics are subdivided into predisposing factors, enabling factors, and needs (Figure 14). Examples of the aggregate units can be the family and neighborhoods to larger units, such as a national health care system, health plans, or local communities (Von Lengerke et al., 2014). Contextual predisposing characteristics are demographic (age, gender, and marital status), social (support or detriments of surrounding communities, such as educational levels, ethnic or racial composition, and employment rate), and beliefs (values, cultural norms, and political perspectives surrounding health services). Contextual enabling characteristics are authoritative policies and decisions determining or persuading the use of health care services (Affordable Care Act and Joint Commission). Contextual enabling characteristics determine the financing, distribution, and structure of health services. Contextual need characteristics are environmental measures and population health indices

of community health, such as quality of health standards, infant mortality, HIV mortality rates, HIV incidences, and disability days due to acute or chronic conditions.

Individual characteristics. As with contextual characteristics, individual characteristics are also divided into predisposing factors, enabling factors, and need. Figure one suggests the health behavior of individuals has an effect and is affected by health outcomes, satisfaction with health services, and one's quality of life (Von Lengerke et al., 2014). Unlike the contextual characteristics, individual characteristics refer to the individual level. Individual predisposing characteristics are demographic (sex, age, etc.), genetic susceptibility, social factors (education of individual, occupation, ethnicity, social network of individual, how tight-knit family/friends of individual are, religious affiliations, health beliefs (attitudes surround health practitioners/researchers, values, health knowledge), health literacy, etc. Specific enabling characteristics consist of health financing (affordability of health services), social support provided to an individual (emotional, informational, and affectionate support given through social network), and organization of health services (primary care use, emergency health care, health care waiting times, and transportation to the health services). Individual need characteristics divide into perceived (perception of health status and severity/discomfort of symptoms) and evaluated need (professional judgment or objective measurement of health status).

Health Behaviors. Practices of the individual that influence health status are health behaviors (Von Lengerke et al., 2014). Health behaviors consist of personal health practices, the process of medical care, and use of personal health practices (Figure 14). The Donabedian model defines the process of medical care as all acts of health services

delivery (diagnosis, treatment, preventive care, counseling, education, and quality of communication). Contextual and individual characteristics influence health behaviors. Health behaviors can potentially influence health outcomes, contextual characteristics, and individual characters.

Health outcomes. Health outcomes consist of perceived health, evaluated health, consumer satisfaction, and quality of life (Figure 14). A move toward patient-centered health services brings emphasis to the quality of care. Policymakers, health service providers, payers, patients, and health service researchers increasingly employ health outcomes measures (Von Lengerke et al., 2014). Health outcomes potentially influence the other factors in the framework.

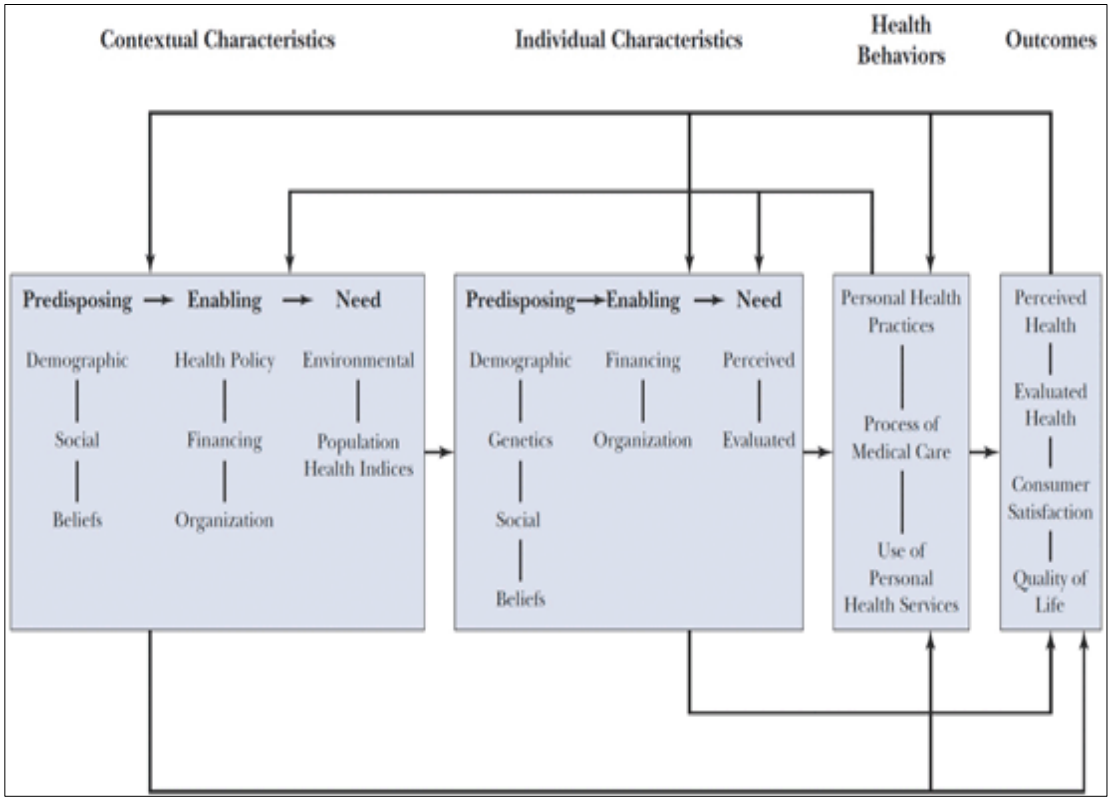

Figure 14. Andersen-Newman's 6th Iteration Behavioral Model of Health Services Use Including Contextual and Individual Characteristics (Von Lengerke, Gohl, & Babitsch, 2014). Contextual characteristics measure at the aggregate level. Multiple feedback loops reflect direct associates between health outcomes and other factors in the framework.

Methods

Design

The triangulation of two previous studies is used to provide input into the current model. While the studies are called Study 1 and Study 2, the studies are run parallel and without informing the other. The studies share the same existing database as input.

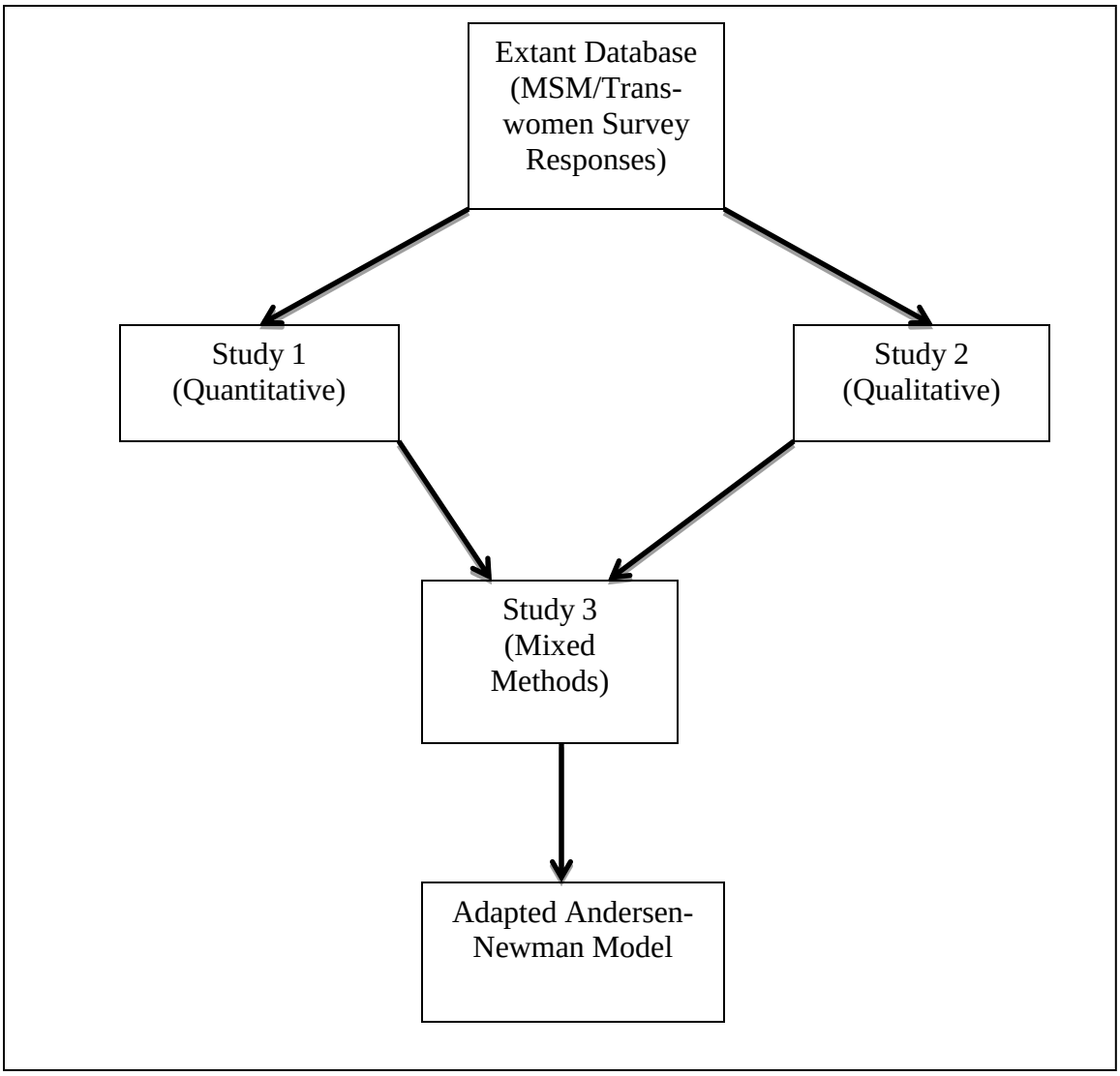

Figure 15. Triangulation Study Design. The same existing database serves as input for quantitative study and qualitative study. Results from each study provide input for a mixed study through parallel triangulation. Study 3 results in an updated Andersen-Newman Model for health service utilization in MSM and Trans-women population. Figure created by Maricus Gibbs (2019).

The purpose of Study 1 (quantitative study) is to describe and model the possible statistical associations between HIV transmission risk and three specific psychosocial factors: depressive symptoms, social support, and HIV-related stigma. Ordinal logistic regressions created regression models. Behaviors placing one at risk for HIV transmission are ordinal and categorical dependent variables from the existing dataset. High depressive symptoms and HIV stigma had a significant association with high transmission risk categories compared to the lower risk categories. Surprisingly, HIV stigma had a negative association with HIV transmission risk behaviors. A negative association is surprising because HIV-related stigma had been criticized for its positive association with HIV transmission behaviors (Earnshaw et al., 2019; Quinn, Katherine, et al., 2018; Avert>, 2017; Katz, I.T. et al., 2013). HIV stigma is assumed to have negative influences on HIV education uptake (Avert>, 2017). Therefore, transmission rates of HIV should increase. The author of the study proposes a closer look into how stigma is measured or perceptions of stigma to understand the surprising results of the study. Social support was found to have no significant association with HIV transmission risk. This surprising result could reflect the measurement of social support and perceptions of social support within the population.

The purpose of Study 2 (qualitative study) was to explore the perceptions of a population of African American MSM and trans women as they discuss HIV risk and sexual health in a series of videotaped scenarios they scripted. The exploration reveals themes that could increase one's understanding of HIV transmission and psychosocial health through the perception of the population. Understanding the population truths

could empower the population, decreasing the disdain expressed about their psychosocial and sexual health. The traditional public health view is limited in its reach because of a lack of understanding and acknowledgment of the population the focus of the interventions (at-risk populations of color within the LGBTQ community). The study proposed a significant communication gap between clinicians, those trained by clinicians, and the focus population.

Participants

The original dataset gathers information from a sample of 203 African American MSM and trans women from the southern United States. The data was collected via an online survey from 2012 to 2015. Inclusion criteria were identifying as an African American MSM or Trans-woman, being at least 18 years of age at the time of completing the survey, born with male genitalia, and residing within the southern United States for at least three months at the time of participating in the project. The original study gathered data from Summer 2012 to Fall 2015.

Results

Figure 16 is the Adapted Andersen-Newman Model created through triangulation of the discussed qualitative and quantitative studies. Unlike previous iterations of the model, trust is added as a subdivision of contextual and individual characteristics. Through the multiple feedback loops within the model, health outcomes reinforce or depreciate trust on the individual or contextual levels. For example, low quality of life as a health outcome could lead to a lack of trust on the individual level. An increase in the contextual level could lead to a direct increase in trust as an individual characteristic or improve quality of life as a health outcome. Due to the exploratory factors of the current

study, the specifics of what trust include as subdivisions on the contextual and individual levels is not included. This is a limitation of the current study. Future studies can further explore the dynamics of trust in these areas.

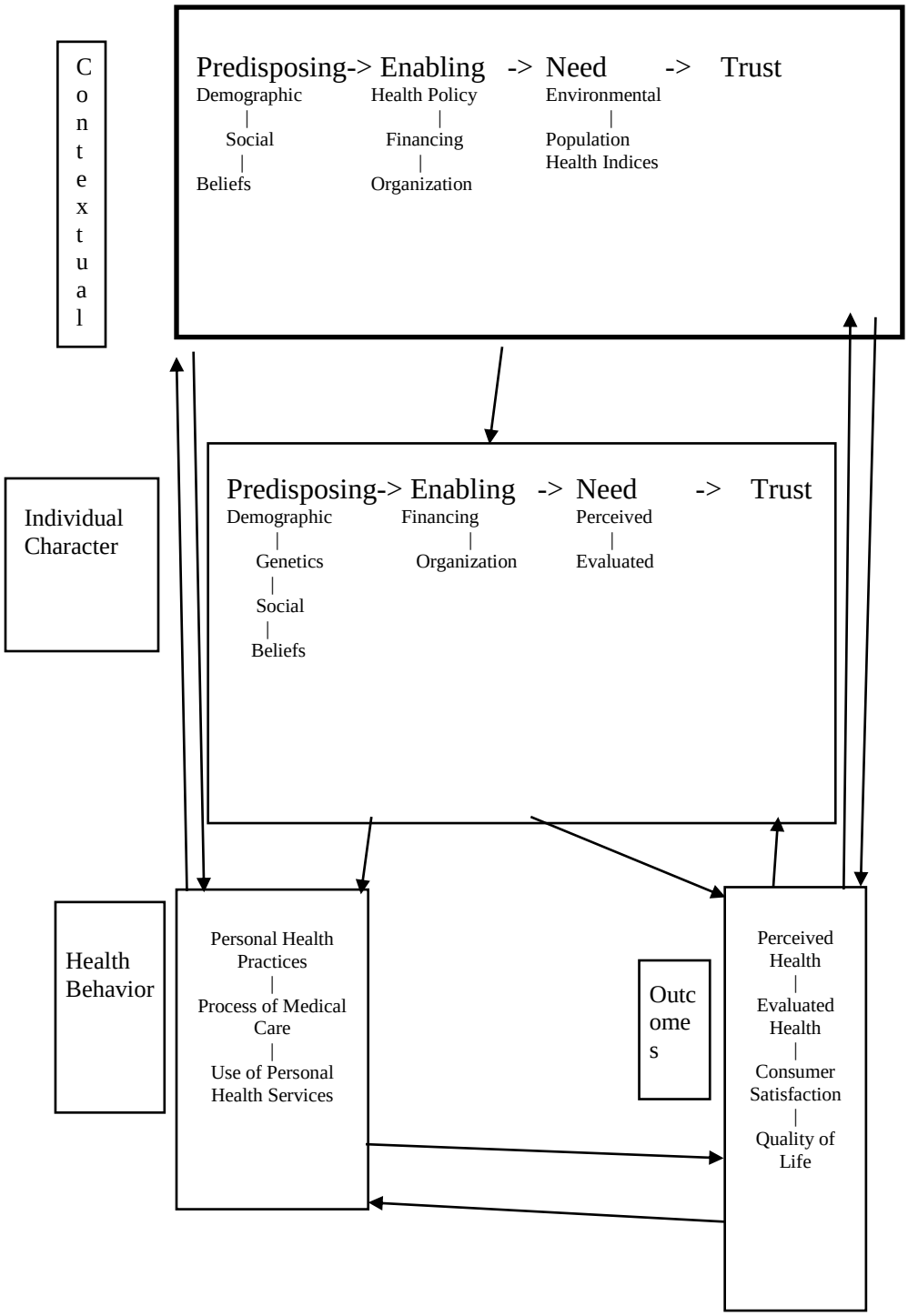

Figure 16. Adapted Andersen-Newman Model. Trust is added to previous iteration of the model. Trust is a subdivision of contextual characteristics and individual characteristics. With trust included, health outcomes build on the trust in these areas through multiple feedback loops. Figure adapted by Maricus Gibbs (2019).

Trust

Trust is an overarching theme within both the qualitative study and quantitative study. The perception of trust an individual or population gives to a relationship or action determines future behaviors. In the quantitative study, while trust was not specifically mentioned, it could be the lack of the reason HIV stigma has a negative effect on HIV transmission rates. The fear of HIV within the population potentially keeps one away from high-risk practices. The measurement of social support in the study did not include factors of trust. Therefore, social support as measured in the study population had no effect on HIV transmission.

The qualitative study proposed a communication gap between public health clinicians and the population. If the population does not trust the clinician understands or respects their interests, the population is less likely to participate wholeheartedly in care. Perceived health and quality of care remains lower if the consumer does not trust the clinician.

A particular finding in the qualitative study reveals lack of trust can even diminish communication within the population. Even when the education is provided by members of the same population and contains messages tainted with traditional public health jargon, trust still seems to diminish between the educator and the member of the population being taught. A 2019 study Caitlin Mahon on HIV care models in South Africa reveals adherence to HIV care diminished when education and care were provided by community members (after being started within a public health clinic) versus being sustained in a public health venue (Mahon, 2019). The effect of the clinic-based intervention diminished when carried out within the community. The significance of

understanding patient-level factors associated with the loss of adherence is extremely important in understanding the effectiveness of an intervention. Trust is one of those factors. The amount of individual and contextual trust is reflected in health behaviors and health outcomes.

The World Health Organization and the CDC recommend community-based studies and interventions as an alternative to traditional public health clinic-based initiatives in serving at-risk populations (Mahon, 2019). Trust and communication gaps are factors in the suggestion. Future studies based on the Adapted Andersen-Newman Model are needed to diminish further the lack of trust hindering adherence to health interventions. The current study reveals the complexity involved in relying on traditional public health perceptions and community-based educators instead of allowing perceptions of the individual. Adding Trust as a contextual and individual characteristic is a step toward allowing the individual to be an individual and not a type.

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Conclusion

Psychosocial factors and biomedical factors complement each other in the prevention of HIV transmission, specifically in minority populations. This study uses Andersen and Newman Framework of Health Services utilization and triangulation of qualitative and quantitative methods to identify and explore associations among depressive symptoms, social support, and HIV-related stigma in relation to transmission risk behaviors through perspectives of African American MSM and Trans women. Addressing this knowledge gap, interventions targeting depressive symptoms, stigma, and social support can potentially be recognized for their efficiency or inefficiency prior to temporal and financial investments of stakeholders. The study prompts a more critical analysis of current HIV prevention approaches, such as initiatives acknowledging exclusively HIV stigma or pharmacological interventions without acknowledging the perspectives of studied population. Along with adding clarity in planning more effective interventions for the focus population, understanding the directional correlations should encourage better mental health and social support strategies for other stigmatized or elusive populations. Future recommendations are sharing information with policy makers, health care workers, community leaders, and members of the focus population to provide further insight and feedback on refocusing efforts on psychosocial-based interventions.

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Appendix A: Display of Scoring of Variables

Variables	Scales	Questions	Answer Choices with Ranks
Depressive Symptoms	Kessler Psyhcological Distress Scale (K10)	1)…felt depressed? 2)…felt so depressed that nothing could cheer you up? 3)…felt hopeless? 4)…felt restless or fidgety? 5)…felt so restless that you could not sit still? 6)…felt tired for no good reason? 7)…felt that everything was an effort? 8)…felt worthless? 9)…felt nervous? 10)…felt so nervous that nothing could calm me down?	None of the time =0 A little of the time =1 Some of the time =2 Most of the time =3 All of the time =4

Variables	Scales	Questions	Answer Choices with Ranks
Social Support	Social Support Scale	Rate how much you agree or disagree: 1) My friends enjoy hearing about what I think 2) I rely on my friends for emotional support 3) My friends are good at helping me solve problems 4) I have a deep sharing relationship with my friends 5) I rely on my friends for moral support.	Not true =0 A little true = 1 Somewhat true =2 Pretty true =3 Very true =4

Appendix A: Display of Scoring of Variables (continued)

Variables	Scales	Questions	Answer Choices with Ranks
Stigma	Berger's HIV Stigma scale (for HIV Positive and unknown HIV status Participants)	Rate how much you agree: 1) I have been hurt by how people react to learning I have HIV 2) I have stopped socializing with some people because of their reactions to my having HIV 3) I have lost friends by telling them I have HIV 4) I am very careful who I tell that I have HIV 5) I worry that people who know I have HIV will tell others 6) I feel that I am not as good as a person as others because I have HIV 7) Having HIV makes me feel unclean 8) Having HIV makes me feel that I am a bad person 9) Most people think that a person with HIV is disgusting 10) Most people with HIV are rejected when others find out 11) Being HIV positive makes it more difficult to find loving relationships? difficult to trust other people? harder to enjoy sex? worry each time something is physically wrong with you that it might be AIDS? more difficult to find sex? more difficult to find loving relationships?	Strongly Agree =2 Agree = 2 Neither Agree nor Disagree =1 Disagree =0 Strongly Disagree =0 (no answer) = 0

Appendix A: Display of Scoring of Variables (continued)

Variables	Scales	Questions	Answer Choices with Ranks
Stigma	Berger's HIV Stigma scale (for HIV Positive and unknown HIV status Participants)	Rate how much you agree: 1) Are people with HIV to blame for the spread of AIDS? 2) Are you willing to have a boyfriend/girlfriend with HIV? 3) If condoms are available are you willing to have sex with someone with HIV? 4) Do you believe that having sex with someone who has HIV is dangerous? 5) Do you believe that people with HIV are more sexually promiscuous? 6) Do you believe that people with HIV are to blame for having gotten infected?	Definitely yes =2 Somewhat yes =2 Declined to state =1 Definitely no = 0 Somewhat no = 0 Don't know = 1 (no answer) = 0

Appendix A: Display of Scoring of Variables (continued)

Variables	Scales	Questions	Answer Choices with Ranks
Risk Behavior	CAGE	1) Do you feel you should cut down on your drinking? 2) Have people annoyed you by criticizing your drinking? 3) Do you feel guilty about your drinking? 4) Do you ever need to have a drink first thing in the morning to steady your nerves or get rid of a hangover?	Yes =1 No =0 Final CAGE score is 0 (minimum) to 4 (maximum).
Risk Behavior	Sexual Risk Cognitions	Please rate how often you have the following thoughts: I enjoy sex more without a condom; I want to show my partner that's he's somebody special (so we don't use condoms); sex is more exciting without a condom; I've already had unsafe sex with my partner, what's the point of using a condom this time; my partner is the same HIV status as me so it doesn't matter; unsafe sex is just one of life's many risks; my partner or I will withdraw before ejaculating and this will be safe; my partner will respect me more if we don't use a condom; most of the time I'm careful – it won't matter just this once; if I say I want to use a condom my partner may think I have doubts about how safe he has been in the past; I think my partner doesn't want to use a condom so we don't; my partner will like me more if we don't use a condom; my partner or I won't get hard if a condom is used; my wishing to use a condom would suggest to my partner that I think he may have been having sex with other people; if I suggest using a	Never =0 Rarely =1 Occasionally =2 Frequently =3 Very frequently =4

		condom my partner may think that I have been having sex with other people; I've had unsafe sex so many times, why bother being safe now; I feel pressured by my partner not to use a condom; my partner may reject me if I suggest using a condom; we get so far sometimes that it's not worth using a condom; if I suggest using a condom my partner will suspect that I have been unsafe; my partner may get upset if I suggest using a condom; I have very little to look forward to in life, so there is no point in practicing safer sex; I don't want to think about HIV; gay men are destined to get HIV; if I get HIV (or since I have HIV), there are medications to take; it's not a big deal anymore to get HIV; Black males have more to worry about than HIV; it is difficult to get condoms where I live; every man who has anal sex gets HIV anyway, so why use condoms; African Americans don't get HIV; I'd rather have whatever kind of sex I want than use condoms.	
Risk Behavior	Knowledge of Partner's HIV Status	In the last month, did you know the HIV status of any of your sex partners?	No =1 Yes =0
Risk Behavior	*Illegal IV/Oral Drug Use	1) Have you ever used marijuana (pot, weed)? Have you used in the past month? On average, how many days per week did you use marijuana (pot, weed)? 2) Have you ever used inhalers (whippets, poppers, etc.)? Have you used in the past month? On average, how many days per week did you use inhalers (whippets, poppers, etc.)? 3) Have you ever used cocaine (powder)? Have you used it in the past month? On average, how	No =0 Yes =1 1-2 days per week =1 3-4 days per week =2 5-6 days per week =3 Every day =4 NBo answer =0

		many days per week did you use cocaine (powder)? 4) Have you ever used crack (rock)? Have you used in the past month? 5) Have you ever used crystal meth? 6) Have you ever used ecstasy (X)? Have you used in the past month? On average, how many days per week did you use ecstasy (X)? 7) Have you ever used laced cigarettes? Have you used it in the last month? On average, how many days per week did you use laced cigarettes? 8) Have you ever used steroids? 9) Have you ever used hormones not prescribed to you by a doctor? Have you used it in the past month? On average, how many days per week did you use hormones? 10) Have you ever used silicone? 11) Have you ever used Viagra/Cialis/Levitra? Have you used it in the past month? 12) Have you ever used unknown pills? 13) Have you ever used alcohol? Have you used it in the past month? On average, how many days per week did you use alcohol? 14) Did you use needles to inject any of these drugs in the past month?	
Figure displays the scoring of variables. *Illegal drugs are considered any drug not prescribed to the user by the user's medical professional. Copywright 2018 by Maricus Gibbs.			

Appendix B

Initial Codes to Themes of Survey Response Extracts			
Initial Codes	**Axial Codes**	**Process Codes**	**Themes**
Emergent codes: Control situation with alcohol Impaired judgments Anticipation Reality Acceptance of sexual orientation Daring Finding myself Hide from family Defend yourself Love yourself Suspect Betray Scary Speaking the truth Cheating Confide in doctors Suspicious Question Sneaky Just wrong Disturb or frighten Disrespectful Follow rules Avoidance Breakups Ignore to avoid conflict Plan safe measures	I. Control your situation A. Controlling the situation with alcohol B. "Too controlling" C. Impaired judgments II. Anticipation III. Reality IV. Self-expression A. Accepting of sexual orientation B. Daring C. Finding myself D. Hiding from the family E. Defending yourself F. Loving myself V. Trust A. Suspecting B. Betraying C. Scaring D. "Trust issues" E. "Trust yourself" F. Telling the truth G. "Suspicious of others" H. Cheating J. Confiding in doctors K. Suspecting I. Questioning M. Sneaking VI. Wrong A. Disturbing/Frightening B. Disrespecting C. Follow rules	I. Controlling your situation A. Controlling the situation with alcohol B. 'Too controlling' C. Impairing judgment II. Anticipating III. Realizing IV. Self-expression A. Accepting of sexual orientation B. Daring C. Finding myself D. Hiding from the family E. Defending yourself F. Loving myself V. Trust A. Suspecting B. Betraying C. Scaring D. "Trust issues" E. "Trust yourself" F. Telling the truth G. "Suspicious of others" H. Cheating J. Confiding in doctors K. Suspecting I. Questioning M. Sneaking VI. Wrong A. Disturbing/Frightening B. Disrespecting C. Follow rules D. "Some type of	Controlling your situation Anticipating Realizing Self-expression Trust Wrong Avoiding Planning safe measures Depressing Ending of life Hope Titillating Testing Advising Nostalgia Amusing Neutral Social Support

Prepare yourself Depression Frustration Sad Guilty Lack of confidence Ending up positive Worrying about health Ending life Hope Live Inspire Pray Titillate (turn-on) Understanding the freak Test Always know your HIV status Inform Learn and teach Understand Reminisce Amuse Neutral Pressure Relate React Talk it out Social Support Play Playing others Play roles Messy Discriminate Stigma Stereotype Risky Safe sex	D. "Some type of way" VII. Avoiding A. Breaking up B. Ignoring to avoid VIII. Planning safe measures A. Planning safe measures (~Follow rules) B. Preparing C. "Take it slow" IX. Depression A. Frustrate B. Sad C. Guilt D. Lack confidence X. Ending Life A. Ending up positive B. "Waiting to hear back your results is the worst feeling ever" C. Worry about health XI. Hope A. Live B. Inspire C. Hope D. Pray XII. Titillate A. Titillate B. Understand the freak XIII. Test A. Testing B. Know status always XIV. Advise A. Inform B. Learn and teach C. Understand	way" VII. Avoiding A. Breaking up B. Ignoring to avoid VIII. Planning safe measures A. Planning safe measures (~Follow rules) B. Preparing C. "Take it slow" IX. Depressing A. Frustrating B. Saddening C. Guilting D. Lacking confidence X. Ending Life A. Ending up positive B. "Waiting to hear back your results is the worst feeling ever" C. Worrying about health XI. Hope A. Living B. Inspiring C. Hoping D. Praying XII. Titillating A. Titillating B. Understanding the freak XIII. Testing A. Testing B. Knowing status always XIV. Advising A. Informing B. Learning and teaching C. Understanding D. "Want more information about HIV"	Playing Stigmatizing Risking

	D. "Want more information about HIV"	XV. Nostalgia A. "Having sex with a dude for the first time" B. Reminiscing XVI. Amusing XVII. Neutral A. "I am married so [the video] does not apply specifically [to me]" B. "Neutral" XVIII. Social Support A. Pressuring B. "My partner told me he was diagnosed" C. Relating D. Reacting E. Talking F. Social supporting XIX. Playing A. Playing B. Playing others C. Playing roles D. Messing XX. Stigmatizing A. Discriminating B. Stigmatizing C. Stereotyping D. "The reason for HIV spreading is these straight guys messing around with dudes" E. "Typical gay guys" F. "the DL boy should come out" XXI. Risking A. Risking B. Having safe sex	
In vivo Codes: 'Too controlling' 'Trust issues' 'Trust yourself' 'Suspicious of others' 'Some type of way' 'Take it slow' 'Waiting to hear back your results is the worst feeling ever' 'Want more information about HIV' 'Having sex with a dude for the first time' 'I am married so (the video) does not apply specifically (to me)' 'Neutral' 'My partner told me he was diagnosed' 'The reason for HIV spreading is these straight guys messing around with dudes' 'Typical gay guys' 'The DL boy should come out'	XV. Nostalgia A. "Having sex with a dude for the first time" B. Reminisce XVI. Amuse XVII. Neutral A. "I am married so [the video] does not apply specifically [to me]" B. "Neutral" XVIII. Social Support A. Pressuring B. "My partner told me he was diagnosed" C. Relate D. React E. Talk it out F. Social support XIX. Playing A. Play B. Playing others C. Play roles D. Messy XX. Stigmatize A. Discriminating B. Stigmatize C. Stereotype D. "The reason for HIV spreading is these straight guys messing around with dudes" E. "Typical gay guys" F. "The DL boy should come out" XXI. Risky A. Risk B. Safe sex		

In vivo Codes: ‘Too controlling’ ‘Trust issues’ ‘Trust yourself’ ‘Suspicious of others’ ‘Some type of way’ ‘Take it slow’ ‘Waiting to hear back your results is the worst feeling ever’ ‘Want more information about HIV’ ‘Having sex with a dude for the first time’ ‘I am married so (the video) does not apply specifically (to me)’ ‘Neutral’ ‘My partner told me he was diagnosed’ ‘The reason for HIV spreading is these straight guys messing around with dudes’ ‘Typical gay guys’ ‘The DL boy should come out’		
Initial Codes to Themes of Survey Response Extracts		

Initial codes to themes of survey responses of African American MSM and trans women to open-ended questions about their reflections: how did this video make you feel? did you relate to any of the characters? if so, how? what actions would you change in any of the characters? what would you have done differently? what personal actions would you change in your life after watching this video? Initial codes consist of emergent or free codes and In vivo coding directly from verbatim transcripts. Axial codes consist of parent codes (top of the hierarchy) and child codes (highly expressed or variant codes). Parent codes are shared characteristics of child codes that help create process codes. Process codes reveal action behind themes. Themes are an expression of the parent codes after process coding (such as controlling your situation as a theme develops from the parent process code above child codes "controlling your situation alcohol", 'too controlling', and "impairing judgment". An explanation and example of initial codes are available in the codebook.
Table created by Maricus Gibbs.

Appendix C

Figure 7. Phases of Thematic Analysis Relating to Current Study		
Phase	Description of Process	Features in the Current Study
1. Familiarizing oneself with data	Transcribing, reading, re-reading, and noting/memo of initial ideas	Three online videos are transcribed verbatim, requiring multiple attempts of listening, reading, and watching characters as they relate to each other. Responses are read and re-read three times before coding. Out of 211 participants, only 194 responses are included in the coding due to none response, "no time to answer" recorded as a response, or "N/A" recorded as a response. Memos and notes taking during analysis record initial ideas throughout the readings and watching of videos
2. Initial Coding	Systematic labeling and collating relevant, interesting features throughout the data set	During the initial reading, labels (called Nodes in NVivo 11 software) are applied to each response. Some responses received similar labels, which aids in collating. The codebook supplies a name, description, sources (which type of data source it can from), and reference (number of times referred throughout the sources) of each code/node after similar codes collapse into one code. Focused coding searches for the most frequent or significant codes based on conceptual similarities.
3. Searching for themes	Collating initial codes into potential themes	Collate similar and dissimilar initial codes.
4. Reviewing themes	Generating a thematic map of the analysis by checking connections between coded examples and entire data set	Axial coding describes a category's properties by organizing properties to help develop connections between themes or codes.
5. Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis	Process coding or using gerunds ("-ing" words) connote action in the data to help generate themes

	tells, generating clear definitions and names of each theme	or visualize connections.
6. Producing the report	Select vivid, compelling examples from the data set, the final analysis of the selected example, relating to the research question and literature to develop a final report	Final themes are related to original responses and video creation. Do they contrast or coincide?

Figure 7. Phases of Thematic Analysis Relating to Current Study

Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology, 3*(2), 77-101. doi:10.1191/1478088706qp063oa

Appendix D

Themes of Survey Responses with Examples		
Sources	**Themes**	**Examples from Original Dataset**
Transcripts of 3 Videos and Video Creation Memos	Truths	'Some people call me the sexpert' 'My advice: take one day at a time' All-knowing Narrator (character) 'The way you stacking them dogs up there like that, I think you got the right thing on your mind'
	Sexuality Matters	"Narrator: After having sex with a man and thinking he needs to regain his masculinity, Tyquan decides to rape his girlfriend, not considering…" "Narrator: Black gay men search day and night for images that look like them often to no avail…"
	Self-expression	"Narrator: Many people comment on the way I carry myself but yet they really don't know what they see…it's not about the wardrobe I wear but it's more about being me"
	Harm	"Raheem: The only thing I gotta do is turn up the music and nobody gonna hear nothing." "Narrator: As you

		see, alcohol was a major factor in Tyquan's decision to have sex with Raheem. What we don't know is whether or not they used protection. But I hope they are both ready for the consequences." *Heartbeat sound as Tyquan sits up on the side of the bed. Tyquan climbs on top of Michelle.* Michelle: What? What are you doing? Tyquan starts having sex with Michelle. Michelle: You are hurting me. Get off me! Tyquan: Shut the fuck up and let me finish."
	Passive Positioning of Others (~Social Support)	"Narrator: Sit back and explore with him" "Blue Background: I got invited to a gay function today…You should roll thru with me"
	Depressive Symptoms	
Open-ended Video Survey Responses	Controlling your situation	'Being careful of who u invite into your company and knowing the people you have around you' 'I would be more careful not to let my family on my CPU.' 'tell him he is an asshole, then…leave'

		‘beat his ass…’
	Anticipating	‘Always wrap it up’ ‘I’m always protective’ ‘Just try to keep my head up and be more careful’
	Realizing	‘Learn from my experiences’ ‘learn to be myself’ ‘think clear’ ‘…be more aware of my actions’ ‘what’s in the dark comes to the light’
	Self-expression	‘Learn to be myself’ ‘continuing to be me’
	Trust	‘making sure I know who I’m really falling in love with’ ‘watch who I keep in my circle’ ‘trust issues with partner’ ‘to give my partner the freedom to hang out with whoever as long as I trust him or her’ ‘trusting my partner and not thinking they would cheat on me’ ‘not trust someone so easily’
	Wrong	‘Getting rid of him’ ‘I probably wouldn’t be with him’ ‘I’ve been cheated on before also’ ‘the HIV positive person put everyone at risk…at a huge risk’
	Avoiding	‘being more understanding and

	talking with my partner' 'scared to get tested' 'watch my surroundings with guys' 'keep people at arm's length now' 'ignore partner to avoid an argument'
Planning safe measures	'Be more careful of who I am partnered with' 'more careful with my sexual partners' 'follow rules'
Depressing	'learn not to be insecure' '[I have] no relation [to situation in the video] and I hope this never happens to me' 'I can relate to the young man going to the clinic to get tested. I myself have an STD scare. That feeling of sitting in the office waiting to hear back your results is the worst feeling ever.' 'I was devasted when I found out my ex-partner tested positive knowing that I would test positive also'
Ending of life	'put under pressure' 'it's scary' 'knowing who I'm dealing with and sacrifice myself for'
Hope	'continue to be safe' '[change] nothing

	just hope that everyone accepts who they are and not be afraid’
Titillating	‘The ‘str8’ guy. The situation when they were drinking, and things got heated’ ‘being drunk and being enticed’
Testing	‘Making sure my partner gets tested regularly’ ‘Be careful who you deal with and check my partner’s status’ ‘I never knew who I contracted the virus from and I found out trying to reenlist into the Army’ ‘I was very nervous and still is when I make a doctor’s visit’
Advising	‘Keep educating myself about safe sex’
Nostalgia	‘Having sex with a dude for the first time’ ‘similar situation happened to me about 2 years ago’ ‘…the younger me but everyone is naïve at some point in life just some longer than others’ ‘yes, when I was younger being hit on by guys trying to get me into bed by drinking and getting me high and excited about what they

	were doing' 'I was under the influence the first time I had sex with a dude'
Amusing	'[the video] is group therapy from my previous relationships' 'I like to test the waters but only to a certain limit'
Neutral	'not sure' 'na' 'Nothing really' 'Nothing really. None of this really applies to me or how I live my life'
Social Support	'Being respectful of everyone! No matter what their status.' 'Zero friends' 'being more understanding and talking with my partner' 'If I have some friends that are ever in that situation where they aren't sure if the dude is DL and I know, I would let them know' 'peer pressure' 'I wish I had some of my friends and family member support with this' 'Helping people in the long run with struggles that they may face in the community or with family members that

	may or may not accept them for who they are'
Playing	'not to flirt with others in front of my partner' '…a homeboi has tried the same thing after a nite of drinking and wanted to play and experience sex with another man' 'myself having sex with someone who's suppose o be straight' 'cheating is never okay' 'just learn about how crazy gays go after…what we call the trade' 'ask questions and play safer'
Stigmatizing	'how I look at people' 'I can't say that I'd change anything. I know of the DL guys and they're sneaky ways.' 'stand up to people who are judgmental' 'most dudes are shady and everyone has motive' '…pure jealousy or hatred towards gay people'
Risking	'Know what you are getting involved with before it gets too serious' 'be more careful of who I approach for a

		one night stand’

Figure 13 Themes of Survey Responses with Examples
Created by Maricus Gibbs

Appendix E

Process	Criteria	Relevance to Current Study
Transcription (Point 1)	Transcribe data to an appropriate level of detail and check for accuracy	Two research team members check transcription and codes
Coding (Points 2-6)	Each data item receives equal attention in the coding process; coding process is thorough, inclusive, and comprehensive (not anecdotal or generated from a few vivid examples); relevant examples collated for each theme; relate themes to each other and back to original data set; themes are internally coherent, consistent, and distinctive	Two research team members check codes and themes. The final report of themes gives examples of each code. A priori codes (depression, social support, HIV stigma, and risk) are entered and searched for within the data as per the knowledge of literature review.
Analysis (Points 7-10)	The current researcher analyzes and interprets data rather than paraphrase or describe; examples illustrate the analytic claim; analysis tells a convincing and well-organized story about the data and topic; good balance between analytic narrative and illustrative examples	Data is interpreted and analyzed with examples. Due to the richness of the data, some data cannot be paraphrased or interpreted. For example, "No comment" when asked "how the video makes you feel" cannot be put into any other words or interpreted as an expression in any direction. It acknowledges an answer to the question.
Overall (Point 11)	Enough time has been allocated to complete all phases of thematic analysis adequately	Planning for analysis of 2328 responses and three verbatim video transcripts allocated one year to complete.
Written Report (Points 12-15)	The assumption about and specific thematic approach are consistent; the researcher is active; themes do not just emerge.	Thematic analysis is flexible in terms of approach (Braun & Clarke, 2006). Themes are interpreted based on the researcher's knowledge of the population. As a member of the population, the researcher's interpretation should carry

		weight. Codes emerge from the data, but themes involve the active involvement of the researcher (Braun & Clarke, 2006).
A 15-point Checklist of Criteria for Good Thematic Analysis Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology, 3*(2), 77-101. doi:10.1191/1478088706qp063oa		

Appendix F

Initial Codes to Themes of Videos			
Initial Codes	**Axial Codes**	**Process Codes**	**Themes**
Pre-set ('a priori') codes: social support depressive symptoms risk stigma *Emergent codes:* Repeat/monotonous Inferior vs. superiority Safety Shade Music/rhyming/sing-song Lies Stratification of power (1. straight male 2. female 3. gay) True self	Truths - education -all-knowing narrator -multiple perceptions -understanding at deeper level --get ready --exploring ---------- Depressive Symptoms -denial -frustration -lies -monotonous	Telling Truths ---------- Suggesting Depressive Symptoms	Truths
Hiding Being true to self/support for individualization Stereotypes (stigma)	Sexuality Matters -sexual inexperience -being black and gay takes greater effort	Emphasizing Sexuality	Sexuality Matters
Fashion expresses who you are vs. want to be Understanding at deeper levels is necessary Exploring/searching Frustration Electronics connect to true self or are an extension of self All-knowing/Narrator Truth You vs. others Everyone loves straight men Honesty via Electronics	Self-expression -fashion expresses who you are or what you need to be -true self -hiding -consumption of food or drinking is freeing -rhythm -electronics -superiority/inferiority --tripping --shade --gay shaming	Expressing Self	Self-expression

Being black and gay takes more effort (stigma) Multiple perceptions/truths Passive positioning of others Sexuality matters Communicating outside of group requires electronics or privacy Consuming food or drinks frees me of responsibility Male dominance Tripping/joking Gay is negative/taboo/something to hide Invasion of privacy Music displays perspective Sexual inexperience Pretending to be straight Straight comradery	--needy		
	Harm -risk -safety	Harming	Harm
	Passive Positioning of others - stigma --shade --soc. support -straight comradery -stratification of power --tripping --shade	Passive-aggressive Positioning of Others	Passive Positioning of Others (Social Support)
	Depressive Symptoms -denial -frustration -lies -monotonous	Suggesting Depressive Symptoms	Depressive Symptoms

Figure 10 Initial Codes to Themes of Online Videos

Initial codes to themes of videos created for the population by the population of African American MSM and trans women. Initial codes consist of pre-set and emergent codes directly from verbatim transcripts and viewing of videos. Axial codes consist of parent codes (top of the hierarchy) and child codes (highly expressed or variant codes). Parent codes are shared characteristics of child codes that help create process codes. Process codes reveal action behind themes. Themes are a combination of process codes (such as telling truths and suggesting depressive symptoms become Truths theme) or an expression of a process coding (such as emphasizing sexuality becomes Sexuality Matters theme). An explanation and example of initial codes are available in the codebook.

Table created by Maricus Gibbs