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Culture and HIV/AIDS-Related Psychological Distress

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2020

Abstract

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Dissertation Submitted in Partial Fulfillment

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Abstract

The over-representation of HIV infections among Black populations relative to the mainstream population continues to be documented in Canada. Previous research has implicated cultural factors in the transmission of HIV in addition to linking HIV/AIDS to psychological distress. Some studies established a link between awareness of increased HIV/AIDS risk and vulnerability to distress, and others indicated cultural differences in the experiences of cognitive dissonance as a function of cultural variations in beliefs and practices. The purpose of this quantitative study was to examine cultural variables associated with cognitive dissonance (dependent variable) arousal as a function of cultural sexual gender-role socialization (SGRS, independent variable) in relation to HIV/AIDS between Black African and White Canadians. The sample consisted of 236 participants born in sub-Saharan countries (n = 118 Black African Canadians) and born in Canada (n = 118 White Canadians). The association between SGRS and cognitive dissonance in relation to HIV/AIDS was assessed through regression analyses. Findings from this study indicated a link between cultural SGRS adherence and HIV/AIDS-related cognitive dissonance arousal despite one's gender between the Black African and White Canadian participants. These results can assist health care providers in development of effective population-specific HIV/AIDS prevention strategies.

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Dedication

To God Almighty, for the life sustained in me, and to my brother Dryden G. Scott, for what we shared together during his brief but significantly meaningful life.

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I would also like to thank my husband for the unwavering support and dedication to my academic advancement. I am also grateful to my children for generously allowing me to spend time away from them throughout this process.

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Chapter 1: Introduction to the Study

HIV/AIDS prevention strategies have been associated with sexual behavioral change (e.g., Genius & Genius, 2005; Green & Conde, 2000; Green, Halperin, Nantulya, & Hogle, 2006; Hallett et al., 2006; Stoneburner & Low-Beer, 2004). Studies have also revealed that motivation for behavioral change is linked to cognitive dissonance experiences (e.g., Festinger, 1957). However, although sexual behavioral change has been associated with reductions in HIV infections as a function of other variables like abstinence, partner reduction, and fidelity (Genius & Genius, 2005; Green et al., 2006; Shelton et al., 2004), there is still a lack of understanding of the link between sexual behavior change and cognitive dissonance.

Literature has suggested a relationship between HIV/AIDS and psychological distress in some contexts (Choi, Bowleg, & Neilands, 2011; Malebogo et al., 2018). Although some scholars have indicated an association between individuals' awareness of increased HIV/AIDS risk and vulnerability with psychological distress (Bradley, Tsui, Hindin, Kidanu, & Gillespie, 2011), others have suggested a link between HIV/AIDS-related psychological distress and negative health consequences as well as increased risk of infection (Holloway et al., 2017; Malebogo et al., 2018; Olagunju, Adeyemi, Erinfolami, & Aina, 2012). Furthermore, experiences of cognitive dissonance have been noted to vary cross-culturally based on differences in beliefs, values, norms and practices (Gawronski, Peters, & Strack, 2008; Gilovich, Wang, Regan, & Nishina, 2016; Heine, Kitayama, & Lehman, 2016; Kimel, Grossmann, & Kitayama, 2012; Kokkoris & Kuhnen, 2013; Okazaki, 2016).

In Canada, disparities in HIV/AIDS incidence and prevalence rates between Black African communities relative to the mainstream population have been documented (Public Health Agency Canada [PHAC], 2010, 2012a, 2012b, 2016). Similar findings have been noted between the Black communities and mainstream populations elsewhere (Centers for Disease Control, 2015, 2016). Some scholars have estimated that Black African Canadian communities' (BACCs') heterosexual populations' HIV/AIDS incidence prevalence rates are about 50 times more compared to other heterosexual populations, which indicates infection of individuals in Canada (African Caribbean Council on HIV/AIDS in Ontario [ACCHO], 2006). In some contexts, these higher rates have been linked to the Black Africans' cultural sexual gender-role socialization (SGRS) variables of masculinity and femininity, reportedly manifesting in risky sexual behaviors contradicting prevention strategies. These cultural variables have predisposed significant community-level vulnerability, risk of transmission, and infection (e.g., Brown, Sorell., & Rafaelli, 2005; Green, Mah, Ruark, & Hearst, 2009; Izugbara, 2005, 2008; Kalipeni, 2008; Thege, 2009).

Though some successful HIV/AIDS prevention strategies have been linked to sexual behavioral change (Genius & Genius, 2005; Hallett et al., 2006; Shelton et al., 2004), individuals' motivation for behavior change has been associated with culturally influenced cognitive dissonance experiences (Gawronski et al., 2008). Therefore, given the observed interrelationship between the Black Africans' cultural SGRS and HIV/AIDS prevention strategies (Brown et al., 2005; Green et al., 2009; Thege, 2009), and reported population differences in HIV/AIDS incidence and prevalence rates (PHAC, 2016), in-

depth knowledge of the association of culture and vulnerability and risk of infection can enhance knowledge for developing effective prevention strategies. This understanding can be achieved by investigating the relationship between cognitive dissonance and traditional SGRS; however, there has been a lack of research investigating these variables in the Canadian populations encompassed by the study.

In this chapter, the background of the study and the problem statement is discussed before presentation of its purpose, hypotheses, and research question. The theoretical foundation and conceptual framework as well as the study's nature is also provided. The assumptions and limitations as well as the scope and delimitations are also discussed. The chapter's conclusion will focus on a description of the study's significance.

Background

There continues to be population disparities in HIV infections with an over-representation observed among BACCs relative to White Canadians (WCs; PHAC, 2012a; PHAC, 2012b; PHAC, 2010; PHAC, 2016). HIV/AIDS incidence and prevalence rates have been associated with cultural SGRS variables noted to predispose individuals to vulnerability, risk of transmission, and infection in some contexts (Bombereau & Allen, 2008; Brown et al., 2005; Gardezi et al., 2008; Izugbara, 2005, 2008; Kalipeni, 2008; Thege, 2009). For example, though Black Africans' traditional cultural notions of femininity prescribe premarital abstinence, fidelity in marriage, and acceptance of masculinity norms (Brown et al., 2010; Kalipeni, 2008; Thege, 2009), masculinity norms embody sexual prowess of multiple partnerships, polygamy, extra-marital sexual

relationships, fatherhood, and non-condom use (Brown et al., 2005; Izugbara 2005, 2008; Thege, 2009). Together, these SGRS norms manifest in risky sexual behaviors that impede prevention strategies (Brown et al., 2005; Green et al., 2009; Kalipeni, 2008; Thege, 2009).

Further, behavioral change motivation linked to psychological distress has long been noted cross-culturally (Festinger, 1957). According to Festinger (1957), in the event individuals became aware of inconsistency between their thoughts and behaviors, and based on the degree of distress, dissonance reduction strategies are used such as changes in attitude, behaviors, and even justification or cognitive distortions. Although this distress occurs cross-culturally (Gilovich et al., 2016; Okazaki, 2016), it also differs as a function of cultural factors at play in any given situation (Gawronski et al., 2008; Heine et al., 2016; Kokkoris & Kuhnen, 2013; Mwale, 2009, Okazaki, 2016). However, despite continued observations of such differences between Westerners and Easterners, there has been a lack of understanding of the relationship between cognitive dissonance and cultural variables between the Black African and Western individuals, particularly in relation to HIV/AIDS.

Problem Statement

Researchers have been focused on identifying cultural variables linked to HIV/AIDS transmission to help develop effective prevention strategies globally (Bombereau & Allen, 2008; Campbell, 1995; Green et al., 2009; UNAIDS, 2017). Similarly, interest has been generated in identifying and understanding cultural factors in Canada considering the over-representation of HIV infections among BACCs relative to

the WCs (PHAC, 2010, 2012a, 2016). Additionally, identification of cultural factors associated with cognitive dissonance experiences has been a topic of interest given Festinger's (1957) description of cognitive dissonance. Though some researchers have indicated cross-cultural similarities in cognitive dissonance experiences (Gilovich et al., 2016; Okazaki, 2016), others have also documented cross-cultural differences in such experiences (Heine et al., 2016; Gawronski et al., 2008; Kokkoris & Kuhnen, 2013). For example, in a study on cultural factors associated with increased HIV/AIDS transmission and prevalence rates in Namibia, researchers concluded that vulnerability to infection was linked to cultural notions of what it meant to be a woman or a man in that context (Brown et al., 2005). In other words, cultural meanings of femininity and masculinity were associated with transmission risk as a function of adherence (Brown et al., 2005). These meanings have also implicated in exacerbating the HIV/AIDS epidemic among Black communities elsewhere (Bombereau & Allen, 2008). Further studies have shown that experiences of cognitive dissonance in adolescents are linked to cultural SGRS norms of masculinity. In other words, culture-specific cognitive dissonance arousal and reduction can be a function of adherence to SGRS despite knowledge and awareness of vulnerability to infection (Mwale, 2009).

Additionally, evidence has suggested a link between sexual behavior change and reductions in HIV/AIDS infection rates in an African context (Genius & Genius, 2005; Green & Conde, 2000; Hallett et al., 2006; Shelton et al., 2004). However, although incorporation of culturally tailored information transmission and communication strategies has enhanced effectiveness and influenced declines in infections (Genius &

Genius, 2005), these prevention efforts have focused only on risky sexual behavior reduction without consideration of contextual factors shaping such behaviors. Studies have also been focused on changes in sexual behavior like abstinence and condom use rather than cognitive dissonance and SGRS. However, there have been findings implicating sociocultural factors in increasing transmission risk of the HIV virus, suggesting a need for continued investigations. Despite the noted intra-culturally revealed link between the variables in the adolescent population (Mwale, 2009), such understanding has remained largely unexplored in the adult populations cross-culturally, particularly in the Canadian populations.

The literature has indicated population disparities in HIV/AIDS incidence and prevalence rates in the populations under study, a culturally-created vulnerability to infection (Brown et al., 2005; Green et al., 2009; Izugbara, 2005, 2008; Thege, 2009), and a link between cognitive dissonance experiences and culture (Mwale, 2009). Therefore, it was plausible in this study to hypothesize that effectively addressing the spread of the HIV virus might be achieved through behavior change as described by Festinger (1957) as a function of cognitive dissonance. Additionally, in light of cross-cultural differences in such experiences (Gawronski et al., 2008), it was also plausible to hypothesize that behavioral change motivation as a function of cognitive dissonance might not have been a factor for BACCs given the cultural relativity of the sexual behaviors. Dissonance and motivation for change depends on the degree to which perceived discrepancy is culturally relevant (Gawronski et al., 2008), but due to the extent that BACCs may strongly identify with their African cultural ideals of SGRS, they

would not be likely to experience dissonance arousal. If that is the case, then the HIV virus would continue to impact individuals' health. Thus, there may be a component of factors underlying the reported differential increased epidemiological findings in these Canadian populations. Given the motivational properties of cognitive dissonance (Festinger, 1957) and the interrelationship between sexual behavior change and HIV/AIDS prevention strategies in other contexts (e.g., Green et al., 2006; Hallett et al., 2006), this study was conducted to investigate cultural differences in HIV/AIDS-related cognitive dissonance experiences as a function of SGRS between BACCs and WCs. The results may provide entry points for developing effective culturally-appropriate, population-specific treatment and intervention strategies.

Purpose of the Study

The purpose of this quantitative study was to compare cultural differences in the experiences of cognitive dissonance as a function of SGRS between BACCs and WCs, utilizing a quantitative contrasted group design from Festinger's (1957) cognitive dissonance theory tenet of involuntary exposure to information (IEI). Given the established negative impact of cultural SGRS (Brown et al., 2005; Campbell, 1995; Crawford, & Popp, 2003; Levin, Ward, & Neilson, 2012), and in light of recorded increased differential HIV/AIDS incidence and prevalence rates between these Canadian populations (PHAC, 2016), understanding the influence of culture on individuals' sexual behaviors in relation to cognitive dissonance in the context of HIV/AIDS transmission may help develop scientifically-informed prevention strategies.

The independent variable was SGRS variables of masculinity and femininity, and the dependent variable was cognitive dissonance. Collected data from participants was analyzed to investigate relationships between variables. Comparisons between groups were conducted to gain understanding of the constructs under study. Such assessment was important to providing answers to the study's research questions, informing effective population-specific preventions, and to stopping the spread of the HIV virus.

Research Questions and Hypotheses

The research questions for the study were informed by a review of literature on cognitive dissonance, cultural gender-role socialization, and HIV/AIDS.

RQ1: Is there a cultural difference between samples of the BACC and the WC in relation to HIV/AIDS-related cognitive dissonance as a function of SGRS as observed through new information rejection according to the involuntary exposure to information tenet of Festinger's (1957) theoretical perspective?

$H_0$1: There is no statistically significant cultural difference between samples of the BACC and the WC in relation to HIV/AIDS-related cognitive dissonance as a function of SGRS as observed through new information rejection according to the involuntary exposure to information tenet of Festinger's (1957) theoretical perspective.

$H_1$1: There is a statistically significant cultural difference between samples of the BACC and the WC in relation to HIV/AIDS-related cognitive dissonance as a function of SGRS as observed through new information rejection according to the

involuntary exposure to information tenet of Festinger's (1957) theoretical perspective.

RQ2: Is there a relationship between HIV/AIDS-related cognitive dissonance arousal and cultural SGRS as a function of adherence, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form?

$H_0$2: There is no statistically significant relationship between HIV/AIDS-related cognitive dissonance arousal and cultural SGRS as a function of adherence, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

$H_1$2: There is a statistically significant relationship between HIV/AIDS-related cognitive dissonance arousal and cultural SGRS as a function of adherence, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

RQ3: To the extent the BACC participants strongly identify with their cultural group, are they likely to show rejection of the new HIV/AIDS-related information as measured by the Cultural Identification Form and the Cognitive Dissonance Form?

$H_0$3: There is no statistically significant relationship between BACC participants' strong identification with their cultural group as indicated on the adherence form, and likely rejection of the new information as measured by the Cultural Identification Form and the Cognitive Dissonance Form

$H_1$3: There is a statistically significant relationship between participants' strong identification with their cultural group as indicated on the adherence form and

likely rejection of the new information as measured by the Cultural Identification Form and the Cognitive Dissonance Form.

Theoretical and Conceptual Framework of the Study

In view of the nature of the research, the study was grounded in Gawronski et al.'s (2008) cultural reconceptualization of Festinger's (1957) cognitive dissonance theoretical perspective implicating experiences of psychological distress as a consequence of inconsistencies between behaviors and beliefs cross-culturally. According to Festinger, upon realization of discrepancies, individuals change their thoughts, attitudes, and behaviors, or find other information to regulate the discomfort. However, although some researchers have indicated cross-cultural similarities in such experiences (Gilovich et al., 2016; Okazaki, 2016), others have continued to reveal the significant role of cultural differences in the elicitation of such distress (Gawronski et al., 2008; Heine et al., 2016; Okazaki, 2016).

In their three-stage model, Gawronski et al. (2008) described the importance of individuals' perceptions of cultural relativity to Festinger's (1957) dissonance reduction strategies. According to the authors, strategies to regulate cognitive dissonance would be a factor of consideration only if the inconsistency between an individual's beliefs and behaviors are culturally relevant (Gawronski et al., 2008). In other words, dissonance arousal and motivation for behavior change are dependent on an individual's awareness of culturally relevant inconsistent cognitions as a function of beliefs and attitudes, among other things like cultural values and norms (Gawronski et al., 2008). For example, if cultural differences in beliefs and values impact psychological distress, then dissonance

arousal might not be a relevant variable for BACCs given that the gendered-norms are culturally acceptable (Brown et al., 2005). Thus, because distress experiences depend on individuals' awareness of the discrepancy plus accuracy of such inconsistency (Gawronski et al., 2008), these individuals would not be motivated to change behaviors. As such, Gawronski et al. (2008) provided the cultural conceptual framework to the study from Festinger's (1957) theoretical perspective and facilitated in-depth knowledge, which may improve understanding of the impact of culture on individuals' sexual behaviors in the context of HIV/AIDS transmission. This understanding may help in the development of effective population-specific treatment and intervention strategies.

Nature of the Study

This research study utilized the quantitative survey method for data collection, as the method generated numeric descriptions of opinions by studying population samples. Specifically, a contrasted-group design was used to collect data from samples of the BACCs and WCs. A one-time self-administered survey method was an economic way of quickly generating data from a small portion of the target populations (Creswell, 2014), which facilitates generalizations and supports claims made about the populations (Frankfort-Nachmias & Nachmias, 2008). The rationale for the study design was based on the purpose of seeking to investigate cultural differences in the experiences of cognitive dissonance as a function of SGRS between the groups under study, with the goal of generalizing the findings to the populations. If the findings support the research questions and hypotheses about the populations, then generalizations can be made.

The dependent variable for the study was dissonance arousal observable through new information invalidation as described by Festinger's (1957) theoretical tenet of IEI. The independent variable SGRS consisted of two variables: masculinity norms and femininity norms. The invalidation of information was calculated from the degree of adherence to SGRS. No confounding variables were identified for the study.

Data were collected utilizing online self-administered surveys. The online method was suitable due to the availability of varied research resources and possible accessibility to reach more individuals in the targeted groups under study. Additionally, given the nature of the research questions investigating a sensitive and stigmatized disease, the online method also offered privacy and security needed for information gathering. Data analysis was conducted through regression analyses and nonparametric tests.

Definition of Terms

Cultural sexual gender-role socialization: Bussey and Bandura (1999) described gender-role socialization as gender-specific messages of appropriate sociocultural expectations of conduct and responsibility reinforced by parents and family members. In line with such understanding, the research study viewed *cultural sexual gender-role socialization* as traditional differential culture-specific parental transmission of messages of appropriate sociocultural expectations of sexual behavior conduct.

HIV/AIDS-related psychological distress: Cognitive dissonance arousal is a function of awareness of a culturally created vulnerability to infection and transmission of the HIV virus.

Femininity norms: Culturally-created notions of appropriate heterosexual female behavior as represented by sexual purity of chastity before marriage and fidelity in marriage (Brown et al., 2005), nonstigmatization and acceptance of masculinity norms, and stigmatization of multiple partners for females (Mbonu, Van den Borne, & De Vries, 2010).

Masculinity norms: Culturally-created notions of appropriate heterosexual male behavior equated with sexual prowess, multiple partnerships, fatherhood (Brown et al., 2005; Mbonu et al, 2010) as well as established or nonestablished polygamy relationships and having a woman outside of a marriage or main partnership (ACCHO, 2006).

Assumptions and Limitations

It was assumed that participants had been socialized from a cultural sexually-gendered perspective and that their country of birth had significant implications on adherence to such gender-linked sexual behavior as a function of parental modeling and cultural-gendered message transmission consistent with Bussey and Banduras' (1999) theoretical perspective. It was also assumed that participants' voluntary characteristics would not bias the findings and that elevated pre-study HIV/AIDS-related cognitive dissonance would not preclude participation. It was further assumed that the measures utilized would yield appropriate population-specific data for analysis to aid achievement of the overarching goal.

Taken together, these assumptions were presumed to significantly assist with achievement of the study's objectives of generalizing the findings to the populations under study. However, given the nature of the study, generalizability of the research

findings are only to the populations under study. Researcher assumptions of population parameters precede sample statistics and allow for hypotheses formulation that could be tested utilizing parametric or non-parametric tests of significance (Frankfort-Nachmias & Nachmias, 2008). However, despite such assumptions, the generalizability of the study might be limited only to the specific populations under study given the inclusion criteria stipulating that only individuals born in their countries and the classification of these countries.

Additionally, because the study was focused on a stigmatized disease (Gardezi et al., 2008; Kalipeni, 2008), difficulty with selection-history interaction was considered. This limitation posed a problem by only attracting participants with nonstigmatizing attitudes or those from the affected community (i.e., individuals with family members, close friends, acquittances or colleagues infected and living with the virus). This limitation was controlled by utilization of the Attitudes Towards AIDS Scale (ATAS) to assess participants' attitudes toward people living with HIV/AIDS (PLWHA). Further, and given the diversity of the BACC as well as the gendered nature of cultural factors under study, generalizability of findings was limited only to those sub-Saharan countries under study, and the frequency distribution was utilized for gender for the two groups.

Scope and Delimitations

External validity is the generalizability of research findings to the populations under study (Frankfort-Nachmias & Nachmias, 2008). For both groups, criteria for inclusion was participants born in their native countries (i.e., sub-Saharan Africa and Canada), and exclusion was participants with prior knowledge of the HIV/AIDS-related

research findings in line with Festinger's (1957) cognitive dissonance perspective of the IEI tenet requiring the information to be new to the participant.

This study addressed cognitive dissonance arousal as a function of adherence to cultural SGRS. Specifically, the study assessed how culturally constructed expectations of gendered sexual conduct influenced arousal of HIV/AIDS-related psychological distress as a function of adherence in the context of HIV/AIDS transmission. Because such distress implicates change motivation (Festinger, 1957), which might be culturally compromised (Gawronski et al., 2008), understanding such differences may help in the development of scientifically informed, population-specific treatment and intervention strategies for use, particularly with BACCs.

Significance

Because inconsistencies between individuals' beliefs and actions can lead to psychological distress and subsequently behavioral change motivation (Festinger, 1957), which can be mediated by cultural variables (Gawronski et al., 2008), understanding the association between cultural SGRS and cognitive dissonance in these populations was important. This understanding can positively impact social change by providing insight useful for informing the development of effective theoretically informed and population-specific, treatment and intervention strategies. It was hoped that new perspectives may also aid efforts to decrease elevated HIV/AIDS incidence and prevalence rates impacting BACCs and burdening public health resources.

Summary

Since Festinger's (1957) cognitive dissonance theory implicating cross-cultural similarities in the experiences of psychological distress, cultural researchers have continued to implicate differential cultural factors that affect dissonance (Gawronski et al., 2008; Hoshino-Browne et al., 2005). Although evidence has suggested cross-cultural similarities in the cognitive processes associated with such psychological disturbance (Gilovich et al., 2016; Okazaki, 2016), increasing agreement in relation to such distress experiences has indicated cultural relativity (Gawronski et al., 2008; Kimel, et al., 2012; Kokkoris & Kuhnen, 2013; Heine et al., 2016; Okazaki, 2016). Therefore, given the documented link between cognitive dissonance arousal and change motivation (Festinger, 1957), this study was important to investigate cultural differences in relation to HIV/AIDS-related cognitive dissonance as a function of SGRS between BACCs and WCs. Results may help develop effective prevention strategies for use with BACCs, whose increased incidence and prevalence rates continues to be over-represented compared to the mainstream population (PHAC, 2016).

Chapter 2: Literature Review

Introduction

HIV/AIDS prevention strategies have been associated with sexual behavior change (Green & Conde, 2000; Genius & Genius, 2005; Hallett et al., 2006; Shelton et al., 2004), and successful behavior change has also been linked to cognitive dissonance experiences (Festinger, 1957). Further, research has also revealed the impact of cultural factors on experiences of cognitive dissonance (Gawronski et al., 2008). The literature reviewed indicated the need for continued investigation of population-specific factors of SGRS in relation to cognitive dissonance. This study was conducted to advance scientific knowledge by understanding cognitive dissonance from a culturally reconceptualized framework as described by Gawronski et al. (2008) in relation to HIV/AIDS. Enhanced knowledge regarding population differences in the experiences of cognitive dissonance as a function of cross-cultural variations in SGRS is significant to prevention efforts. Thus, I examined the relationship between cognitive dissonance and cultural SGRS considering the cited increased population differences in infections (e.g., PHAC, 2016). Given the reported negative health consequences of BACCs' SGRS on prevention efforts (e.g., Brown, 2005; Green et al., 2009; Thege, 2009; Izugbara, 2008), such understanding may provide new perspectives on development of effective prevention strategies, which can positively impact societal change.

In this chapter, a description is provided of the literature review strategy utilized to locate existing research related to the study. The chapter also includes a discussion of the study's theoretical and conceptual frameworks underlying the significance of the

study's research questions, hypotheses, and assumptions as well as results interpretation. A review of literature related to key variables and/or concepts concludes the chapter.

Literature Search Strategy

A search strategy for literature reviewed was primarily through library databases; PsycINFO, PsycARTICLES, MEDLINE, SocINDEX with full text at Walden. Additionally, Google Scholar was also utilized to conduct the literature review. Other literature review searches included Internet searches on AIDS service organizations' official websites and the PHAC website. Independent variable combinations and other search terms included *gender-role socialization, cultural sexual gender-role socialization and HIV/AIDS, masculinity and femininity norms and HIV/AIDS, as well as psychological distress and HIV/AIDS.* Other key terms and combinations utilized for the dependent variable included *cognitive dissonance,* as well as *cognitive dissonance and culture.*

Given the identified lack of understanding of population-specific factors associated with the constructs under study, the scope of the literature review included research also published in peer-reviewed full text articles from the past 8 years. Literature included only research published in the English language. Other articles and seminal work were also reviewed for historical context and theoretical foundation underlying the premise of the study.

Theoretical Foundation and Conceptual Framework

Festinger (1957) described psychological distress as a disequilibrium resulting from individuals' perceptions of discrepancies between their thoughts and actions. This

theoretical perspective suggests that psychological equilibrium is essential to optimal human functioning, and disturbance to this balance elicits psychological distress and suboptimal psychological well-being. This lack of balance, known as cognitive dissonance arousal, subsequently influences engagement in strategies to restore balance including attitude, behavior, justification or, cognitive distortions. For example, Festinger described individuals' awareness of their smoking behavior in light of the known negative consequences associated with such behavior, and these inconsistent cognitions could result in psychological distress that in turn could be mitigated by balance restoration strategies (Festinger, 1957).

However, despite established cross-cultural similarities in cognitive dissonance arousal (e.g., Gilovich et al., 2016; Okazaki, 2016), cross-cultural differences in the experiences of psychological distress continue to be noted (e.g., Gawronski et al., 2008; Heine et al., 2016; Kimel et al., 2012; Kokkoris & Kuhnen, 2013; Okazaki, 2016). For example, Gawronski et al. (2008) proposed a reconceptualization of Festinger's (1957) theoretical perspective arguing for the significant role of culture in cognitive dissonance experiences. According to the authors, an important concept to cognitive dissonance arousal is cultural applicability of activated inconsistency between an individual's beliefs and behaviors, which needs to be considered before balance restoration strategies can be employed. In other words, dissonance arousal and motivation for behavior change are dependent on awareness of culturally relevant inconsistent cognitions as a function of beliefs and attitudes, among other things like cultural values and norms (Gawronski et al., 2008).

Festinger's (1957 theoretical perspective and Gawronski et al.'s (2008) conceptual framework were selected for this study due to their applicability to the constructs under investigation. For example, based on Festinger's (1957) theoretical perspective, it was plausible to hypothesize that in the context of HIV/AIDS transmission in the populations under study, cognitive dissonance would be created when individuals became aware of the discrepancy between their beliefs and actions in relation to creating risk for infection, which could motivate strategies to reduce psychological distress and restore balance. Specifically, for participants who became aware of such inconsistency (i.e., between beliefs of self-preservation and their adherence to SGRS norms manifesting in risky behaviors), balance restoration strategies could be utilized to avoid infection by the HIV virus for both genders. In other words, the discrepancy between engaging in traditionally acceptable sexual behaviors contradicting self-preservation may elicit psychological distress as a function of adherence, which can impact behavioral change motivation for both genders in line with Festinger's theory.

In consideration of the observed cross-cultural differences as described by Gawronski et al. (2008), it was also plausible to hypothesize that dissonance arousal might not be a relevant variable for the BACC participants given the cultural relativity of the SGRS (e.g., Brown et al., 2005; Green et al., 2009; Izugbara, 2008; Mufune, 2003). Given that dissonance arousal and motivation for balance restoration depend on the degree to which the perceived discrepancy is culturally relevant (Gawronski et al., 2008), cognitive dissonance arousal might not have been a factor for consideration for the BACC group because they may strongly identify with their African cultural ideals of

SGRS and not experience dissonance. Thus, investigating cognitive dissonance arousal in relation to cultural SGRS between BACC and WC participants can provide insight into factors associated with established heightened differential HIV/AIDS incidence and prevalence rates for these populations. This understanding may then help develop scientifically informed population-specific treatment and prevention strategies, particularly for the BACC given the elevated HIV/AIDS incidence and prevalence rates compared to other Canadian heterosexual populations (PHAC, 2016).

Taken together, the study's theoretical foundation and conceptual framework facilitated understanding of the variables under study. Given the noted cross-cultural similarities (Gilovich et al., 2016; Okazaki, 2016), and differences in the experiences of cognitive dissonance (Gawronski et al., 2008; Kimel et al., 2012; Kokkoris & Kuhnen, 2013; Okazaki, 2016; Heine et al., 2016), such understanding may illuminate ways to effectively curb the spread of HIV/AIDS. In the next section, literature relevant for this study is reviewed.

Literature Review Related to Key Variables

This section highlights past research on the study's key variables of cognitive dissonance and culture and culturally constructed notions of femininity and masculinity. The literature was essential for understanding the impact of culture on cognitive dissonance experiences as well as the influence of culture on shaping individuals' sexual behaviors. The literature also supported the need for further investigations of the relationship between cognitive dissonance and culture in the context of HIV/AIDS transmission in the Canadian populations under study.

Cognitive Dissonance

Festinger's (1957) seminal work on cognitive dissonance continues to inspire cross-cultural investigations in experiences of psychological distress (e.g., Gawronski et al., 2008; Gilovich et al., 2016; Hoshino-Browne et al., 2005; Hoshino-Browne, 2012; Imada & Kitayama, 2010; Kitayama et al., 2004; Kimel et al., 2012; Kokkoris & Kuhnen; Markus & Kitayama, 1991; Okazaki, 2016). According to the theoretical view, cognitive dissonance results from individuals' awareness of discrepancies between their beliefs and actions. The main tenet of the theoretical perspective emphasizes the importance of psychological equilibrium in optimal human functioning, and disequilibrium based on cognitive inconsistency is linked to psychological distress. In the event of negative emotional arousal, different strategies are engaged to restore psychological balance through changing attitudes or behaviors as well as information seeking and cognitive distortions.

Cognitive dissonance and culture. Festinger's (1957) cognitive dissonance theory describing cross-cultural similarities in the experiences of cognitive dissonance has generated significant cross-cultural comparisons indicating differences in the experiences of psychological distress (e.g., Gawronski et al., 2008; Gilovich et al., 2016; Heine et al., 2016; Imada & Kitayama, 2010; Kimel et al., 2012; Kokkoris & Kuhnen, 2013; Okazaki, 2016). For example, Markus and Kitayama (1991) contended that cultural variables play a significant role in moderating cognitive dissonance experiences based on their review of psychological and anthropological self-theories. In their research, the authors compared North American and Japanese individuals from cognitive, emotional,

and motivational perspectives based on self-construal (i.e., independent versus interdependent). Markus and Kitayama concluded that dissonance experiences might not be a factor for consideration in other cultures as a function of cultural differences in self-construal despite inconsistency between peoples' actions and attitudes. Specifically, their work highlighted that North Americans were more likely to experience psychological distress compared to their Japanese counterparts as a function of the independent construal emphasizing individual characteristics (Markus & Kitayama, 1991). However, although the authors also highlighted similarities between Black African and Japanese cultures, their investigations primarily focused on comparisons between the Japanese and North Americans.

Similar to Markus and Kitayama's (1991) study, Heine and Lehman (1997) compared Canadian and Japanese participants based on independent and interdependent construal of the self and sought to understand cultural differences in cognitive dissonance reduction experiences. In their investigation, the authors utilized the free-choice dissonance paradigm of the self-affirmation theoretical perspective. In this paradigm, participants' cognitive dissonance arousal was expected as a function of their choices and perceptions of consistency between their actions and beliefs. Based on established observations highlighting the importance of self-focused inner characteristics to individuals with an independent self-construal (e.g., Markus & Kitayama, 1991), Heine and Lehman hypothesized that the Canadians would experience more dissonance reduction, trying to engage in strategies to reduce psychological distress, compared to their Japanese counterparts, whose choices were more likely to be other-focused and not

self-implicating, as a function of their independent self-construal. Based on participants' responses on CD preference in addition to a false personality test, Heine and Lehman indicated data supporting their hypothesis, with Canadians showing more cognitive dissonance reduction than their Japanese counterparts (Heine & Lehman, 1997). However, despite utilizing the interdependent qualities in their feedback, the choices the Japanese were assessed on did not implicate their other-focused sense of self-integrity.

Drawing on similar understandings in their cultural comparison study of cognitive dissonance between North Americans and the Japanese, Kitayama, Snibbe, Markus and Suzuki (2004) looked at how individuals justified their choices utilizing samples of college students. Their investigation addressed culturally relevant aspects of the independent self-construal (i.e., efficacy and competence) and of the interdependent self-construal (positive regard from others), utilizing the free-choice paradigm to compare differences in dissonance arousal in the two cultures. The researchers hypothesized that dissonance arousal would be evident in both cultures as a function of what was considered culturally relevant and threatening to the self (i.e., self-focused characteristics for the North Americans and other-focused characteristics for the Japanese).

Kitayama et al., (2004) conducted a total of four experimental studies, with the first hypothesizing that the Japanese participants would evidence cognitive dissonance with appropriate relevant cues. The researchers closely replicated Heine and Lehman's (1997) procedure, confirming their hypothesis and documenting that cognitive dissonance arousal in the Japanese participants was elicited by culturally relevant stimuli threatening the interdependent self-integrity (Kitayama et al., 2004). Their second study was focused

on culturally relevant aspects of the independent self for the North American participants and the interdependent aspects of the Japanese participants from social cues. This study also confirmed the hypothesis indicating the self-focused aspect of dissonance arousal for the North American participants and the other-focused aspect of dissonance arousal for the Japanese participants (Kitayama et al., 2004).

In their third study, the researchers investigated the other-focused cognitive dissonance arousal as a function of the significance of other in relation to independent and interdependent self-concepts in the Japanese and North American participants. They hypothesized that potential threats to Japanese self-integrity would be linked to dissonance arousal as a function of the significance of the other relative to nonsignificant others compared to their counterparts. The results confirmed their hypothesis and indicated that other-focused cognitive dissonance arousal in the Japanese participants was linked to the choices made for significant others relative to nonimportant others. For the North Americans participants, the results similarly confirmed self-focused dissonance arousal despite the significance or nonsignificance of other (Kitayama et al., 2004). In their final study, the researchers further sought to understand cognitive dissonance arousal as a function of exposure to others in the Japanese and North American college students. They hypothesized that such implicit exposure to social others would result in psychological distress as a function of the interdependent self-concept primarily concerned about interpersonal relationships in the Japanese participants compared to their North American counterparts. This study also confirmed the hypothesis and indicated the

importance of others in dissonance arousal for the Japanese participants relative to their North American counterparts (Kitayama et al., 2004).

Taken together, Kitayama et al.'s (2004) investigations further underscored findings indicating the impact of cultural variables in cognitive dissonance experiences. In other words, their findings confirmed Heine and Lehman's (1997) descriptions indicating that for the Japanese individuals and based on cultural variables of interdependency, individuals were likely to experience psychological distress as a function of what was considered important and valuable. Similarly, for the North American individuals, given the culturally sanctioned importance of self-attributes, dissonance experiences also indicated such cultural relativity (Kitayama et al., 2004). However, despite the established awareness, the investigations continued to be primarily focused between North American and Asian individuals.

In another study, Hoshino-Browne et al. (2005) compared European Canadians and Asian Canadians of Japanese descent and assessed the impact of culturally sanctioned variables on experiences of cognitive dissonance based on self-affirmation theoretical perspectives. The researchers hypothesized culturally influenced cognitive dissonance experiences for both cultures as a function of what was considered valuable (i.e., other-focused for the Asian Canadians and self-focused for the European Canadians). Participants screened based on country of birth provided information based on 10 food choices ranked according to both their friend and their own liking, and gift certificate choices for themselves and significant others (Hoshino-Browne et al., 2005). The results supported their hypothesis indicating culturally influenced cognitive

dissonance arousal as a function of values and norms. In other words, the results underscored similarities in cognitive dissonance experiences based on variations in cultural mores and values (Hoshino-Browne et al., 2005). Again, although these studies looked extensively at differences between North Americans and Asians, unanswered questions remained in relation to relationship of such variables between North Americans and Black Africans despite Markus and Kitayama's (1991) theorization of the cultural similarities between the Africans and Asians as a function of interdependence.

In advancing such knowledge, Gawronski et al. (2008) articulated a three-stage cultural model of cognitive dissonance, emphasizing the centrality of culture in psychological distress. They argued that individuals' cognitive dissonance experiences required cultural relativity before implementation of Festinger's (1957) balance restoration strategies. In other words, dissonance experiences were based on specific culturally sanctioned variables like norms, values, beliefs, and practices (Gawronski et al., 2008). However, although such understanding particularly in relation to Easterners and Westerners prevails (e.g., Hoshino-Browne, 2012**;** Kimel et al., 2012; Kokkoris & Kuhnen, 2013; Heine et al., 2016; Okazaki, 2016), literature reviewed evidenced a paucity of research in understanding such differences between Black Africans and North Americans.

One identified study of cognitive dissonance in adolescents conducted in the African context indicated cultural relativity of cognitive dissonance arousal and reduction (Mwale, 2009). The author investigated cultural factors associated with the lack of behavior change despite knowledge of HIV/AIDS based on Festinger's (1957) cognitive

dissonance theorization, utilizing a gender-stratified sample of 180 adolescents (90 girls and 90 boys) recruited from high schools in Zomba, Malawi. After employing a triangulation design including both quantitative and qualitative methodologies, the author reported culturally influenced cognitive dissonance arousal and reduction as a function of adherence (Mwale, 2009).

Although the literature reviewed indicated a paucity of research investigating the variables under study in relation to HIV/AIDS, some authors have reported prevalence of HIV/AIDS-related psychological distress (e.g., Bingham, Harawa, & Williams, 2013; Malebogo et al., 2018); with associated negative health consequences (e.g., Holloway et al., 2017; Wong, Kipke Weiss, & McDavitt, 2010). However, although Bingham and others (2013) investigated psychological distress in relation to HIV/AIDS and gender-role-conflict, defined as an aspect of traditional gender-role-socialization, the authors only investigated the prevalence of anxiety and depression and not cognitive dissonance (Bingham et al., 2013).

In summary, most studies of cognitive dissonance have been experimental and conducted from self-affirmation theoretical perspectives of free-choice and forced-compliance paradigms (e.g., Gilovich et al., 2016; Hoshino-Browne et al., 2005; Kimel et al., 2012; Kitayama et al, 2004; Okazaki, 2016). Although such investigations have indicated both -similarities and differences in the experiences of cognitive dissonance in specific situations as a function of important and valued cultural variables, literature reviewed indicated enhanced understanding of the construct between Easterners and Westerners. Despite one identified cognitive dissonance study conducted intra-culturally

in the African context (Mwale, 2009), there is a suggestion indicating the importance of continued investigations of such experiences to enhance understanding of the impact of culture in shaping sexual behaviors in relation to HIV/AIDS transmission. In other words, given the recorded cultural relativity of cognitive dissonance arousal in a segment of the Black African population (Mwale, 2009), extending such investigations cross-culturally in the Canadian populations was essential to potentially providing insight into understanding population-specific factors in relation to HIV/AIDS incidence and prevalence disparities. In the next section, a cross-cultural literature review conducted on femininity and masculinity norms is presented.

Culturally Constructed Notions of Masculinity and Femininity

Masculinity and femininity notions indicate culturally influenced descriptions and expectations of acceptable female and male behaviors across cultures, (e.g., Brown et al., 2005; Campbell, 1995; Gupta, 2000). These differential women and men sexual behaviors evidence long-standing socio-cultural influences (Bombereau & Allen, 2008; Brown et al., 2005; Levin et al., 2012; Reardon & Govender, 2013); reflective of permissive masculinity norms and restrictive femininity norms in some cultures (ACCHO, 2006; Bombereau & Allen, 2008; Caldwell, Orubuleyo, & Caldwell, 1991; Gupta, 2000; Levin et al., 2012). For example, although traditional male SGRS is associated with sexual prowess (e.g., Bombereau & Allen, 2008; Brown et al., 2005; Caldwell et al., 1991; Campbell, 1995; Izugbara, 2008; Levin et al., 2012); traditional female SGRS evidence notions of sexual purity of abstaining from sex before marriage and faithfulness in marriage (Brown et al., 2005; Thege, 2009; Tolman, 2002; USAID,

2008). As such, these norms have been linked to power differences (Campbell, 1995; Levin et al., 2012; Mbonu et al., 2010; Thege, 2009; Tolman, 2002; Winghood & DiClement, 2000), and poor health (Bombereau & Allen, 2008; Fullilove, Fullilove, Haynes, & Gross, 1990; Gardezi et al., 2008; Green et al., 2009; Izugbara, 2008; Levin et al., 2012; Mbonu et al., 2010; Thege, 2009; Winghood & DiClement, 2000). In the following sections, literature reviewed in relation to femininity and masculinity norms of the populations under study is provided.

Black African masculinity and femininity norms. In the Black African communities, literature reviewed revealed a gendered traditionally influenced heterosexual masculinity associated with sexual prowess, multiple partnerships, non-condom use and values of fatherhood (e.g., Brown et al., 2005; Green et al., 2009; Izugbara, 2005; Izugbara, 2008). These masculinity norms further embody culturally-acceptable multiple partnerships before and after marriage (ACCHO, 2006; Brown et al., 2005; Izugbara, 2008; Mbago & Sichoma, 2010), multiple wives and other sexual relationships (Brown et al., 2005; Green et al., 2009; Izugbara, 2005; Ngugi et al., 2004; Thege, 2009), associated with exacerbation of the HIV epidemic (e.g., Brown et al., 2005; Halperin & Epstein, 2004; Izugbara, 2008; Mah & Halperin, 2008; Mbonu et al., 2010; Thege, 2009). For example, Brown and colleagues (2005) conducted three focus groups comprising of a total of 50 women and men between the ages of 19 and 30 and assessed the link between masculinity norms and HIV/AIDS transmission in Namibia. After participants discussed cultural masculinity ideals and their influence on attitudes

and sexual behaviour, the authors concluded that culturally influenced notions of masculinity negatively impacted prevention strategies (Brown et al., 2005).

In another study, Mbago and Sichoma (2010) assessed factors associated with extramarital sex in a sample of 568 Tanzanian heterosexual men aged 15 to 62. The authors hypothesized a connection between participants' sexual behaviours and vulnerability to HIV/AIDS infection and utilized quantitative and qualitative data collection methodologies. The results revealed that participants adhered to sexual behaviors creating vulnerability to infection, with 58% indicating premarital multiple partnerships; and 39% reporting such behaviors post-marital (Mbago & Sichoma, 2010). However, although the authors investigated such sexual behaviours from a cultural perspective in the context of HIV/AIDS, they did not investigate factors associated with continued engagement in such risky behaviors despite noted elevated risk and vulnerability, and particularly in a geographic area with high incidence and prevalence.

However, although reflected permissive masculinity norms for the Black African traditional SGRS, literature reviewed indicated that traditional socialization for Black African women prescribe femininity norms of abstaining from sex before marriage and faithfulness in marriage (e.g., Thege, 2009). The femininity norms also embody acceptance of the cultural norm stigmatizing multiple partnerships for females and not for males (e.g., Brown et al., 2005; Izugbara, 2005; Thege, 2009), and are linked to vulnerability and increased risk of HIV/AIDS infection (e.g., Brown et al., 2010; Izugbara, 2008; Newman, Williams, Massaquoi, & Brown, 2008), as well as stigma and barriers to HIV/AIDS treatment access (Gardezi et al., 2008; Kalipeni, 2008; Mbonu et

al., 2010; Newman et al., 2008). For example, Thege (2009) utilized a qualitative approach and investigated the link between socio-cultural factors on women's agency in intimate relationships from anthropological and sociological perspectives. After conducting focus groups and interviews with samples of married and single women from rural South African communities, Thege reported a link between culturally influenced SGRS notions of femininity and women's vulnerability to infection consistent with results of other traditional SGRS investigations (e.g., Mbonu et al., 2010).

In their study, Mbonu et al. (2010) explored the impact of socio-culturally influenced gendered beliefs on PLWHA ability to access care. After comparing data from a sample of 100 participants comprising of healthcare workers, community members; and PLWHA, the authors reported results confirming their hypothesis suggesting cultural SGRS-related stigma's negative impact on treatment access. While women living with HIV/AIDS were blamed for their condition and for infecting males, men living with HIV/AIDS were culturally tolerated (Mbonu et al., 2010).

Taken together, research has indicated culturally based vulnerability and risk to HIV/AIDS infection for Black Africans as a function of SGRS predisposing entire communities to increased risk of HIV/AIDS infection. As such, understanding such cultural values from a cognitive dissonance perspective might potentially provide entry points for development of effective culturally appropriate intervention and prevention strategies, and impact positive societal change.

North American masculinity and femininity norms. Traditional North American hetero-SGRS embody masculinity notions of sexual prowess and performance,

as well as sexual knowledge expectations (Campbell, 1995). North American men are socialized to portray virility and eagerness for sex, and to be initiators of sex (Campbell, 1995). Although heterosexual men are encouraged to embrace sexual prowess before marriage, such sexual freedom is culturally discouraged for heterosexual women (Crawford & Unger, 2000; Downie, & Coates, 1999). Traditional sexual socialization for North American women include messages of sexual modesty and moderation of male sexual behaviors; as well as responsibility for their families' (Campbell, 1995). Such socialization has also been reflected in teenage femininity norms and not in masculinity norms (Downie, & Coates, 1999; Tolman 2002, Tolman & McClelland, 2011). However, despite the existence of contemporary views embracing sexual permissiveness for both genders, traditionally influenced masculinity and femininity norms exist in North American communities (Crawford & Popp, 2003). Consequently, associated negative health consequences have also been noted for both genders (Campbell, 1995; Crawford, & Popp, 2003; Levin et al., 2012).

In a study investigating gender roles and sexuality in relation to HIV/AIDS prevention strategies, Campbell (1995) hypothesized that traditional gender role socialization influenced male attitudes and sexual behaviors negatively impacting prevention strategies. Specifically, the researcher argued that cultural notions of masculinity posed significant challenges to effectively curbing the spread of the virus. Campbell concluded that effective prevention strategies incorporated enhanced understanding of the role of traditional gender-role socialization for heterosexual males (Campbell, 1995). However, although the author investigated the impact of gender-role

socialization on prevention strategies, the study focused mainly on the impact of masculinity and femininity norms in relation to health-seeking behaviors.

In their study, Levin et al. (2012) investigated the impact of SGRS on attitudes and sexual behaviours in a sample of 332 heterosexual college students. The sample consisted of mostly White participants (73.5%), with ages ranging from 17 to 22, and data provided responses to questions encompassing multi-faceted aspects of sociocultural SGRS, particularly in messages received from parents and peers. Levine et al.'s results indicated masculinity notions of sexual prowess, and messages embodying the importance of monogamy, abstinence, and condom use for all participants. In other words, the authors documented socio-culturally influenced notions of masculinity and femininity emphasizing sexual prowess, abstinence, and fidelity in relationships, that in turn impacted sexual attitudes and behaviors (Levin et al., 2012). Although North American boys and girls are socialized to be abstinent before marriage and to practice fidelity in relationships, condom use is also part of sexual education. However, despite the primacy of such sexual socialization, the study also highlighted differential sexual socialization messages indicative of sexual freedom for males and not for females, also associated with negative health consequences. Of note in the sexual messages transmitted, was the reflection of parents' awareness of the risk of infection with other sexually related diseases including HIV/AIDS infection (Levin et al., 2012).

Taken together, review of North American SGRS evidenced differential messages for females and males, associated with negative health consequences (Elliott, 2010; Levin et al., 2012). Despite transmission of abstinence messages and fidelity in relationships for

both genders, sexual prowess is also an aspect of the cultural notion of masculinity before marriage (Crawford & Popp, 2003; Crawford & Unger, 2000; Tolman, 2002). As such, investigating the link between cognitive dissonance and traditional SGRS was potentially important for development of population specific treatment and intervention strategies.

Summary and Conclusions

Since Festinger's (1957) articulation of his cognitive dissonance theory, cultural researchers continued to implicate differences in such experiences as a function of variations in cultural factors (e.g., Campbell, 1995; Gawronski et al., 2008; Hoshino-Browne et. al., 2005; Levin et al., 2012). The literature reviewed indicated significant differences in cognitive dissonance experiences as a function of what is considered important cross-culturally, particularly, between Easterners and Westerners, and from self-affirmation theoretical perspectives (Gawronski et al., 2008; Gilovich et al., 2016; Heine et al., 2016; Imada & Kitayama, 2010; Kimel et al., 2012; Kokkoris & Kuhnen, 2013; Okazaki, 2016). However, this literature review indicated a knowledge gap in understanding cultural factors in experiences of cognitive dissonance between Westerners and Black Africans, particularly in relation to SGRS and HIV/AIDS. Although a connection between cognitive dissonance and traditional SGRS in adolescents was established intra-culturally for the Black Africans (Mwale, 2009), such understanding remained largely unexplored in the adult populations cross-culturally.

Further, literature reviewed also indicated differential traditional sexual gender socialization messages embodying sexual restriction for females and sexual prowess for males for both cultures (Brown et al., 2005; Crawford & Popp, 2003; Crawford & Unger,

2000; Izugbara, 2008; Mbonu et al., 2010; Thege, 2009; Tolman, 2002). However, where sexual prowess was only traditionally acceptable premaritally for the North American males, for the Black African males, sexual prowess was culturally acceptable before and after marriage (Brown et al., 2005; Izugbara, 2008; Mbonu et al., 2010; Thege, 2009). Additionally, the literature reviewed also showed that North American sexual socialization emphasized abstinence and fidelity in relationships for both genders (Crawford & Popp, 2003; Crawford & Unger, 2000; Tolman, 2002).

Research also indicated negative health consequences for traditional SGRS for both cultures (Brown et al., 2005; Elliott, 2010; Izugbara, 2008; Levin et al., 2012). Particularly, for the Black Africans, evidence of a culturally based vulnerability and risk for HIV/AIDS infection as a function of SGRS significantly exposing entire communities to increased risk of HIV/AIDS infection was reported. As such, understanding cultural values of SGRS from a cognitive dissonance perspective as described by Festinger (1957), was important to potentially shedding light into factors associated with increased HIV/AIDS infection rates and prevalence in the Canadian communities studied. In turn, such understanding could potentially inform development of effective culturally appropriate intervention and prevention strategies impacting positive societal change. In the following chapter, the study methodology, including the research design and rationale, as well as the data collection process and analysis utilized for conducting the investigation is discussed.

Chapter 3: Research Method

Introduction

This chapter includes a description of the study's design, sample, instrumentation, data analysis, and threats to validity and ethical considerations. First, the study's overview, design, and rationale are presented. Then the sample size and characteristics, selected measures, and the data collection process and analysis are provided. The chapter will be concluded with a discussion on validity and ethical procedures.

Research Design and Rationale

A quantitative contrasted-group design was utilized to investigate how cultural differences in sexual socialization impacts sexual behaviors in BACCs and the WC population in the context of HIV/AIDS transmission. The independent variable SGRS consisted of two variables: masculinity norms and femininity norms. Adherence to these cultural variables was assessed utilizing the SGRS Adherence Form (Appendix C). The dependent variable for the study was cognitive dissonance observable through employment of the dissonance reduction strategy of new information invalidation, which was assessed utilizing Cognitive Dissonance Assessment Form (Appendix E).

The design approach was appropriate, as participants were representative of two cultures (i.e., the BACCs and WCs). Participants provided their opinions after reading new information on HIV/AIDS and culture. According to Festinger's (1957) cognitive dissonance theoretical perspective tenet of IEI, if dissonance is aroused, its reduction is observable in individuals for whom the cognition introduced discomfort through invalidation of information accuracy. The study's involuntary exposure component and

its potential for emotional upset for participants was viewed as non-harm causing based on Festinger's guiding theoretical perspective, which suggests that reduction of distress through participants' rejection of information that causes dissonance can aid psychological balance. This aspect of the research is further discussed in this chapter under the Ethical Procedures section.

The survey method for data collection generated numeric descriptions of opinions by studying population samples. The one-time self-administered survey method was an economical way of quickly generating data from a small portion of the target populations (Creswell, 2014) to facilitate generalizations and support claims made about the populations (Frankfort-Nachmias & Nachmias, 2008). The rationale for the study design was based on its consistency with the goal of generalizing the findings to the populations under study. That is, the findings supporting the research questions and hypotheses about the populations would allow for generalization.

Methodology

Population

The study's target populations were Black African Canadians and WCs. Participants were not recruited from vulnerable populations, and individuals' sero-positive status (i.e., HIV/AIDS negative or positive status) was not determined. For both groups, the criterion for inclusion was participants born in their native countries. Participants with prior culture-related HIV/AIDS research knowledge were excluded. The exclusion criterion was consistent with the guiding theoretical perspective tenet of IEI (Festinger, 1957).

Sampling and Sampling Procedures

Data were collected from participants recruited from BACCs and WC communities. Given the gendered nature of the variables and the potential significance of the findings for formulating effective prevention programs, utilizing a sampling method with external validity was important because it allowed for claims about the populations. As such, the study involved the stratified sample design based on gender. Group stratifications "increase the level of accuracy when estimating parameters" (Frankfort-Nachmias & Nachmias, 2008, p. 171).

The BACC group incorporated only participants born in sub-Saharan African countries. This African region was chosen based on its classification as HIV-endemic as well as the geographic location currently regarded as the epicenter of the epidemic (United Nations Program on HIV/AIDS [UNAIDS], 2017). Exclusion criterion for both groups was respondents with prior knowledge of the research on HIV/AIDS and culture. By excluding individuals with such knowledge, the sample included only participants whose adherence or nonadherence to SGRS was not influenced by the research information, consistent with the guiding theoretical perspective (Festinger, 1957). A power analysis for ordinal logistic regression with a two tailed test at p less than .05 ($p <$ .05), with a power of .80, was calculated to establish an appropriate sample size. A minimum sample of at least 118 participants per group, for a total of 236 participants, was required (see Walters, 2004).

Procedures for Recruitment, Participation and Data Collection

Upon announcements on major social media platforms, participants willing to participate online accessed the study through the link provided in the social forum announcement. Participants recruited through institutional review board (IRB)-approved partner websites' participant pools received an e-mail with the link to the survey. The first page of the online surveys screened for participants' prior knowledge of the HIV/AIDS and cultural SGRS consistent with the study's guiding theoretical perspective tenet of IEI, as the information provided to participants was viewed as new knowledge. This was also a specific requirement of the IRB in relation to respecting participants' time. Participants indicated knowledge or no knowledge by providing a *yes* or *no* response. When participants answered *yes*, the survey logit was set to exit them from the survey and to thank them for their participation interest. The second page provided participants with the information and consent form. Participant consent was indicated by their participation. The survey was presented in the following order: a background questionnaire for demographic information inquiring about participants' gender, age, educational background, ethnicity, country of birth, and age on arrival (Appendix A); Group Identification Form (Appendix B); Traditional Sexual Gender-role Socialization Adherence Form (Appendix C); HIV/AIDS and Culture Information (Appendix D); Cognitive Dissonance Assessment Form (Appendix E); and the Attitudes Towards Aids Scale (Appendix F). Participants were asked to volunteer 15 minutes of their time, though there was no specific way used to calculate the amount of time needed for participation.

Instrumentation and Operationalization of Constructs

Demographics. Participant demographics included age, gender, education, ethnicity, country of birth, and age on arrival and length of stay in Canada.

Group Identification Form. The form consisted of two items I formulated, one based on a component utilized by Hoshino-Browne et al. (2005) in surveying which ethnic group participants most identified with and another for rating of the degree of adherence to the mainstream Canadian culture. All participants provided answers to the following first item by choosing between BACCs and WCs: Please check the box next to the group that you closely identify with. For the second item, participants responded to the following prompt: (b) If you identified as a Black African Canadian participant, please indicate your level of adherence to the mainstream Canadian population culture; requested responses from those individuals identifying as members of the BACC based on a 4-category rating scale ranging from (0) = *Non-Adherence* to (3) = *High-Adherence*.

Traditional Sexual Gender-role Socialization Adherence Form. Given the lack of research about the variables under study, participants provided answers ranging from *strongly agree* to *strongly disagree* to the following statement:

- Traditional cultural sexual norms accepting of multiple sexual partners and other sexual relationships for men before and sometimes after marriage; and not accepting of the same sexual behaviors for women before and after marriage, are acceptable and valuable norms I practice.

HIV/AIDS and Culture Information Form. The form consisted of information compiled by me based on HIV/AIDS (PHAC, 2017) and cultural SGRS findings (e.g.,

Brown et al., 2005; Izugbara, 2008; Mbonu et al., 2010; Thege, 2009). The information included population-specific epidemiological findings and the link between cultural factors and increased vulnerability and risk to HIV/AIDS infection. The form also assessed prior knowledge of the information

Cognitive Dissonance Assessment Form. Given the paucity of research about the variables under study, participants provided answers to the following researcher formulated question based on the literature reviewed about the factors under study; (1) Reflecting on the provided information regarding the link between cultural factors of femininity and masculinity norms and vulnerability and risk of HIV infection, please provide your degree of agreement with the research findings in consideration of your traditional SGRS by circling the appropriate rating using the key below:
1 = Strongly Disagree, 2= Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Attitudes Toward AIDS Scale. Participants' attitudes toward PLWHA, were assessed utilizing one subscale of the ATAS (Attitudes subscale). The ATAS scale consists of two sub-scales (Attitudes and Knowledge) each containing 25-items and was designed to assess participants' HIV/AIDS knowledge and feelings about the disease and some AIDS related issues (Goh, 1991). The ATAS scale was developed using the content validation method utilizing 320 undergraduate and graduate students. All items were selected on a priori basis and were further endorsed by AIDS experts as appropriate measures of AIDS knowledge and attitudes. Cronbach's alpha reliability of r=0.81 for the Attitudes subscale and of r=0.80 for the Knowledge scale were established based on a test-retest reliability over a time interval of two to three weeks utilizing 52 students (*n* =

26 females and n = 26 males) (Goh, 1991). Development of the ATAS scale also indicated adequate internal consistency utilizing 320 students (Goh, 1991). The instrument has been extensively used in AIDS research (e.g., Goh, 1993; Greenlee & Ridley, 1993).

On the Attitudes sub-scale, participants responded to items on a 5-category rating scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) for positively stated items and the reverse with the negatively stated items. Sample questions from the scale are "The names of individuals with AIDS should be kept confidential in order to protect them against discrimination." and "I would feel embarrassed if one of my family members have AIDS." The total number a participant receives is his/her score on the scale. The higher score indicating positive attitudes held by the participant.

The Attitudes sub-scale was utilized to assess participants' characteristics to control for the internal validity threat of selection-history interaction given the importance of participant characteristics to internal validity (Frankfort-Nachmias & Nachmias, 2008). Given the study's focus on a stigmatized disease (e.g., Gardezi et al., 2008; Kalipeni; 2008), and the fact that the topic and the informed consent clearly indicated its nature, internal validity might have been negatively impacted by only attracting participants with non-stigmatizing attitudes. As such, utilization of the ATAS Attitudes sub-scale was important.

Data Analysis Plan

This study utilized a contrasted-group design. Data analysis was conducted utilizing regression analyses and nonparametric tests. The instruments used for

measurement of the variables resulted in ordinal data which allowed for the data to be analyzed through such analyses.

Research questions and hypotheses. The following research questions and associated hypotheses were utilized:

RQ1: Is there a cultural difference in SGRS adherence and cognitive dissonance between samples of the BACC and the WC, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form?

$H_0$1: There is no cultural difference in SGRS adherence and cognitive dissonance between samples of the BACC and the WC, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form?

$H_1$1: There is a statistically significant difference in SGRS adherence and cognitive dissonance between samples of the BACC and the WC, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form?

RQ2. Is there a relationship between HIV/AIDS-related cognitive dissonance and cultural SGRS as a function of adherence?

$H_0$2: There is no statistically significant relationship between HIV/AIDS-related cognitive dissonance and cultural SGRS as a function of adherence, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

$H_1$2: There is a statistically significant relationship between HIV/AIDS-related cognitive dissonance and cultural SGRS as a function of adherence, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

RQ3: To the extent the BACC participants strongly identify with their cultural group, are they likely to show rejection of the new information, as measured by the Group Identification Form, Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form?

$H_0$3: There is no statistically significant relationship between participants' strong identification with their cultural group, and likely rejection of the new information, as measured by the Group Identification Form, Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

$H_1$3: There is a statistically significant relationship between participants' strong identification with their cultural group, and likely rejection of the new information, as measured by the Group Identification Form, Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

The instruments were scored, and data was analyzed utilizing version 21 of the Statistical Package for Social Sciences (SPSS). Data analysis was conducted utilizing ordinal logistic regression analysis and nonparametric tests. The regression model assessed HIV/AIDS-related cognitive dissonance in relation to cultural SGRS adherence, ethnicity, gender, cultural identification, and adherence to Canadian culture. Nonparametric tests were also conducted to assess group differences in SGRS adherence

and HIV/AIDS-related psychological distress. Group comparisons were based on ethnicity and gender. Descriptive statistics included the BACC countries of origin and gender statistics.

Threats to Validity

External Validity

Frankfort-Nachimias and Nachmias (2008) described external validity as the generalizability of research findings to populations under study. They further related that controlling for participant characteristics to reflect those of the populations was important. Because the design of this study was not experimental and did not include an intervention, some threats to external validity like reactive arrangements and multiple-treatment interference were eliminated. However, country representativeness and gender stratification were important to eliminating external validity threat (Frankfort-Nachmias & Nachmias, 2008).

Internal Validity

A study's internal validity incorporates its ability to generate answers to the research questions (Frankfort-Nachmias & Nachmias, 2008). One threat to internal validity was selection and history interaction. Given the nature of the study's investigation of a stigmatized disease (e.g., Gardezi et al., 2008; Kalipeni; 2008), and the fact that the study topic as well as the informed consent clearly indicated its nature, there was a potential for the study to attract only participants with non-stigmatizing attitudes. As such, the study utilized the ATAS Attitudes sub-scale to assess participants' attitudes towards HIV/AIDS to control for the threat. Further, and given the gendered nature of the

cultural factors, the frequency distribution internal validity control measure was utilized for both genders for the two groups.

Construct Validity

As described in the first and second chapters of this study, Festinger's (1957) theoretical perspective indicated a link between individuals' awareness of cognitive inconsistency and psychological distress, and Gawronski and others' (2008) conceptual framework highlighted cultural variables impacting experiences of such distress. While on one hand, Festinger related the importance of the degree of the relationship between dissonant cognitions and distress arousal, on the other hand, Gawronski and others argued for the significant role of culture in such distress. As such, participants adhering to cultural SGRS were assumed to not experience cognitive dissonance as a function of exposure to the new information. The construct of cognitive dissonance as measured by rejection of new information was utilized to link the independent variables and dependent variable to the theoretical perspective and conceptual frameworks (Festinger, 1957; Gawronski et al., 2008). No confounding variables were expected.

Ethical Procedures

As indicated above, the study was approved by the Walden University IRB. The informed consent described participation procedures, benefits and risks, confidentiality issues as well as the researcher and her committee members' contact details. The form clearly stated that participation was voluntary and that only the researcher could access the information. Potential participants were notified of no negative impact on their participation or non-participation, and that they could stop participating in the study at

any time without any consequences. Participants were also notified of no physical risks or benefits for participation. However, they were notified about the potential for emotional upset after reading the population-specific HIV/AIDS-related information, and potentially upon reflecting on the culturally created vulnerability and increased risk of HIV/AIDS infection. However, according to Festinger (1957), such aversive feelings would be reduced by those participants' rejection of dissonance arousing information to aid psychological balance. Notification regarding non requirement for completion of the study's parts causing discomfort was provided. Informed consent was indicated by the survey completion.

Summary

In this chapter, a presentation of the study's sample, design, data analysis, ethical considerations, and instrumentation, was provided. The study's design and the rationale for the chosen design was reviewed. A description of sample characteristics and size, including the selected measures; and data collection process and analysis was also provided. The chapter was concluded with discussions on ethics and validity.

Chapter 4: Results

Introduction

This study's purpose was to compare cultural differences in relation to traditional SGRS and HIV/AIDS-related cognitive dissonance between the BACC and WC participants. A regression model incorporating $N = 236$ was created to assess variable relationships—that is, the independent variable of traditional SGRS in relation to cognitive dissonance in RQ1. An assessment of the impact of SGRS on cognitive dissonance (dependent variable) as a function of adherence cross-culturally was conducted for RQ2. Finally, RQ3 hypothesized a relationship between high cultural identification with dissonance arousal among the BACC. The predictor variables' effects were assessed in relation to the impact on cognitive dissonance.

A description of the recruitment, data collection, and response rates are provided in this chapter. Descriptive statistics of the sample's demographics and representation including changes from Chapter 3's plan is also presented. Findings are further presented according to the research questions. The presentation incorporates descriptions of normality testing, model fitness, assumption testing, goodness of it, proportional odds goodness of fit, and parameter and nonparametric testing. The chapter will be concluded with a summary of the findings and their link to the conclusions.

Data Collection

Time Frame and Recruitment

Consistent with specified research guidelines, permission to conduct the study was requested from the IRB on September 06, 2019. The application included the

information and informed consent form, demographics form (Appendix A), Cultural Identification Form (Appendix B), Traditional Sexual Gender-Role Socialization Adherence Form (Appendix C), Exposure Information Form (Appendix D), Cognitive Dissonance Assessment Form (Appendix E), a recruitment flyer, a social forum announcement, and the Attitudes Towards AIDS Scale (Appendix F). Proof of the completed human research protections training, as required, was also submitted. IRB permission was granted on October 14, 2019 (approval no. 10-14-19-0406332) with an expiration date of October 13, 2020.

The social forum announcement was posted on social media as outlined in the IRB application. A link to the study on SurveyMonkey was activated and included in the announcement. The survey was also made available via research partner organizations websites as approved by the IRB. The SPSS data file with 500 responses was downloaded from Survey Monkey. After data cleanup measures described in the following sections, a total of $N = 236$ was utilized.

Response Rates

As discussed, all screening and data cleanup procedures as well as outlier identification was conducted utilizing SPSS Version 21.0. The total responses collected in the study were 500. The average completion time was 10 minutes. A total of 80 participants exited the survey early. Responses with significant missing values (i.e., gender, country of birth, cognitive dissonance, cultural adherence, cultural identification, and adherence to Canadian culture) were eliminated. Initial data cleanup yielded 239 responses. However, two responses from the WC male participants and one response

from the BACC female participants were further eliminated for population equivalence leaving a sample size of $N = 236$ based on Chapter 3 calculations. The $N = 236$ sample was representative of $n = 118$ Black African Canadians and $n = 118$ WCs. This population was further stratified by gender resulting in ($n = 118$) females and ($n = 118$) males. There was a 47.2% response rate.

Discrepancies in Data Collection

The data collection process included data collection discrepancies from Chapter 3. The discrepancies included not using the recruitment flyer due to significant challenges with placement at local public libraries and community centers. Part of the challenges included the study topic and other location-specific procedures. A change in procedures requesting permission from the IRB to recruit participants from SurveyMonkey's participant pool via their website was submitted. The change in procedures was approved and data collection was completed.

Baseline Descriptive and Demographic Characteristics

An examination of the descriptive statistics for the independent variable traditional SGRS including gender, ethnicity, and country of origin was conducted utilizing $N = 236$ responses from a sample of Black African Canadians born in sub-Saharan countries and WCs born in Canada who met the study inclusion criteria. Both the independent variable and the dependent variable were ordinal variables. Ethnicity was divided into two categories: ($n = 118$) Black African Canadians and ($n = 118$) WCs. Gender was stratified ($n = 118$) females and ($n = 118$) males. All participants were screened by country of birth with the BACCs' region of interest being sub-Saharan

Africa and the WC only including those born in Canada. The descriptive statistics are shown in Figure 1.

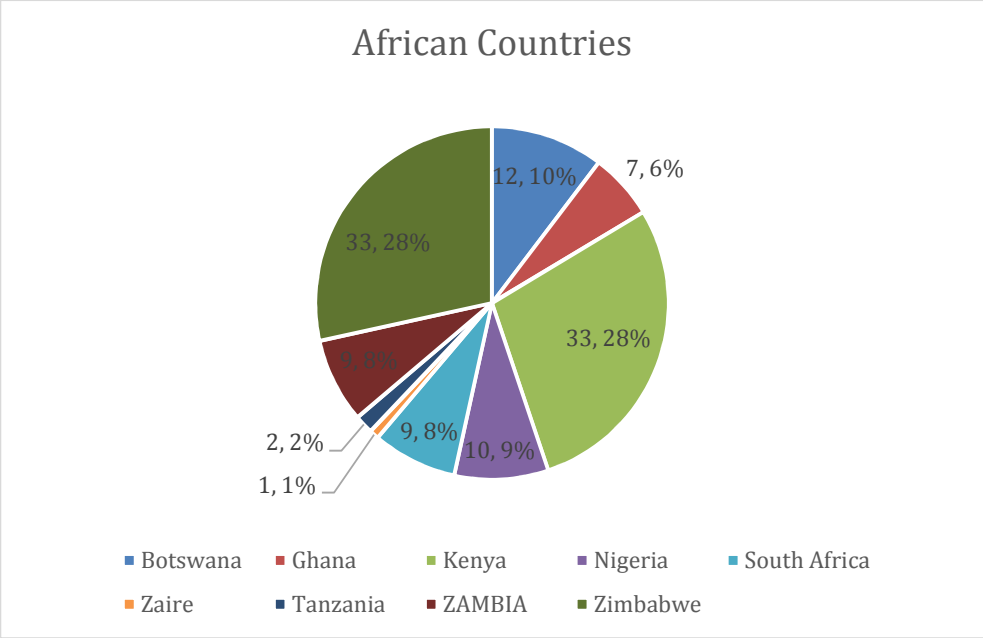

Figure 1. Sub-Saharan African countries of origin of participants.

Two categories represented gender: female (n = 118) and male (n = 118). Ethnicity was also represented by two categories: WCs and Black African Canadians. Out of 500 total responses, 236 responses met the sample frame specified criteria. The sample was stratified by eliminating three responses. The 236 participants represented sub-Saharan African and Canadian regions.

Study Results

Preliminary Data Analysis

The data collection process yielded a total of 500 responses, and 236 of the responses met the sample frame specified criteria. The sample was stratified for population by eliminating three responses. The 236 participants represented sub-Saharan

African and Canadian regions. Because both the independent variable and the dependent variable were ordinal, multicollinearity testing to comply with the ordinal logistic test statistic was previewed utilizing SPSS. The test of multicollinearity was precisely tested by doing a multiple regression analysis. The variance inflation factor ranged from 1.119 to 1.239 and with none approaching 10, multicollinearity was not a concern. Lastly, to test for the distribution of predictor variables, a Kolmogorov-Smirnov test of normality was conducted. The Kolmogorov-Smirnov values were significant at $p < .01$, indicating that the distributions were not normally distributed (Field, 2009). For example, the nonlinear nature of the predictor variable pointed towards a non-normal distribution (Nemes et al., 2009), as illustrated in Table 1.

Table 1

Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	*df*	Sig.	Statistic	*df*	Sig.
SGRS adherence	.198	236	.000	.856	236	.000
Cognitive dissonance	.205	236	.000	.912	236	.000

Note. SGRS = sexual gender-role socialization

Statistical Analysis Findings

The probability values for null hypothesis rejection for statistically significant findings were set for the traditional $p < .05$. The ordinal logistic regression test statistic utilizes cumulative odds to indicate the cumulative probability, or odds of cumulative effects of the predictor variables (O'Connell, 2006). The technique requires thinking about cumulative probabilities instead of individual category probabilities as a

requirement of an ordinal dependent variable. Because of the Likert scale type of data, ANOVAs or *t* tests cannot be applied to ordinal data as there is no true mean or standard deviation to be calculated, and the data does not meet the assumptions of a *t* test or ANOVA. Additionally, ordinal data cannot use traditional descriptive or inferential statistics. As such, ordinal regression analysis expresses the cumulative probabilities of attaining at least a given category. For example, for this study, the assessment of the probability or odds of cognitive dissonance arousal as adherence to SGRS increases. The probability odds are set from 0 to 1—either it happens or not. Thus, the cumulative interest was set to level 1 (Adherence), level 2 (Nonadherence), and level 3 (No Opinion) for participants in the neutral category. The case statistics are shown in Table 2.

Table 2

Case Processing Summary for Traditional Sexual Gender Role Socialization Adherence

	N	Marginal percentage
Adherence		
Adherence	72	30.5%
Nonadherence	125	53.0%
No opinion	39	16.5%
Valid	236	
Missing	0	
Total	236	100.0%

Note. Link function: Logit

During data preparation, I ensured no missing data for all 236 cases of the population sample employed by SPSS software. According to the rule of thumb of logistic regression, only 10 cases were needed for each predictor variable. As such, the lowest (i.e., 39 cases) can support up to three predictor variables and are enough to

support the needed regression analyses. Both the dependent variable and the independent variable were entered in the data as ordinal.

Research Questions Results

A regression model for the dependent variable (cognitive dissonance) and hypothesized predictors—cultural SGRS, ethnicity, gender, adherence to Canadian culture, and cultural identity—to assess significance of relationships between the variables was developed. Other sociodemographic variables were also assessed. Research question results are displayed following a presentation of the utilized regression model.

Model Fitness Information

The Chi-square improvement from baseline was found to be significant at $p <$ .000. This resulted in the rejection of the null hypothesis, indicating a poor fit of the ordinal logistic regression model. The model was a good fit as indicated in Table 3.

Table 3

Model Fitting Information

Model	-2 Log likelihood	Chi-square	*df*	Sig.
Intercept only	225.921			
Final	112.086	113.835	6	.000

Note. Link function: Logit.

Goodness of Fit

The build-in null hypothesis for SPSS ordinal logistic regression stated that the fit of the data to the model was good, whereas the alternative hypothesis indicated the opposite. If the build-in null hypothesis is not rejected, then a conclusion that the data and the model predictions are similar indicates a good model. The *p* value for acceptance of the null hypotheses must be large, indicating a value greater than $p >.05$. Goodness of fit

at $p > .05$ was indicated. The assumption of a good fit was not rejected, indicating the feasibility of fitting the data of the research questions into the model. Table 4 indicates the model fit of the data.

Table 4

Goodness of Fit

	Chi-square	*Df*	Sig.
Pearson	47.062	50	.592
Deviance	49.596	50	.490

Note. Link function: Logit

Further, the more common Pearson R^2 does not explain the contributions of variables in logistic regression (e.g., Field, 2009). As such, the general practice is the utilization of pseudo R^2, including Nagelkerke's, MacFadden's, and Cox and Snell's R^2s, as the interpretation is similarly regarded to the R^2 in linear regression for significance. I chose to utilize the Nagelkerke as the one reported to be highest by SPSS as indicated in Table 5. Based on Nagelkerke pseudo R^2, 43.2% of cognitive dissonance arousal was explained by the cumulative effect of the predictor variables.

Table 5

Pseudo R Square

Cox and Snell	.383
Nagelkerke	.432
McFadden	.221

Note. Link function: Logit

Goodness of Fit-Proportional Odds

The assumption of the proportional odds null hypothesis in SPSS states that the coefficients of predictor variables are the same and that there are similar or proportional

intervals. The SPSS computation of the cumulative effect for the independent variables was $p < .05$. The null hypothesis of the proportional odds was rejected, indicative of the research questions' feasibility in determining the cumulative probabilities of the variables under study. The rejection of the proportional odds assumption implied that at least one of the independent variables exerted influence on the dependent variable.

Table 6

Test of Parallel Lines

Model	-2 Log likelihood	Chi-square	*Df*	Sig.
Null hypothesis	112.086			
General	100.159	11.927	6	.064

Note. Link function: Logit.

Parameter Estimates

The estimates generated by the ordinal data in SPSS are presented in Table 7. The thresholds were significant at $p<.001$. Values for each of the 5 individual independent variables were significant at $p<.001$ for SGRS Adherence and Ethnicity but not significant at $p>.05$ for gender, Cultural ID and Canadian Culture Adherence. There were similar values at 0.000 for all the independent variables, consistent with the proportional odds assumption that in the movement from one level to a higher level, the independent variables have no individual influence and consequently the coefficients are similar in values. In Chapter 5, further discussion of the results will be presented.

Table 7

Parameter Estimates

		95% Confidence interval				
Lower bound	Upper bound	Estimate	*SE*	Wald	*df*	Sig.
Cognitive dissonance [1]						
-7.567	-3.510	-5.539	1.035	28.625	1	.000
Cognitive dissonance [2]						
-5.773	-1.825	-3.799	1.007	14.232	1	.000
Location CULTURAL ID						
-1.386	.315	-.536	.434	1.523	1	.217
SGRSAHERENCE [1]						
-5.471	-2.779	-4.125	.687	36.097	1	.000
SGRSADHERENCE [2]						
-3.944	-1.434	-2.689	.640	17.635	1	.000
SGRSADHERENCE [3]						
		0[a]			0	
ETHNICITY [1]						
-2.391	-.582	-1.486	.462	10.371	1	.001
ETHNICITY [2]						
		0[a]			0	
GENDER [1]						
-.661	.423	-.119	.276	.185	1	.667
GENDER [2]						
		0[a]			a	
CANADA CULTURE ADHER [1]						
-1.180	.390	-.395	.400	.974	1	.324
CANADA CULURE ADHER [2]						
		0[a]			0	

Note. Link function: Logit.

Research Question 1

RQ1: Is there a cultural difference in SGRS adherence and cognitive dissonance between samples of the BACC and the WC, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form?

$H_0$1: There is no cultural difference in SGRS adherence and cognitive dissonance between samples of the BACC and the WC, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

$H_1$1: There is a statistically significant difference in SGRS adherence and cognitive dissonance between samples of the BACC and the WC, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

The ordinal regression test statistic produced results leading to the rejection of the null hypothesis. In relation to the research question, there was an indication of a cultural difference in cognitive dissonance experiences as a function of adherence between the groups $p < .05$. This hypothesis rejection implied a significant group difference in traditional SGRS adherence and cognitive dissonance experiences between samples of the BACC and the WC.

Research Question 2

RQ2. Is there a relationship between HIV/AIDS-related cognitive dissonance and cultural SGRS as a function of adherence?

$H_0$2: There is no statistically significant relationship between HIV/AIDS-related cognitive dissonance and cultural SGRS as a function of adherence, as measured by the

Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

$H_1$2: There is a statistically significant relationship between HIV/AIDS-related cognitive dissonance and cultural SGRS as a function of adherence, as measured by the Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

The ordinal regression test statistic produced results for null hypothesis rejection. In relation to the research question, there was an indication of a relationship between HIV/AIDS-related cognitive dissonance arousal as a function of cultural SGRS adherence $p < .05$. There was a significant difference from those who adhered and those who did not.

Research Question 3

RQ3: To the extent the BACC participants strongly identify with their cultural group, are they likely to show rejection of the new information, as measured by the Group Identification Form, Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form?

$H_0$3: There is no statistically significant relationship between the BACC participants' strong identification with their cultural group, and likelihood of rejection of the new information, as measured by the Group Identification Form, Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

$H_1$3: There is a statistically significant relationship between the BACC participants' strong identification with their cultural group, and likely rejection of the

new information, as measured by the Group Identification Form, Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form.

The ordinal regression test statistic produced results leading to acceptance of the null hypothesis, indicating no statistically significant relationship between BACC participants' strong identification with their cultural group, and likelihood of dissonance arousal $p > .05$. These results implied that identifying oneself as a member of the BACC does not influence cognitive dissonance.

Sociodemographic Results

Given the gendered nature of the SGRS independent variables, and the fact that the sample was gender-stratified, assessment of gender differences was important. However, the results did not indicate a statistical significance providing evidence suggesting that being female or male was indicative of the likelihood of cognitive dissonance experiences. The regression analysis showed that gender could not account for HIV/AIDS-related cognitive dissonance $p > .05$. Additionally, no other sociodemographic variables were linked to the dependent variable.

Group Comparisons Statistics

Nonparametric tests also indicated significant differences between groups at $p < .05$ in relation to both the independent variable and the dependent variable. For adherence, the results indicated that 51.7% of the BACC participants adhered to masculinity and femininity norms predisposing vulnerability and risk of infection to the AIDS causing virus compared to 9.3% of the WC participants. These results implied that traditional SGRS predisposing vulnerability and risk of infection to HIV/AIDS were

mostly practiced by the BACC participants relative to their WC counterparts in the Canadian context. In relation to dissonance arousal, the results indicated that 50% of such experiences were noted for the BACC participants compared to 12.7% of their WC counterparts as indicated in Tables 8 to 11. These results also imply that despite the cultural relativity of adhering to cultural SGRS, such adherence is also linked to cognitive dissonance arousal.

Table 8

Frequencies for Ethnicity and Adherence

	Adherence	Nonadherence	No opinion	Total
Ethnicity				
Black	61	50	7	118
White	11	75	32	118
Total	72	125	39	236

Table 9

Chi-Square Tests for Ethnicity and Adherence

	Value	*Df*	Asymptotic significance (2-sided)
Pearson chi-square	55.748a	2	.000
Likelihood ratio	60.645	2	.000
Linear-by-linear association	52.650	1	.000
N of valid cases	236		

Note. Significance $p > .05$

Table 10

Frequencies for Ethnicity and Dissonance

	Arousal	No arousal	No opinion	Total
Ethnicity				
Black	59	34	25	118
White	15	34	69	118
Total	74	68	94	236

Table 11

Chi-Square Tests for Ethnicity and Dissonance

	Value	*Df*	Asymptotic significance (2-sided)
Pearson chi-square	46.758a	2	.000
Likelihood ratio	49.398	2	.000
Linear-by-linear association	46.368	1	.000
N of valid cases	236		

Note. Significance $p > .05$

Summary

The study findings supported a cultural difference in the experiences of HIV/AIDS-related cognitive dissonance based on adherence to cultural SGRS despite

one's gender between the BACC and WC participants. Additionally, the findings also evidenced that neither identifying oneself as a member of the BACC nor adhering to the mainstream culture implicated cognitive dissonance arousal for the BACC participants. Question 1 assessed differences between the BACC and the WC groups in experiences of cognitive dissonance as a function of adherence to cultural SGRS. The question was meant to compare cultural differences in such experiences as a function of adherence to traditional sexual norms and practices. Given the indicated cultural difference in the likelihood of the influence of cultural variables of masculinity and femininity norms on cognitive dissonance arousal, the null hypothesis was rejected. Research question 2 assessed the relationship between cognitive dissonance experiences and adherence to SGRS. The question intended to investigate the link between adherence to one's cultural SGRS and HIV/AIDS-related cognitive dissonance arousal. The results implied that adherence to cultural sexual norms associated with vulnerability and risk of infection was associated with cognitive dissonance arousal. Question 3 examined the relationship between the degree of identification with one's culture and cognitive dissonance arousal as a function of adherence for the BACC sample. The question investigated the relationship through assessment of the strength of identification and cognitive dissonance arousal. Based on the results, the null hypothesis was not rejected. There was no evidence suggesting a relationship between BACC participants' identification with their culture and cognitive dissonance arousal. The degree to which the BACC participants adhered to the mainstream Canadian culture was also not shown to influence cognitive dissonance arousal.

Group comparisons yielded results indicating higher adherence to traditional SGRS for the BACC group relative to their White counterparts. Cognitive dissonance arousal was also shown to be higher for the BACC participants compared to their WC counterparts. The assessment of gender did not provide evidence suggesting that being female or male was indicative of the likelihood of cognitive dissonance arousal for both groups. The regression analysis showed that gender could not account for HIV/AIDS-related cognitive dissonance arousal. Overall, participants indicated warm attitudes towards HIV/AIDS and related issues. In Chapter 5 the study's results interpretation, limitations, strengths, and implications; are presented, before the positive social change implications.

Chapter 5: Discussions, Conclusions, and Recommendations

Introduction

The goal of this study was cross-cultural comparisons between the BACC and WC participants in relation to traditional SGRS and its impact on HIV/AIDS-related cognitive dissonance as a function of adherence. The relationship between gender and cognitive dissonance was also assessed. This study's focus was derived from literature indicating the relationship between cultural SGRS and HIV/AIDS vulnerability and transmission. Three research questions guided the research:

RQ1: Is there a cultural difference in SGRS adherence and cognitive dissonance between samples of the BACC and the WC as measured by the Sexual Gender-Role Socialization Adherence Form and the Cognitive Dissonance Assessment Form?

RQ2: Is there a relationship between HIV/AIDS-related cognitive dissonance and cultural SGRS as a function of adherence?

RQ3: To the extent the BACC participants strongly identify with their cultural group, are they likely to show rejection of the new information, as measured by the Group Identification Form, Sexual Gender-Role Socialization Adherence Form, and the Cognitive Dissonance Assessment Form?

There were statistically significant results indicating cultural differences in experiences of HIV/AIDS-related psychological distress as a function of adherence between the population samples, with an indication showing that the likelihood of dissonance arousal increased with adherence to cultural SGRS for the BACC participants.

Further, for the BACC group, the results also showed no link between identification with culture and cognitive dissonance arousal as well as no link between adhering to mainstream norms and cognitive dissonance. Gender was not shown to influence cognitive dissonance experiences for both groups. In relation to the purpose of the study, these findings provided evidence of a connection between cultural factors of SGRS and HIV/AIDS-related cognitive dissonance.

In this chapter, the research questions are reviewed, and results are interpreted in relation to literature and the theoretical perspective and conceptual framework. The study's limitations are also discussed in addition to action recommendations before a discussion on social change implications.

Interpretation of Findings

Culture and Cognitive Dissonance

Literature review and research findings. Festinger (1957) described psychological distress as a disturbance to psychological balance influenced by inconsistency between beliefs and behaviors cross-culturally. Festinger argued that because psychological balance is essential to optimal human functioning, disturbance elicits psychological distress and suboptimal psychological well-being. As such, cognitive dissonance encourages strategies to restore balance including attitudinal, behavioral, justification, or cognitive distortions. For example, according to Festinger, if smokers became aware of the detrimental consequences of their smoking behavior, the inconsistent cognitions will elicit psychological distress, which might be mitigated by balance restoration strategies (Festinger, 1957). However, given documented cross-

cultural differences in the experiences of such distress (e.g., Heine et al., 2016; Kimel et al., 2012; Kokkoris & Kuhnen, 2013; Okazaki, 2016), Gawronski et al. (2008) proposed a reconceptualization of Festinger's theoretical perspective and argued for the significant role of culture in cognitive dissonance experiences. They indicated the significance of cultural applicability of activated inconsistency between an individual's beliefs and behaviors before balance restoration strategies could be employed. In other words, they suggested that dissonance arousal and motivation for behavior change are dependent on an individual's awareness of culturally relevant inconsistent cognitions as a function of beliefs and attitudes, among other things like cultural values and norms (Gawronski et al., 2008).

Based on Festinger's theorization and this expanded view by Gawronski et al. (2008), it was hypothesized that in the context of HIV/AIDS transmission, when individuals perceived the discrepancy between what they believed and how they acted in creating risk for HIV infection, cognitive dissonance was likely to be aroused, which could motivate the use of strategies to restore balance and reduce psychological distress. For participants perceiving such inconsistency (e.g., between beliefs of self-preservation and their adherence to SGRS norms manifesting in risky behaviors), cognitive dissonance would lead to strategies to avoid HIV infection for both genders cross-culturally. In other words, the discrepancy between engaging in culturally acceptable sexual behaviors contradicting self-preservation may have elicited psychological distress as a function of adherence, which may motivate behavior change for both genders in line with Festinger's (1957) theory.

It was also hypothesized that dissonance arousal could not be a relevant variable for the BACC participants given the cultural relativity of the SGRS (e.g., Brown et al., 2005; Green et al., 2009; Izugbara, 2008; Mufune, 2003). Because distress experiences depend on individuals' awareness of discrepancy and the truth (Gawronski et al., 2008), cultural relativity could have played a role in dissonance experiences for the BACC. However, because dissonance depends on cultural relevance and BACC participants are already aware of SGRS and may identify with these norms, cognitive dissonance arousal could not have been a factor for the BACC. But it was hypothesized that may be one of the factors underlying the differences in the reported incidence and prevalence rates.

The study findings indicated a cultural difference in experiences of HIV/AIDS-related cognitive dissonance based on adherence to cultural variables of traditional SGRS between the BACC and the WC participants. The results showed higher levels of cognitive dissonance arousal as a function of adherence for the BACC relative to the WC participants, implying that the BACC group adhered more to traditional SGRS compared to their WC counterparts. In other words, the BACC participants were more likely to experience HIV/AIDS-related psychological distress as a function of adherence to cultural SGRS. The group differences in adherence showed higher adherence to traditional SGRS predisposing vulnerability and risk to infection for the BACC participants (51.7%) compared to their WC counterparts (9.3%). Further, cognitive dissonance was also evidenced in relation to adherence and indicated higher arousal (50%) for the BACC group compared to (12.7%) for the WC group.

Taken together, the higher adherence to cultural SGRS for the BACC group compared to the WC group could imply a component of the factors influencing the reported population differences in the incidence and prevalence rates in HIV/AIDS as reported by the epidemiological findings (e.g., PHAC, 2017). The findings also indicated a relationship between adherence and higher levels of HIV/AIDS-related cognitive dissonance despite the cultural relativity in SGRS adherence for the BACC group. As such, the study results may indicate entry points for development of population-specific prevention strategies drawing on the motivational impact of cognitive dissonance as described by Festinger (1957). This aspect of the research findings will be further discussed under the Implications section.

Theoretical framework and research findings. Because the results indicated a link between cognitive dissonance arousal and adherence to cultural SGRS, particularly for the BACC group relative to their WC counterparts, the findings did not align with Gawronski et al.'s (2008) cultural framework. But the study's findings could be understood from Festinger's (1957) cognitive dissonance theoretical tenet of IEI framework. According to IEI, cognitive dissonance arousal upon involuntary exposure to new information occurs in individuals who were practicing behaviors that are linked to detrimental consequences by the new information. In this study, the participants who indicated prior adherence to cultural SGRS were exposed to new epidemiological information implicating detrimental consequences to their overall well-being in relation to their adherence. As a result, they experienced cognitive dissonance arousal evidenced by invalidation of the new information. In other words, cognitive dissonance arousal was

linked to adherence to norms creating risk of HIV/AIDS infection, which led to observable stress for participants who did not accept the research results. Based on IEI, for these individuals, the knowledge that certain behavior is linked to increased risk of HIV infection is dissonant with their behavior, which can be linked to disbelief of the findings, as indicated by their invalidation of the presented information to regulate aroused psychological distress (Festinger, 1957).

Furthermore, within Festinger's (1957) main framework, cognitive dissonance arousal is a phenomenon applicable cross-culturally based on inconsistency between thoughts and behaviors. The findings implied that despite the cultural relativity of adherence to valued norms particularly for the BACC group (Gawronski et al., 2008), adherence was linked to dissonance arousal for both groups. The exposure to new information implicating a connection between certain norms and risk of HIV/AIDS infection resulted in awareness of the inconsistency between participants' adherence to norms manifesting risk for infection and self-preservation. In other words, upon being involuntarily exposed to new information linking adherence to detrimental consequences, the results implied that for the participants adhering to traditional SGRS, sensitization to the inconsistency between their adherence behaviors and beliefs of self-preservation resulted in cognitive dissonance.

Cultural Sexual Gender Role Socialization

The study indicated that 51.7% of the BACC group and 9.3% of the WC group adhered to traditional SGRS in the context of HIV/AIDS transmission. These results might be understood from Bussey and Bandura's (1999) cognitive social theory of gender

from which the study grounded its definition of the term c*ultural sexual gender-role socialization.* According to the theory's tenet of gender differentiation and development, gender role conceptions and competencies begin in early childhood and continue to strengthen over the lifespan. Because children are viewed as nonparticipants in the choice of environments they are born into, children are predisposed to learn from their immediate environment constituting primarily parents in the early stages of development and those around them. If parents choose to instruct and model traditional gender-role conduct in their children, then their children learn and acquire differential gender-conceptions and behaviors associated with such conceptions. Because modeling is viewed as constituting pervasively to influencing transmission of values, attitudes and individuals' thought processes and actions for gender differentiation and conduct (Bussey & Bandura, 1999), changing these lifelong sexual behaviors based only on HIV/AIDS related knowledge might be difficult. Furthermore, given that these learned behaviors are theorized to derive from the interplay of sociocultural influences and are also psychologically based, successfully changing these sexual behaviors requires enough individual and collective efficacy beliefs in addition to motivation. Based on the results, potential motivation for behavior change could derive from the guiding theoretical framework (Festinger, 1957), given the indicated link between adherence and cognitive dissonance arousal.

Limitations of the Study

Internal Validity

Previously discussed potential concerns with the study included controllability of factors like participants' characteristics (Frankfort-Nachmias & Nachmias, 2008), based on the nature of the study's investigation of a stigmatized disease (e.g., Gardezi et al., 2008; Kalipeni; 2008). This threat to internal validity included selection - history interaction, that could have compromised the study's internal validity by only attracting participants with non-stigmatizing attitudes. The ATAS Attitudes sub-scale utilized to control for the threat indicated that 95,3% of participants did not evidence stigmatizing attitudes. Overall, most of the participants were accepting of AIDS and other related issues. This could have compromised the internal validity of the study.

External Validity

Controlling for participants' characteristics to reflect those of the populations under study was important (Frankfort-Nachmias & Nachmias, 2008). One limitation of this study limiting generalizability of research findings to the Canadian populations was country representation. Although the BACC sample represented sub-Saharan countries, many of the participants were from Kenya (33.28%) and Zimbabwe (33.28%). However, the study utilized an adequate number of participants, $N = 236$, required for the application of the Ordinal Logistic Regression statistical technique (Walter, 2004). The frequency distribution external validity control measure was also utilized resulting in a gender stratified sample for the study ($n = 118$) females and ($n = 118$) males, allowing for generalizing for gender.

Recommendations for Action

Recommendations for Future Research

Given that countries were not equally represented, and the fact that the BACC are highly diverse, caution must be exercised in interpretation and application of these findings. Future researchers should look at increasing country representation for the BACC. The study did not screen for participants' HIV status. Future studies may look at including a demographic on this aspect to ensure participants' HIV status for in-depth understanding of these variables. Furthermore, the study did not screen only for heterosexual participants. Future studies may look at including a demographic on this aspect to ensure that all participants are heterosexual given the relevance of the HIV/AIDS incidence and prevalence to these Canadian populations (PHAC, 2017). This oversight could also have impacted the results.

Additionally, and based on reviewed literature citing the prevalence of traditional SGRS (e.g., Brown et al., 2005; Izugbara, 2008; Levin et al., 2012), and the psychological basis of gender-role conduct (Bussey & Bandura, 1999), it is recommended that future research could also look at application of tenets of the cognitive social theory of gender differentiation and development. Finally, despite the elevated adherence rates indicated for the BACC group, intra-group analysis also indicated that 42% of the BACC group did not evidence adherence to cultural SGRS. As such, future studies could investigate factors associated with such non-adherence to further inform prevention strategies.

Implications

Implications for Social Change

Individual impacts. The overarching goal of this study was to provide scientifically informed entry points to facilitate development of prevention strategies in relation to culture and HIV/AIDS-related cognitive dissonance to impact positive societal change in light of the reported population differences in HIV/AIDS incidence and prevalence between the Canadian populations studied. The research findings facilitated in-depth understanding of the role of culture in the context of HIV/AIDS transmission. Knowledge gained could potentially facilitate insight into development of population-specific prevention strategies to curb the spread of the HIV virus. This study indicated a higher percentage of those evidencing adherence to cultural SGRS for the BACC group relative to their WC counterparts. Therefore, it is plausible to conclude that adherence to vulnerability and risk posing masculinity and femininity norms could potentially be a component influencing differential incidence and prevalence rates for these Canadian populations. Given that adherence to such norms was shown to influence cognitive dissonance arousal, these results potentially provided entry points for development of effective culturally informed prevention strategies consistent with the overarching goal of the research study.

Given that motivation for change derive from individuals' awareness of inconsistency between their beliefs and actions (Festinger, 1957), and the fact that adherence to masculinity and femininity norms elicited higher cognitive dissonance rates for the BACC group compared to the WC group, positive societal change might be

impacted through intervention efforts looking at shifting the culture-specific paradigm of traditional SGRS. This could potentially be achieved by making use of the potential existence of such distress through awareness campaigns incorporating population-specific epidemiological findings information. Because exposure to such information elicited cognitive dissonance for both groups, intervention strategies aimed at bringing awareness to these Canadian populations might potentially facilitate motivation to engage Festinger's (1957) balance restoration strategies, particularly behavioral change to avoid infection. Additionally, given that literature reviewed indicated considerable findings implicating the significant role of cultural SGRS in increasing vulnerability and transmission risk of the HIV virus (e.g., Brown et al., 2005; Campbell, 1995; Crawford, & Popp, 2003; Izugbara 2005; Izugbara, 2008; Levin et al., 2012; Thege, 2009), and the fact that successful reductions in HIV/AIDS infection rates has long been linked to sexual behavior change in contexts with high adherence (e.g., Genius & Genius, 2005; Green & Conde, 2000; Hallett, et al., 2006; Shelton et al., 2004), utilization of scientifically informed culturally-specific intervention strategies is indicated for the Canadian context.

Further, shifting the culture-specific paradigm of traditional SGRS might be possible through socio-structural changes incorporating gender neutral sexual socialization eschewing sexual permissiveness for males. However, such efforts demand active participation and engagement of influential community leaders willing to mobilize the communities to engage in a complete overhaul of the traditional and socially sanctioned sexual norms predisposing entire communities to higher risk of infection. Embodying the paradigm-shifting values of fidelity, and abstinence, particularly for the

BACC given the higher adherence indicated by this study, might yield results as has been witnessed in the case of Uganda, where a 30% HIV/AIDS prevalence rate was previously reflected (Hallett et al., 2006). In that country, the adaptation of abstinence, faithfulness, and condom use (ABC) model has been linked to a 70% decline in incidence rates (Stoneburner & Low-Beer, 2004). However, it must also be noted that successfully diminishing incidence and prevalence rates in the target communities demand accurate discernment of the determinants of the successful maintenance of the abstinence, faithfulness, and condom use program in Uganda (Stoneburner & Low-Beer, 2004), and elsewhere (Genuis & Genuis, 2005; Hallett et al., 2006, Gregson et al, 2010). Some strategies could incorporate open discussions and acceptance of the truth about HIV/AIDS disease and the culturally created vulnerability and risk to infection. However, such strategies must consider the diversity within the BACC.

However, despite the feasibility of the paradigm shifting intervention, this change might not be easily embraced within these patriarchal societies given individuals' predisposition towards promoting and maintaining values advantageous for themselves (Parker & Aggleton, 2003). Regardless, given the existence of numerous masculinities and femininities, and their amenability to change (UNAIDS, 2001), development of new masculinity and femininity notions not embracing behaviors predisposing vulnerability is possible. It is also likely that due to the psychological basis of gender-role conduct (Bussey & Bandura, 1999), and the perceived subjective rewards associated with maintenance of power imbalances (Parker & Aggleton, 2003), this process might take a long time before these Canadian communities begin to see a meaningful change in the

rates of prevalence and incidence of HIV/AIDS. However, with community leaders that are able to mobilize and motivate the community, and to influence individuals' faith in their efficacy and foster beliefs that they can succeed in transforming their culture, change might begin to happen positively impacting individuals and society at large.

Practice implications. The Canadian Psychological Association provide aspirational principles essential for the practice of psychology, including the practice of justice, harm avoidance and cultural competence (Canadian Psychological Association (CPA), 2017). As such, practitioners working with the BACC are recommended to develop population-specific competence and avoid harm. Further, practitioners are urged to utilize culturally tailored couples, family, and individually focused prevention strategies. It is also recommended that practitioners seek incorporation of culturally tailored intervention strategies geared at addressing the source (i.e., differential gender-role socialization) and not only its product as manifested in risky behaviors. Finally, practitioners are also cautioned to be sensitive to the challenges of providing services to a population presenting with a culturally predisposed vulnerability to infection and transmission risk, to avoid causing harm to those in their care.

Conclusions

Extensive literature noted the importance of considering the centrality of culture in cognitive dissonance experiences. Such investigations were mainly conducted between Easterners and Westerners primarily from self-affirmation theoretical perspectives (Gawronski et al., 2008; Heine et al., 2016; Kokkoris & Kuhnen, 2013; Mwale, 2009, Okazaki, 2016). However, despite such understanding there was knowledge gap

regarding the role of culture in HIV/AIDS-related cognitive dissonance in relation to cultural SGRS, particularly between Black Africans and Westerners.

This research study utilized a sample of ($N = 236$) Canadians equally represented by race and gender and examined cultural factors of traditional SGRS and cognitive dissonance. This quantitative study assessed cultural variables of SGRS in relation to HIV/AIDS-related psychological distress in the context of HIV/AIDS transmission between BACC and the WC to help inform development of population-specific prevention strategies. Other sociocultural variables including gender in association with such distress were also assessed.

The study's findings supported that culture impacts how individuals think and behave (Brown et al., 2010; Campbell, 1995; Crawford & Popp, 2003; Heine et al., 2016; Kalipeni, 2008; Kokkoris & Kuhnen, 2013; Levin et al., 2012; Mwale, 2009, Okazaki, 2016; Thege, 2009). This study illuminated the relationship between traditional SGRS and cognitive dissonance in the Canadian populations studied. The results also supported Festinger's (1957) cross-cultural cognitive dissonance theoretical perspective as participants arguably experienced cognitive dissonance arousal despite the cultural relativity of such behaviors. Therefore, considering reported differential HIV/AIDS incidence and prevalence rates indicated for these Canadian populations, ethical consideration for practice reflecting such findings is indicated. As such, it is hoped that the study findings will impact positive social change, influence practice, and facilitate continued research for in-depth understanding of human behavior in the context of HIV/AIDS transmission.

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Appendix A: Demographics Form

Background Questionnaire

Please answer the following questions by selecting the response that best describe you.

1. How old are you? _____

2. What is your gender?

_____ Male

_____ Female

3. What is your ethnicity?

_____ White Canadian

_____ Black African Canadian

4. Where were you born? _____

5. What is your marital status?

_____ Single

_____ Married

_____ Other (specify) _____

6. How long have you lived in Canada? _____

7. Please state how old you were on arrival in Canada _____

8. Please state your level of education _____

Appendix B: Cultural Identification Form

Please place a check mark next to the group that you closely identify with.

Black African Canadian

_____

White Canadian

_____

If you identified yourself as closely identifying with the Black African Canadian group, please indicate your level of adherence to the mainstream White Canadian population culture. Please provide your response based on a 4-category rating scale. Circle the appropriate rating to indicate your response. Use the key below when selecting your ratings:

1 = High Adherence (75% to 100%)

2 = Medium Adherence (50% to 74%)

3 = Low Adherence (25% to 49%)

4 = Non-Adherence (0%)

Appendix C: Traditional Sexual Gender-role Socialization Adherence Form

Please respond to the following item on a 5-category rating scale. Circle the appropriate rating to indicate your response. Use the key below when selecting your ratings:

1 = Strongly Disagree, 2= Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Traditional cultural sexual norms accepting of multiple sexual partners and other sexual relationships for men before and sometimes after marriage; and not accepting of the same sexual behaviors for women before and after marriage, are acceptable and valuable norms I practice.

SA A N D SD

Appendix D: Exposure Information Form

HIV Epidemiology and Culture Information

Overview

- The Public Health Agency Canada (PHAC) reported the number of people living with HIV in Canada as growing high and that it has increased to about 84,409 since 1985.
- In 2016, a total of 2,344 new cases of HIV were reported and showing an increase of 244 from that reported in 2015 (2,100 cases). These numbers show the highest number of annual HIV cases reported since 2009
- The highest number and proportion of these reported HIV cases was in Ontario (881 people), followed by Quebec (593 people) and Alberta (282 people).

Race/Ethnicity and Exposure Category

- Most people infected were among Black men and women (41.7%), of which 84.3% of them were born in countries with large numbers of HIV infections among adult men and women.
- 24.3% of the infections were among White Canadians.
- For the rest of Canada, 36.5% were Black women and 21% were White women; and 16.4% were Black men and 47.8% were White men
  (NB: the majority of cases within the White population were reported for the Men who have Sex with other Men (56.9%).

Heterosexual Exposure Category

- For the rest of Canada, heterosexual contact (sex between men and women) reported the second highest infections (32.3%); with more Blacks being infected (41.7%) than Whites (24.3%).
- 10.5% of the national 32.3% rates represented people born in a country where HIV is endemic (i.e., countries where 1% of the adult population living with HIV were infected through heterosexual exposure), with rates among males accounting for 6.2% compared with 23.5% among females.

Research Findings on Culture and HIV/AIDS

Currently researchers who investigate HIV infections in different populations are reporting that those populations whose culture allow men to have sex with many women before and after marriage; and with men that do not value using condoms; and also teach women and girls to accept these male behaviors, have high HIV infections and also make it highly possible for people in those populations to be infected by the HIV virus if they behave according to their culture.

Appendix E: Cognitive Dissonance Assessment Form

Reflecting on the provided information on the last page regarding the link between cultural factors of femininity and masculinity norms and; vulnerability and risk of HIV infection, please provide your degree of agreement with the research findings in consideration of your own traditional SGRS by circling the appropriate rating using the key below:

1 = Strongly Disagree, 2= Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Appendix F: Attitudes Towards Aids Scale (ATAS)

Attitudes Towards Aids Scale (ATAS)

Please respond to the following items on a 5-category rating scale. Circle the appropriate rating following each item to indicate your response. Use the key below when selecting your ratings: SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree.

1. There is no need for the average person to become concerned about AIDS. SA A N D SD
2. The names of individuals with AIDS should be kept confidential in order to protect them against discrimination SA A N D SD
3. If its meant to be that I get AIDS there's nothing I can do to prevent getting the disease SA A N D SD
4. More government funds should be spent on providing support services for people with AIDS SA A N D SD
5. I would avoid having contact with persons who have AIDS. SA A N D SD
6. A doctor should have the right to decide if he or she wants to treat patients with AIDS. SA A N D SD
7. I would feel embarrassed if one of my family members have AIDS. SA A N D SD
8. Its important to exercise safety precautions in one's sex behaviors in order to prevent AIDS. SA A N D SD
9. Children with AIDS should be allowed to attend school with children who don't have AIDS. SA A N D SD
10. There should be separate public facilities (i.e., rest room toilets) for people with AIDS. SA A N D SD
11. Prevention of AIDS is the responsibility of individual persons rather than the society. SA A N D SD
12. Everyone should be tested for HIV/AIDS infection. SA A N D SD
13. AIDS is the omnipotent' way of punishing homosexuals. SA A N D SD
14. Everybody should know something about AIDS. SA A N D SD
15. Reckless intravenous drug users should change their drug use habits in order to prevent AIDS SA A N D SD
16. Persons with AIDS deserve support from their families and community. SA A N D SD
17. An employee who has AIDS should not be allowed to work. SA A N D SD
18. I have great sympathy for people who suffer from AIDS or AIDS related diseases. SA A N D SD
19. Knowing more about AIDS will cause less fear about the disease. SA A N D SD
20. Children should be educated about AIDS to protect them through their lives. SA A N D SD

21. A doctor may inform, without the consent of the AIDS patient, a sexual partner that he or she is at risk of HIV. SA A N D SD
22. Only unfit mothers have children with AIDS. SA A N D SD
23. AIDS can be prevented by taking proper procedures. SA A N D SD
24. Research on AIDS should be a priority for government funding. SA A N D SD
25. I often read and listen to information about AIDS. SA A N D SD