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Married and Cohabiting Men's Extra-Dyadic Relationships in Sub-Saharan Africa: Assessing Two Health Behavior Models

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MARRIED AND COHABITING MEN'S EXTRA-DYADIC RELATIONSHIPS
IN SUB-SAHARAN AFRICA: ASSESSING TWO
HEALTH BEHAVIOR MODELS

Jered L. Ulschmid

133 Pages August 2011

This study examines married and cohabiting men's extra-dyadic relationships in three sub-Saharan African countries (Zambia, Nigeria, and Namibia) by utilizing two health behavior models.

APPROVED:

Date Marion C. Willetts, Co-Chair

Date Winfred Avogo, Co-Chair

Date Susan K. Sprecher

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Sixty percent of all individuals with HIV live in sub-Saharan Africa. HIV is primarily transmitted through sexual activity; having multiple congruent sexual partners is one significant source of HIV transmission in sub-Saharan Africa. Men are primarily the individuals to go outside of a relationship because of various social and cultural influences. The purpose of this study is to examine married and cohabiting men's extra-dyadic affairs. Two models were used to examine men's extra-dyadic behavior: The Health Belief Model (HBM) and Theory of Planned Behavior (TPB). These models can show if beliefs, attitudes, and norms about HIV/AIDS and the risks of extra-dyadic relationships affect the number of extra-dyadic affairs. Data were derived from the Demographic and Health Survey Data (DHS) from three sub-Saharan African countries: the 2006-07 Namibia survey, the 2008 Nigeria survey, and the 2007 Zambia survey. Ordinary least-squares regression analysis was utilized as the method of analysis. Though these models were not designed for a sub-Saharan Africa context, this study identified key individual cognitive factors that impact married and cohabiting men's

extra-dyadic behavior: perceived severity of extra-dyadic behavior, social norms, perceived susceptibility of HIV/AIDS, and frequency of exposure to media messages concerning HIV/AIDS and extra-dyadic behavior. This study found that perceiving susceptibility or HIV/AIDS, the frequency of watching television, and attitudes increased the number of extra-dyadic affairs while social norms reduced the number of extra-dyadic affairs.

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HEALTH BEHAVIOR MODELS

Jered L. Ulschmid

A Thesis Submitted in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

Department of Sociology

ILLINOIS STATE UNIVERSITY

2011

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CHAPGTER I
ANALYSIS OF EACH COUNTRY

Introduction

According to the United Nations Joint Programme on HIV/AIDS (UNAIDS), in 2009 there were an estimated 33.3 million people living with HIV globally, with 2.6 million new HIV infections and 1.8 million deaths from AIDS-related illness (2010). Sub-Saharan Africa contains only 12 percent of the global population (The World Bank Group 2010) but accounts for 67 percent of all people living with HIV and 75 percent of all AIDS-related deaths (UNAIDS 2008). Within sub-Saharan Africa, there is considerable variation from country to country, but southern Africa is the most affected and has accounted for 35 percent of new infections and 38 percent of AIDS deaths worldwide (UNAIDS 2008). The reason for southern Africa's increased vulnerability is not fully clear. Some research points to the fact that circumcision is not practiced as widely in southern Africa as in other regions (Weiss, Quigley, and Hayes 2000). Also, southern Africa has seen an increased amount of labor migration, both within and between counties, which increases vulnerability to HIV infection (International Organization for Migration and Care International 2003; Southern African Migration Project 2005).

The HIV/AIDS epidemic in sub-Saharan Africa is fueled by the power differences between genders because the virus is transmitted primarily through heterosexual

intercourse. Increasingly, the HIV epidemic is becoming “feminized” (Nattrass 2009); according to the UNAIDS (2008), women and girls accounted for about 60 percent of all people living with HIV in sub-Saharan Africa. One reason is biological. During heterosexual intercourse, the female-to-male transmission risk of HIV infection is 1:700 to 1:3,000 while the male-to-female risk of infection is 1:200 to 1:2,000 (Barnett and Whiteside 2006). Gender inequality increases the risk of HIV infection for women because “cultural or social norms often restrict women’s access to basic information about sexual and reproductive health” and limits their economic opportunities (UNAIDS 2008: 67). According to Ashburn et al. (2009: 1), risks are amplified because “concepts of masculinity often create risk and vulnerability for both men and women by encouraging risky behaviors.”

Studies in sub-Saharan Africa have shown that extramarital sexual activity is seen as a contributing factor to HIV infection. This is primarily because men, and some women, have multiple congruent sexual partners (Caldwell 2000). The act of sex is an important part of marriage for both men and women and many believe that both men and women may engage in extramarital affairs (Zulu and Chepngeno 2003). Most societies tolerate extramarital affairs for men more so than for women, whereas some others approve of extramarital affairs for men but not for women (Talavera 2007). Women are often more vulnerable to HIV because of their partners’ extramarital affairs than are the men who actually engage in the extramarital affair (UNAIDS 2000). Gender inequality and wives’ economic and social dependence on their partners/husbands decrease women’s ability to protect themselves by refusing sexual relations with partners/husbands who have other sexual partners (UNAIDS 2008). Overall, “individual risk perception

[against HIV/AIDS] depends on the individual perceived control” and his/her capacity to take preventative measures against infection (Bernardi 2002: 6).

Men are more likely than are women to bring HIV into a marriage. Husbands are more likely to become infected with HIV outside of marriage and pass it on to their wives, rather than wives becoming infected outside of marriage (Carpenter et al. 1999; Lurie, et al., 2003; Shisana et al. 2004). A study in South Africa found that married men were more likely to test HIV-positive than were married women (Shisana et al. 2004). Even though studies have shown that unmarried individuals have a higher rate of HIV infection than do married individuals, the infection rates of married individuals in sub-Saharan Africa are considerably high when compared to international standards (Gregson et al. 1995; Shisana et al. 2004), which could be due to men having extramarital affairs outside of marriage (Shisana et al. 2004). If one partner goes outside the marriage, he/she cannot suggest to his/her spouse that he/she use a condom because the other partner could accuse him/her of infidelity. As a result, both men and women are suspicious of their partners engaging in sexual activities outside of the relationship (Mufune 2005). During a relationship, both partners assume that the other has a large number of sexual relationships (Epstein 2009). A spouse’s extramarital relationships can even be the catalyst for one’s own extramarital relationships (Tawfik 2003).

Premarital sexual activity also is an avenue that brings HIV into a marriage. Based on their prior sexual activity, men are more likely than women to bring HIV into a new marriage. Among newlyweds in Malawi, the average HIV infection rate for women was estimated to be 1.6 percent, whereas for men it was estimated to be 12.1 percent.

The rate of infection increases as the ages of the bride and groom increase (Bracher, Santow, and Watkins 2003).

To the author's knowledge, there have not been any studies analyzing married and cohabiting men's extra-dyadic behavior *as well as* HIV/AIDS health-related beliefs comparing both the Health Belief Model (HBM) and Theory of Planned Behavior (TPB). Both models can be utilized in examining men's internal cognitive behavior with regard to extra-dyadic behavior. This study will examine how men navigate modernity, masculinity, morality, and their health along with their extra-dyadic behavior across sub-Saharan Africa. The HBM and TPB will be utilized and adapted to develop an integrated health belief model to examine the relationship between reported extra-dyadic behavior of men and men's health beliefs in the age of HIV/AIDS in sub-Saharan Africa. This study will also examine the usefulness of these two Western-developed health belief models in a sub-Saharan African context.

Literature Review

HIV/AIDS research requires a multidisciplinary approach because this approach pools knowledge from different environments that HIV/AIDS affects. Therefore, literature was reviewed from a variety of disciplines such as sociology, public health, medicine, economics, psychology, and anthropology, among others. Most of the studies reviewed were conducted in sub-Saharan Africa. The locations of studies that were not conducted in sub-Saharan Africa are explicitly identified. Also, demographics, statistics, or other information that is country-specific will be explicitly identified. Finally, it should be noted here that much of the literature that examines extramarital behavior includes cohabiting men and women who engage in an affair outside of their

relationships. For the purpose of the literature review, the term “extramarital” will be used to refer to studies that examine married and cohabiting couples and married couples exclusively. In the rest of the study, the term “extra-dyadic” will be used.

Understanding of HIV/AIDS

An individual first needs to know about the disease before he/she can assess the likelihood of contracting the disease. Basic knowledge of HIV/AIDS in many sub-Saharan African countries is very high, with over 90 percent of individuals having heard of HIV (Caldwell 2000). Individuals’ perceived susceptibility of getting HIV/AIDS in sub-Saharan Africa is particularly high because societal attitudes toward death revolve around fatalism (Caldwell 2000) and some see AIDS as a sign that the end of the world is here (Kaler 2003). Many men and women believe that their susceptibility to HIV is absolute; they will inevitably become infected with HIV and die from an AIDS-related illness. Some studies suggest that individuals do not engage in behaviors that reduce their chances of HIV infection, such as using condoms or having only one uninfected sexual partner (Kaler 2004). Some men don’t worry about HIV because of the long latency period, around ten years (Caldwell 2000). Others believe that “HIV-positive nurses attempted to pass the virus on to patients” because health workers do not want to die alone (Mufune 2005: 680). Based on the fatalistic attitudes toward death, the belief that susceptibility to HIV is absolute and HIV’s long latency period, perceived susceptibility as a whole is not a good predictor of reducing HIV infections.

Comprehensive knowledge of HIV/AIDS, which is essential to combat the HIV/AIDS pandemic and makes up part of perceived susceptibility, is very low. According to UNAIDS, only 34 percent of young men and women between the ages of 15 to 24 have a

comprehensive knowledge of HIV/AIDS, which was a small increase since 2008 (UNAIDS 2010).

Influence of Masculinity

Various forms of masculinity obstruct men from changing their behavior in the face of HIV/AIDS, including dominant or hegemonic forms. Hegemonic masculinity oppresses both men *and* women, limiting what they can do (Mane and Aggleton 2001). Morrell (1999: 31) states that “masculinity is a problem for men, for education and health policy makers and practitioners.” This view is the result of the hegemonic masculinity where the dominant forms of masculinity are associated with power and oppress men who do not conform (Cornwall 1997). Connell (2005: 77) defines hegemonic masculinity as “the configuration of gender practice which embodies the currently accepted answer to the problem of legitimacy of patriarchy, which guarantees (or is taken to guarantee) the dominant position of men and the subordination of women.” Hegemonic masculinity presents contradicting attitudes toward HIV. Illness diminishes men’s physical ability and men are seen as the dominant figure. Therefore, if a man acknowledges that he is ill with an AIDS-related illness, then his power or authority within the household or community may diminish. Being infected with HIV or other sexually transmitted diseases (STDs) indicates a man has had several sexual partners and demonstrates risky behavior. In Zambia, some men believe that an individual is not a man until he has had an STD (Simpson 2009). The force of hegemonic masculinity and AIDS can be summed up in the Namibian saying: “AIDS didn’t come to Africa for dogs, it came for *men*” (Brown, Sorrell, and Raffaelli, 2005: 594)[emphasis added]. Hegemonic notions of

masculinity are fluid, like gender itself, and impose different and varying “elements, domains, identities, behaviours, and even objects” (Cornwall and Lindisfarne 1994: 12).

Due to changing gender structures, men are losing positions to women that gave men an advantage in society and are now “left without anything to value about being men” (Cornwall 1997: 11). An example is weakening male domination in the family structure with female empowerment leaving a void in what it means to be a man for males. As a result, men started to engage in other forms of hegemonic masculine activities with more frequency, such as having multiple sexual partners and engaging in domestic violence, to restore the value of being men (Morrell 2001). According to Cornwall and Lindisfarne (1994: 15) “[t]here are male *and* female versions of masculinity and, equally female *and* male versions of femininity” [emphasis in original text]. Tersbøl (2006) complements this notion by indicating that men are not alone in this belief because there is a continuous dialogue within a social context where men and women confirm ideas of masculinity and femininity.

Contraceptive use in a relationship depends on the level of trust between the partners. In most cases, not using a condom is seen as a sign of trust between partners (Chirawu, 2006; Mufune, 2005; Mufune, 2009; Simpson, 2009). In other cases, even when there is a lack of trust, condoms still are not used. For most Africans, sex takes place in the darkness; therefore, both partners cannot see the signs of STDs and men have the opportunity to pull off their condom during sex (Mufune 2005). Also, some STDs are not physically visible such as being infected with HIV. Because having multiple sexual partners without a condom can be a sign of what it means to be masculine and virile, some men boast how they trick their sexual partners into thinking that they are wearing a

condom (Kaler 2003). Women's attitudes are important in reducing the risk of HIV infection. Studies have shown that a woman's attitude towards HIV risk in a relationship will have an impact on the ability of a wife to ask her husband to use a condom (Bernardi 2002; Blanc and Wolff 2001) and culturally reproductive health, such as using a condom, is seen as a female issue (Varga 2001). When it comes to contraceptive use, women tend to under-report their use, while men tend to over-report (Varga 2001).

A person's parental status can have an effect on his/her attitudes towards risky sexual behavior. When spouses communicate about HIV/AIDS they also take into account the effect their behavior has on their children (Kohler, Behrman, and Watkins, 2007; Schatz 2005). Women advise their partners to not engage in risky extramarital relations due to the effect it would have on their children if they both die (Schatz 2005; Zulu and Chepngeno 2003). Men who consider themselves "family men," particularly fathers, tend to adopt monogamy (Kaler 2004).

Often individuals do not want to be associated with HIV/AIDS in any way because of the stigma attached to it. Even though individuals have basic knowledge of what HIV/AIDS is and how it is transmitted due to various education methods, Caldwell (2000) believes that associating AIDS with extramarital sexual activity and as a sexually transmitted disease partly explains the silence around AIDS. Individuals use denial to reinforce the belief that HIV/AIDS does not affect themselves, but only others (Mbonu, van den Borne, and De Vries 2009). Denial also is an important tool for others because some insurance companies do not pay out benefits if a death is due to AIDS – though many Africans, particularly in rural areas, do not have insurance. As a result, there are financial risks in acknowledging that a death is due to AIDS (Mbonu et al. 2009). Fear

prevents many people living with HIV from revealing their HIV status. A study in Namibia found that over 40 percent of people living with HIV believed that community leaders were not supportive of people living with HIV, whereas close to one-fourth of respondents did not believe it was safe for them to reveal their HIV status to anyone (van Zyl 2009).

According to Beck (2004: 11), men are bound both “by expectations of responsibility, and raised on beliefs that resist help-seeking [behavior].” As a result, men are less likely to acknowledge their risks of HIV infection, their chances of infecting their spouse, and the criticisms that result from having an HIV-positive test (Muula, et al. 2007). Men deny responsibility for HIV/AIDS by not getting tested for HIV and not utilizing antiretroviral therapy when they need to, yet many men will assume what is their HIV status. There are contradictory mind-sets toward self-efficacy because individuals may alter their perspectives from one situation to the next (Kaler 2004). Men make different claims about their HIV status in different situations (Kaler 2003).

According to Nattarass (2008: 30), “[h]ealth seeking behavior comprises a set of social acts and practices that simultaneously demonstrate and construct gender.” From a health viewpoint, men see HIV/AIDS as a woman’s problem; therefore, a man is seen as being as weak as a woman if he is HIV positive (Beck 2004). Becoming sick even causes a man to believe that he has failed in pursuing masculinity, and consequently, his duty to himself, his family, and his community (Beck 2004). As a result, men modify “the ways in which they present their health and [how health] practitioners respond to them” (Annandale and Riska 2009: 125-126). Therefore, studies have concluded that knowledge of HIV/AIDS does not necessarily lead to behavior change (Kaler 2003).

Role of the Media

People receive cues dispersed through various forms of media (e.g., television, radio, newspapers) that raise awareness on various issues and encourage changes to behavior. The message can be a billboard ad or a speech from a political figure. The goal of the message is to remind individuals to make better health decisions. Part of the reason Africa is particularly devastated by AIDS is because key political figures have been silent about the disease (Caldwell 2000).

Cues to change behavior can also have a negative effect on health decision-making. AIDS media often portray men who engage in risky sexual behavior as inevitably contracting HIV. Men who have not been tested for HIV may associate their risky behavior with being HIV positive (Kaler 2003). Therefore, access to media could negatively impact HIV perceptions for men.

Influence of Domestic Violence

Many women in sub-Saharan Africa have limited self-efficacy and control in their domestic relationships that can lead to intimate partner violence. For example, women must submit to their husbands' sexual demands even if they suspect their husbands are infected with HIV (Campbell et al. 2007; Strebel, et al. 2006), although some studies have shown that most men believed that women had the right to refuse sex with their husbands (Mufune 2003). Failure to comply with a male partner's demands may lead to intimate partner violence. Politicians also hold these beliefs even though there are laws protecting women from domestic violence. Namibia, one of the few countries with a completely gender neutral constitution, is no exception. A male Minister of Parliament in Namibia made the claim "that wives use herbs or 'juju' [witchcraft] on their husbands so

that they ‘lose their erection,’” resulting in a wife’s extramarital affairs and domestic violence in the home (Hubbard 2007: 107).

The behavioral outcomes of men adhering to hegemonic masculinities are a barrier in overcoming violent sexual behavior. Manhood identities are partially defined by control over sexual relationships (Harrison et al. 2006). As a result, youth are more likely to use force or sexual coercion in their partnerships (Gage 1998; Varga 2001). Some men believe that if a woman initially says no to sex, she will say yes after she is forced to have sex (Mufune 2003), whereas victims view violence in the relationship as an expression of love (Wood, Maforah, and Jewkes 1998). In order to protect themselves, some young women remain unmarried in order to safeguard their independence (Shemeikka, Notkola, and Siiskonen: 2005).

Social Influences and Social Networks

According to Ajzen (1991) and the TPB, belief in how a group views a behavior and the motivation of the individual to comply with the behavior affect whether or not someone will perform a behavior. As a result, social influences and social networks influence behavior. An individual’s behavior should not be perceived in isolation. An individual’s social network has an impact on behavior by influencing his/her perceived importance of the behavior. These social networks are not chosen at random and can significantly influence an individual’s attitude toward HIV/AIDS and extra-dyadic affairs. Individuals are connected to each other and do not make decisions in isolation. According to Bernardi (2002: 7), various notions about “social interaction assumes that individuals’ beliefs and opinions are the product of a social construction activity performed within their social networks.” Social influence is exerted on individual

behavior and affects “the opinions and attitudes that prevail in an individual’s social environment” (Helleringer and Kohler 2005) and can vary throughout sub-Saharan Africa (Caldwell, Caldwell, and Orubuloye 1992).

Social interactions are not chosen at random. Instead, social interaction is often determined by individual attitudes and preferences, “but is selected systematically according to observed and unobserved characteristics, a process often resulting in homophily” (Helleringer and Kohler 2005: 267). Homophily refers to “the principle that a contract between similar people occurs at a higher rate than among dissimilar people” (McPherson, Smith-Lovin, and Cook 2001: 416). Qualities tend to be localized in a particular socio-demographic space because individuals usually have their most significant contact with other individuals like themselves (McPherson, Smith-Lovin, and Cook 2001: 415). There are many social opportunities for individuals to interact and exchange information such as at funerals, childbirths, and other cultural gatherings. New networks are formed at marriage when new brides are sent to live with their husbands’ families.

Social networks can influence an individual’s attitude about HIV/AIDS. Studies have shown that individuals become more concerned about AIDS as the prevalence of AIDS concern increases in their social networks (Helleringer and Kohler 2005; Kohler, Behrman, and Watkins 2007; Zulu and Chepngeno 2003), particularly among friends (Clark 2010). An individual’s HIV risk assessment is influenced by his/her personal network through other members’ HIV risk perception (Bernardi 2002). Due to social norms, social networks are gender exclusive, where men generally talk with men and women generally talk with women (Behrman, Kohler, and Watkins 2003), although men

have a tendency to be more predisposed to influence through their social network than are women (Bernardi 2002). Men utilize social networks to assess their risks in having sexual relations with a woman (Kaler 2004) and avoid women who they perceive to be promiscuous and instead look for “clean girls” free of STDs and AIDS, such as virgins (Mufune 2003). Extramarital relations (Watkins 2004) and AIDS (Kaler 2004) are the product of gossip and rumors; therefore, men and women will likely hear about their spouse’s infidelity or other suspicious behavior through their social network (Watkins 2004). If a woman suspects her husband of infidelity, she can ask individuals in her social network whether they have heard any rumors or gossip about her spouse’s whereabouts (Helleringer and Kohler 2005).

Cultural Norms

Studies have shown that extramarital attitudes and behavior are inconsistently related, particularly across different cultures, and different cultures have varying opinions on what is considered an extramarital relationship (see Thompson, 1983 for literature review). Cultural norms can play a significant role in the acceptance of extramarital sexual behavior (Kimuna and Djamba 2005). Extramarital affairs are often condoned for men and often taboo for women. Women were often accused of infidelity if bad things happened in the family, such as if a wife’s husband was injured at work (Talavera 2007). In Namibia, adultery is often defined as occurring only between a married man and a married woman (Mufune 2003; Talavera 2007); in Swaziland, adultery has different definitions for men and women: for women, adultery occurs when women have any extramarital relationship, whereas for men it is not considered adultery if a relationship is between a husband and an unmarried woman or girl (Daly 2001).

The refusal of a wife to have sex with her husband can increase the chances that the husband will engage in an extramarital affair. Women might refuse sex with their husbands for several reasons. Many women in sub-Saharan Africa observe postpartum abstinence, sometimes referred to as postnatal abstinence. Postpartum abstinence is where a woman who has just had a child abstains from sex. The duration of abstinence can vary (van de Walle and van de Walle 1989), but the average reported duration of postpartum abstinence in West Africa is fifteen months (Ali and Cleland 2001). There may be several reasons behind the practice (Zulu 2001) that are intended to increase the survival of both the mother and child (Awusabo-Asare and K. Anarfi 1997); frequently, it is associated with sperm posing a threat to the mother's breast milk (Caldwell and Caldwell 1977). Women with more economic power within a relationship may have access to more types of power within the relationship and can refuse sex with little or no consequences (UNAIDS 2008).

High fertility rates and the practice of postpartum abstinence in sub-Saharan Africa may cause men to feel that they need to seek extramarital affairs (Caldwell 2000) due to prolonged periods when husbands do not have sexual access to their wives. In West Africa, the practice of postpartum abstinence has been found to be a significant predictor of extramarital affairs, and condom use among husbands who practice postpartum abstinence is much lower than among husbands who do not practice postpartum abstinence (Ali and Cleland, 2001). Hence, postpartum abstinence has been identified as a source of HIV infection (Awusabo-Asare and K. Anarfi 1997), even though much depends on the HIV prevalence in the population (Ali and Cleland 2001).

Research on extramarital affairs in polygamous relationships is varied. Some studies on polygamy in sub-Saharan Africa show that husbands in polygamous relationships are less likely to engage in extramarital affairs than are husbands in monogamous relationships (Orubuloye, Caldwell, and Caldwell 1991; Isiugo-Abanihe 1994; Mitsunaga et al. 2005). When focused on particular family events such as pre- and postpartum abstinence, polygamous men are more likely to engage in extramarital affairs (Lawoyin and Larsen 2002). However, the link between polygamy and HIV/AIDS is inconclusive (Saddiqa et al. 2010).

Extramarital relationships also provide the opportunity for men to “display masculine sexual and economic powerness to peers” (Smith, 2007: 1002). There is social worth for men to have multiple partners without using a condom while boasting about their risky behavior to affirm their masculinity (Kaler 2003). Many men discuss their extramarital relationships with peers or show off girlfriends, insofar as they do not threaten their marriage, while other men hide their extramarital relationships from virtually everyone to reduce their chances of their spouse(s) learning about the relationships (Smith 2007). Women, on the other hand, select extramarital partners based on the ability to provide assistance, fulfill fertility desires, and/or as a potential marital partner. Men tend to choose extramarital partners based on beauty (Tawfik 2003).

Socio-economic Status

There have been several studies comparing income and risky sexual behavior. Level of income and access to health care are important in predicting high-risk sex in sub-Saharan Africa (Oster 2009). Men experiencing poverty face a loss of masculine identity (Tersbøl 2006). Men seek to affirm their masculinity through multiple congruent

sexual partners when they cannot take on the masculine breadwinning role (Mufune, 2009, p. 236). Even though men of all income levels engage in extramarital relationships, wealthier men are more suspected of extramarital affairs because they have the finances to provide gifts and make payment in exchange for sex (Clark 2010). According to Smith (2007: 1001), “men with money have easier access and[...]more frequent extramarital relationships.” Yet studies from Zambia and Cote d’Ivoire have shown that wealth indicators are not significant when other social factors (e.g., head of household status, occupation, religion, and education) are accounted for in extramarital behavior (Ali and Cleland 2001; Kimuna and Djamba 2005).

For women, extramarital relationships are based more on monetary means than anything else. Women seek to buffer the effect of monetary uncertainties and men’s monetary control by utilizing ties outside of marriage (Tawfik 2003). Studies have shown that at first, an increase in a woman’s income may increase HIV risk for the woman, but the risk plateaus and decreases as income continues to increase (Wojcicki 2005).

Migration away from the home increases opportunities for extramarital relationships (Kaler 2003). Smith found that “[m]en whose work takes them away from their wives and families are more likely to have extramarital relationships” because of the hardships that these absences produce. Extramarital affairs that occur due to economically-driven migration can be easier to hide from wives, and affairs away from home are less likely to threaten a marriage (Smith 2007).

Theories

Health belief models examine the link between behaviors and attitudes towards a health behavior. By itself, the link between attitudes and behavior is weak due to the influence of other social indicators, such as subjective norms and self-efficacy. Combining attitudes with these other social indicators can strengthen the relationship between attitudes and behavior (Ajzen 2005). This paper will utilize key concepts from two behavior models: the Health Belief Model (HBM) and the Theory of Planned Behavior (TPB). Several studies have compared HBM and the TPB (for examples see Bish, Sutton, and Golombok 2000; Lajunen and Räsänen 2004; Nejad, Wertheim, and Greenwood 2005). The models have many similarities (e.g., they both include measures of self-efficacy, attitudes toward behavior, and the use of control variables), yet each has some variation in concepts. For example, the TPB brings subjective norms into its model, whereas the HBM adds an individual's perceived susceptibility to a disease and other triggers to health decision-making.

Both models focus on individual behavior and exclude other external influences that may potentially affect extra-dyadic behavior and risk of HIV infection, such as gender-power relationships and social norms, which are key factors that should be incorporated into any model when possible, and hence can undermine the complexity surrounding HIV/AIDS in sub-Saharan Africa (King 1999). Even though these models are primarily utilized to examine individual behavior, they still can have a role in examining extra-dyadic behavior among men in a sub-Saharan Africa context. Both health belief models can provide important feedback on individual attitudes, beliefs and norms concerning extra-dyadic behavior, which can then be incorporated into larger models that include other factors relevant to extra-dyadic behavior in a sub-Saharan

Africa context. Variables that include parts of external factors can be incorporated into both models, such as beliefs about social norms. Also, the individual cognitive aspects of extra-dyadic behavior are necessary factors in extra-dyadic and HIV/AIDS behavior. Kaler (2004: 228) argues that there is a cognitive prerequisite in a health belief model and without such a prerequisite, “no autonomous, sustainable behaviour change will occur.” Below is a summary of each model.

Health Belief Model

The HBM was developed by social psychologists in the 1950s to understand why people did not participate in disease prevention programs (Janz and Becker 1984). Since its development, the HBM “has been one of the most widely used conceptual frameworks in health behavior research” (Champion and Skinner 2008: 45). Variations of the HBM have been utilized in research on both HIV/AIDS and social networks (for an example see Kaler 2004). The HBM is comprised of several components: perceived susceptibility, perceived severity, perceived threat, perceived benefits, perceived barriers, cues to action, self-efficacy, and other modifying factors. *Perceived susceptibility* refers to one’s belief or opinion about the chances of contracting a condition or disease. For example, does an individual believe that he/she can be exposed to HIV? *Perceived severity* refers to how serious is one’s opinion about a condition and its medical consequences. For example, what are the consequences for the children if the parents become infected with HIV? Together, perceived susceptibility and perceived severity are categorized into *perceived threat*. *Perceived benefits* refer to one’s “belief regarding the effectiveness of the various actions available in reducing the disease threat” (Janz and Becker 1984: 2), such as a husband’s belief that using condoms in an extramarital affair will protect him and his

family from HIV infection. *Perceived barriers* refer to “negative aspects of a particular health action [that] may act as the impediments to undertake a behavior” (Janz and Becker 1984: 2) or the psychological costs of the health action. HIV/AIDS stigma is a key social barrier to many actions. For example, shame is often associated with people who are infected with HIV. *Cues to action* are triggers to the health decision-making process and can be external (i.e., education and mass media campaigns) or internal (i.e., symptoms). For example, has an individual heard the message promoting HIV/AIDS prevention by being faithful to his/her partner? Cues to action have not been systematically studied and are challenging to research through explanatory surveys (Champion and Skinner 2008). *Self-efficacy* was not explicitly incorporated into the original HBM (Champion and Skinner 2008) but is partially implied in *perceived barriers* (Rosenstock, Strecher, and Becker 1988). Here, self-efficacy refers to one’s confidence in his/her ability “to overcome perceived barriers to take action” (Champion and Skinner 2008: 50). Self-efficacy is different from perceived barriers in that self-efficacy focuses on outcomes, whereas perceived barriers focus on expectations. Other modifying factors are frequently used in various HBMs such as demographics, personality, knowledge, and structural variables because of their indirect influence on health-related behavior.

Theory of Planned Behavior

The TPB, which was derived from the Theory of Reasoned Action (TRA), was developed to better understand motivational factors associated with the likelihood of performing a certain behavior (Ajzen 1991; Montañó and Kasprzyk 2008). Both theories assume that “the best predictor of behavior is behavioral intention, which in turn is

determined by attitudes toward behavior and social normative perceptions regarding it” (Montaño and Kasprzyk 2008: 68). *Attitude toward behavior* refers to how an individual feels overall about the behavior in question, whether positively or negatively, including behavioral beliefs and evaluation of behavioral outcomes. *Subjective norm* refers to the perceived importance to perform a behavior or not, including normative beliefs and motivation to comply with the behavior.

The TPB adds a third factor to predict behavioral intentions, *perceived behavioral control*. Perceived behavioral control refers to the ability one has or believes he/she has in pursuing a behavior, including control over beliefs and perceived power. TPB has been utilized in research outside of sub-Saharan Africa on HIV-related behavior (Albarracín, Johnson, Fishbein, and Muellerleile 2001; Bryan, Ruiz, and O'Neill 2006; Gredig, Nideroest, and Parpan-Blaser 2006; Sheeran and Taylor 2006) and extramarital relationships (Drake and McCabe 2006). Perceived behavioral control can be employed in conjunction with behavioral intention to directly predict a behavioral action (Ajzen 1991). External modifying variables can be used in TPB models (e.g., age, income, education, etc.).

Example of Studies Utilizing Theories in the Context of Extramarital Affairs and HIV/AIDS

The TPB has been utilized to examine extramarital behavior. Drake and McCabe (2006), who found that present extramarital behavior was predicted by extramarital behavior in the past six months, and Banfield and McCabe (2001), who found that present extramarital behavior in women predicts future extramarital behavior. Examples of TPB being used to study HIV/AIDS in sub-Saharan Africa include Kakoko, Astrom,

Lugoe, and Lie (2006), who found that the TPB can be used as a conceptual framework for predicting intended use of HIV testing and counseling services, and Hadera, Boer, and Kuiper (2007), whose aim was to gain an understanding of what motivates youth to learn about HIV/AIDS prevention and examined school curriculum design preference. To the author's knowledge, there have not been any studies that have explicitly utilized the HBM in order to examine extramarital or extra-dyadic behavior. The HBM has touched on extramarital behavior when examining behavior relating to HIV/AIDS such as Volk and Koopman (2001), who found that perceived barriers was the only component of the HBM that was significantly associated with condom use, Hounton, Carabin, and Henderson (2005), who identified that perceived efficacy and problems using condoms are the most important barriers to condom use, and Kaler (2004), who identified that many men do not believe that they have to ability to resist AIDS.

Conceptualization

This study will conceptualize the two theories by combining similar concepts from the two theories while separating their distinct concepts. The survey questions that best fit each concept are then identified along with the reasoning behind their selection. All concepts focus on married and cohabiting men.

The HBM concepts of perceived susceptibility and cues to action are distinct from any TPB concepts and are thus separated. An individual's perceived susceptibility, or an individual's belief or opinion about the chances of contracting a disease or condition, here HIV/AIDS, is conceptualized with one variable: whether an individual knows someone who has or is suspected of having the AIDS virus. This variable helps identify individuals who have heard of HIV/AIDS but may not believe it affects them. People

might believe that HIV/AIDS is an issue for other communities but not for theirs. Another variable considered was whether an individual has ever heard of HIV/AIDS because if someone has not heard of HIV/AIDS, then he will not believe he will become infected and HIV/AIDS will not directly affect his behavior. Because some countries have the entire married/cohabiting sample as responding that they have heard of HIV/AIDS and knowing someone with HIV/AIDS implies knowing about HIV/AIDS, this variable was omitted from the analysis.

For this study, cues to action will focus on external triggers toward the health decision-making process. Internal triggers, such as symptoms of HIV/AIDS and AIDS-related diseases, will be omitted because no variable exists in the datasets utilized. Therefore, this study will look at external cues to action that pertain to HIV/AIDS and extra-dyadic affairs. Three forms of media were selected to represent the external trigger for HIV/AIDS and extra-dyadic affairs: printed media (newspaper or magazines), radio, and television. Respondents can receive information on HIV/AIDS through various media campaigns, including how extra-dyadic affairs can result in HIV infections.

The HBM concepts of perceived severity and perceived benefits are grouped with TPB concept of attitude toward behavior. The concepts from both theories measure how an individual feels about a health behavior. Perceived severity and perceived benefits are more specific aspects of an individual's feelings about a behavior related to health. Hence, variables selected for attitude toward behavior fall into the two categories of the HBM. Therefore, variables that measure married and cohabiting men's health beliefs about extra-dyadic behavior were selected.

One variable was selected as a representative for perceived severity: whether a man has a right to have sex with another woman if his wife/partner refuses to have sex. This variable shows one aspect of the severity of extra-dyadic behavior among men when a man is refused sex by his wife/partner. There are likely other reasons a man might have the right to have extra-dyadic relations, but this variable covers a key social reason as to why men may engage in affairs: postpartum abstinence when the couple abstains from sex while the wife/mother is nursing a child. No variable was available in the datasets to explicitly examine perceived severity of HIV/AIDS, which would strengthen the utilization of the concept of perceived severity.

The concept of perceived benefits encompasses HIV/AIDS perception in attitudes toward extramarital behavior. For this study, the perceived benefits variables consist of two variables that refer to the respondent's belief about the effectiveness of HIV prevention. The first asks if individuals can reduce their chances of getting the HIV/AIDS virus by having just one uninfected partner who has no other sexual partners. The second variable asks if individuals can reduce their chances of becoming infected with HIV by not having sexual intercourse at all. Both variables encompass beliefs about sexual behavior and HIV infections and may influence sexual behavior, including extra-dyadic behavior.

In general, according to Ajzen (2002), the HBM concepts of perceived barriers and self-efficacy are similar to the TPB concept of perceived behavioral control. Both of the HBM concepts fit within the ability an individual has or believes he has in pursuing a behavior. The HBM concepts will limit this ability and belief to the aspects of a health action that might limit behavioral action and the ability to overcome these barriers to take

action toward extra-dyadic behavior. Three variables were selected for perceived benefits that involve negative aspects of extra-dyadic affairs and possible HIV infection. The first two variables address a wife's/partner's perceived control in her relationship as viewed by men. These are barriers in that the level of control a female partner has in a relationship can affect the ability of a male partner to pursue extra-dyadic relations and/or the chance of HIV infection (Bernardi 2002). The two variables ask men if a wife/partner knows her spouse/partner has a sexually transmitted disease, is she justified in refusing to have sex or asking her spouse/partner to use a condom. The last variable is a proxy for HIV/AIDS stigma: whether the respondent believes that people with the AIDS virus should be ashamed of themselves. The DHS ask other questions revolving around aspects of HIV/AIDS stigma but they do not touch upon the heart of HIV/AIDS stigma as shame does.

The TPB concept of subjective norms is distinct from the HBM because it refers explicitly to the "perceived social pressure to perform or not perform a behavior" (Ajzen 1991: 188), which includes nominal beliefs and motivation to comply. Variables for nominal beliefs will be determined by what an individual believes about the extra-dyadic sexual behavior of people he knows. Based on the variables available in the datasets, the nominal variable will include whether a respondent believes that most married men he knows have sex with only their wives. One variable is utilized as a proxy for motivation to comply, which asks whether most men should have sex with only their wives/partners; the term "should" is the motivating factor.

Several variables are selected to control for men's extra-dyadic behavior and can influence most other variables selected for the models. The control variables include a

wealth index, age, education, type and place of residence (i.e., urban verses rural), whether a husband/male partner has slept away from home in the past twelve months, and the number of wives/partners a man has.

The dependent variable for both models is whether a man has had sex with a woman other than his wife/partner or wives/partners in the past twelve months. The models will filter men who report being currently married or a cohabiter in a relationship because both can engage in extra-dyadic behavior. One problem with this variable is that the numbers are self-reported and may be under-reported, but it is the best indicator of extramarital behavior in the datasets.

Due to the variables available in the datasets, both models are not strictly followed and may lead to different conclusion than would a stricter model. There are some other problems with conceptualizing the TPB and HBM for HIV/AIDS in sub-Saharan Africa. Western models, such as the TPB and HBM, focus on individual, linear, and rational behavior that does not fit as well in sub-Saharan Africa as in the West (Airhihenbuwa and Obregon 2000). For example, the individualism of the models can contradict the collectivism for non-Western peoples. Also, HIV/AIDS is not viewed in a purely logical manner where one's risk towards HIV/AIDS is often discounted, such as the attitude of fatalism among many Africans concerning HIV/AIDS (Caldwell 2000). Individuals who have a fatalistic view towards HIV/AIDS have a good understanding about the disease, but their knowledge and beliefs do not follow their actions because they assume that they will become infected and die of AIDS-related illnesses regardless of what they do. A fatalistic attitude will affect the relationships between some variables, particularly with the variables selected for the TPB concept of attitude toward behavior

and the HBM concepts of perceived severity and perceive benefits. The dataset variables were not necessarily conceptualized with these models in mind, particularly for extra-dyadic behavior and HIV/AIDS risks. As a result, variables are selected based on which most closely fit within each model as well as issues concerning the models' focus on individual, linear, and rational behavior.

Hypotheses

Hypotheses were constructed in order to examine whether men alter their extra-dyadic behavior in the face of AIDS. Several factors push individuals toward one particular behavior while pulling them away from another including a partner's level of power in a relationship, the physical safety of women in the household, views of having multiple congruent sexual partners, and social norms. HIV is transmitted primarily through heterosexual intercourse in sub-Saharan Africa and it is often condoned for men, and some women, to have multiple congruent sexual partners. Therefore, in the age of HIV/AIDS in sub-Saharan Africa, a dependent variable was selected that asked for married/cohabiting men's sexual behavior. This particular dependent variable allows for the examination of men's extra-dyadic behavior across sub-Saharan Africa countries that have been affected by the HIV/AIDS epidemic in some varying ways.

1. Married and cohabiting men who perceive that they are at risk of HIV infection will have fewer extra-dyadic affairs than married and cohabiting men who do not perceive that they are at risk of HIV infection.
2. Married and cohabiting men who are exposed to cues to action that impact extra-dyadic behavior will have fewer extra-dyadic affairs compared to married and

cohabiting men who are less exposed to cues to action that impact extra-dyadic behavior.

3. Married and cohabiting men who have a more favorable attitude toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs than married and cohabiting men who have a less favorable attitude toward extra-dyadic behavior.
 - a. Married and cohabiting men who perceive the health consequences of extra-dyadic affairs will report fewer extra-dyadic affairs in the past twelve months than married and cohabiting men who do not perceive the health consequences of extra-dyadic affairs.
 - b. Married and cohabiting men who perceive the effectiveness of actions available to them in reducing HIV infection will report fewer extra-dyadic affairs in the past twelve months than married and cohabiting men who do not perceive the effectiveness of actions available to them in reducing HIV infection.
4. Married and cohabiting men who perceive that men have self-efficacy to overcome perceived barriers toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs than married and cohabiting men who do not believe that they have self-efficacy to overcome perceived barriers toward extra-dyadic behavior.
 - a. Married and cohabiting men who have more barriers that prevent them from engaging in extra-dyadic affairs will report fewer extra-dyadic affairs in the past twelve months than married and cohabiting men who have fewer barriers that prevent them from engaging in extra-dyadic affairs.

- b. Married and cohabiting men who can overcome barriers to engage in extra-dyadic affairs will report engaging in more extra-dyadic affairs in the past twelve months than married and cohabiting men who cannot overcome these barriers.
5. Married and cohabiting men who perceive that most married and cohabiting men they know do not engage in extra-dyadic behavior will have a lower rate of extra-dyadic behavior than men who perceive that most married and cohabiting men they know engage in extra-dyadic behavior.

Data and Methods

Data

This study will utilize data from the Demographic and Health Survey (DHS) collected in several sub-Saharan Africa countries. DHS surveys are nationally representative household surveys that have been conducted in selected African countries since the late 1980s. The surveys provide data on the fertility, health, family planning, mortality and nutrition of the populations in developing countries. As a result, questions about sexual behavior and attitudes, such as extra-dyadic sex, premarital sex, and sex within marriage are asked. Detailed questions about HIV knowledge and beliefs are included in more recent surveys. The standard DHS surveys consist of between 5,000 and 30,000 household participants, are conducted approximately every five years, and include three types of questionnaires: household, male, and female. A female questionnaire is conducted in each household visited while, depending on the country, male questionnaires are conducted at either every other household or every household. Compared to the female questionnaires, male questionnaires are shorter because they do

not ask about detailed reproductive histories or information about maternal and child health. Male response rates tend to be lower than female rates because men are away from the household more frequently and for longer periods of time. All surveys were conducted face-to-face.

Sample

Given the nature of the study and the data available, this study will limit the analyses to (a) male questionnaires only because the study is examining only married and cohabiting men's extra-dyadic relationships, (b) datasets that include variables for all of the concepts in both models, (c) country questionnaires that were conducted within three years of each other, and (d) countries that are in different regions of sub-Saharan Africa. Based on these requirements and the DHS data available, three countries in sub-Saharan Africa were selected for analysis: Namibia, Nigeria, and Zambia.

These countries are good representations of sub-Saharan Africa because of their variation and similarities. All three countries have English as the official language, yet many diverse indigenous languages are spoken. Both Namibia and Nigeria have constitutions that prohibit discrimination based on gender and Zambia is a fairly urbanized and democratic country, yet all three continue to experience male domination in their society. All three surveys were conducted within three years of each other, from 2006 to 2008.

Namibia covers approximately 824,000 square kilometers in southwestern Africa and is broken into thirteen geopolitical regions. In 2001, the population of Namibia was 1,830,330, and it has one of the lowest population densities in sub-Saharan Africa (Ministry of Health and Social Services (MoHSS) [Namibia] and Macro International

Inc. 2008). Of the three countries, Namibia was the most recent to gain independence, having done so in 1990. Namibia experienced two colonial rulers: first was Germany until the end of First World War and later was South Africa, which eventually imposed an apartheid system of government in Namibia. The apartheid system had an impact in developing different types of hegemonic masculinities (Morrell, 1999; Morrell, 2001). Namibia is an economically highly skewed upper-middle-income country that had a GDP per capita of \$4,149 in 2008 (The World Bank 2010), yet 37 percent of the population was unemployed in 2007 (Ministry of Health and Social Services (MoHSS) [Namibia] and Macro International Inc. 2008). The estimated adult (ages 15-49) HIV/AIDS infection rate in 2007 was 14.6 percent in Namibia (UNAIDS 2008).

From 2006 to 2007, the Namibia DHS conducted interviews in 9,200 households out of 9,410 eligible occupied households for a response rate of 97.8 percent. Out of 4,446 eligible males, 3,915 were interviewed for a response rate of 88.1 percent. Male respondents were aged 15-49 and selected from every other household.

Nigeria covers approximately 924,000 square kilometers in West Africa and is comprised of 36 states and six geopolitical zones. In 2006, the population of Nigeria was 140,400,000, and it has one of the highest population densities in sub-Saharan Africa. Nigeria was a former British colony that gained full independence in 1960 (National Population Commission (NPC) [Nigeria] and ICF Macro 2009). Nigeria is considered a lower-middle-income economy by The World Bank (2010) and had a GDP per capita of \$1,370 in 2008. The estimated adult (aged 15-49) HIV/AIDS infection rate in 2007 was 3.2 percent in Nigeria (UNAIDS 2008).

In 2008, the Nigeria DHS conducted interviews in 34,070 households out of 34,644 eligible occupied households for a response rate of 98.3 percent. Out of 16,722 eligible males, 15,486 were interviewed for a response rate of 92.6 percent. Male respondents were aged 15-59 and selected from every other household.

Zambia is a landlocked country that covers approximately 753,000 square kilometers in south-central sub-Saharan Africa and is broken into 72 districts and nine provinces. In 2000, the population of Zambia was 9,900,000, and has a medium population density compared to Namibia and Nigeria. Just like Namibia and Nigeria, Zambia was a former British colony that gained independence in 1964 (Central Statistical Office (CSO), Ministry of Health (MOH), Tropical Diseases Research Centre (TDRC), University of Zambia, and Macro International Inc. 2009). Zambia is considered a low-income country with a GDP per capita of \$1,134 in 2008 (The World Bank 2010). The estimated adult (aged 15-49) HIV/AIDS infection rate in 2007 was 15.4 percent in Zambia (UNAIDS 2008).

In 2007, the Zambia DHS conducted interviews in 7,164 households out of 7,326 eligible occupied households for a response rate of 97.8 percent. Out of 7,146 eligible males, 6,500 were interviewed for a response rate of 91.0 percent. Male respondents were aged 15-59 and selected from every household.

The high response rates for each country were due to the host country government's advocacy and publicity for the DHS. Advertising and promotional materials (e.g., t-shirts) were given out to inform communities about the survey. Respondents were not paid to participate.

Measures

This study focuses on one dependent variable: the number of women a man has had sex with, excluding his wife or cohabiting partner. As result, only married and cohabiting men will be analyzed. Several independent variables were selected from each DHS survey. See Table 1 for the questions pulled from the surveys and the DHS's coding for each concept. Below is a summary of the variables pulled from the DHS surveys broken up by concept for each model and variable. The coding of each variable is also provided.

All variables with a "Yes" and "No" response choice also include a "Don't Know" (DK), "Not Sure" (NS), "Depends," and/or "No Opinion" response. These variables will be recoded as ordinal measures where the DK, NS, Depends, and/or No Opinion will be a response in between Yes and No. The coding is: 1=No, 2=DK/NS/Depends/No Opinion, 3=Yes. The logic behind this is that for many variables, DK/NS/Depends/No Opinion includes more than five percent of all cases. Also, DK/NS/Depends/No Opinion is seen as the middle of a continuum. The respondents who indicated DK/NS/Depends/No Opinion are more likely to change their responses to either "Yes" or "No" if variations of the questions were asked or if the respondent was pressed further. That is, it is assumed that respondents who answered DK/NS/Depends/No Opinion may actually have some opinion on the issue but pressuring respondents to provide an opinion when they do not have one introduces bias into the analysis.

One variable was selected for the HBM concept of perceived susceptibility that asks respondents if they personally know someone who has or is suspected of having the AIDS virus and is coded as follows: 1=No, 2=DK/NS/Depends/No Opinion, 3=Yes.

Three variables were selected for the HBM concept of cues to action, which asked respondents how often they (a) read a newspaper or magazine, (b) listen to the radio, and (c) watch television. The three variables share a similar coding scheme: 1=Not at all, 2=Less than once a week, 3=At least once a week, and 4=Almost every day.

The TPB concept of attitude toward behavior is comprised of three variables: one for the HBM concept of perceived severity and two for perceived benefits. The single variable for perceived severity asked respondents if a woman refuses to have sex with her husband/cohabiting partner when he wants it, does he have the right to have sex with another woman. The two variables for perceived benefits ask respondents (a) if individuals can reduce their chances of getting the HIV/AIDS virus by having just one uninfected sex partner who has no other sex partners and (b) if individuals can get the AIDS virus because of witchcraft or other supernatural means. All three variables have identical coding: 1=No, 2=DK/NS/Depends/No Opinion, 3=Yes.

The TPB concept of perceived behavior control is comprised of five variables: three for the HBM concept of perceived barriers and two for self-efficacy. The three variables for perceived barriers asked respondents (a) if they agree or disagree with the following statement: People with the AIDS virus should be ashamed of themselves, (b) if a wife/female cohabiting partner knows her husband/male cohabiting partner has a disease that she can contract during sexual intercourse, is she justified in asking that they use a condom when they have sex, and (c) If a wife/female cohabiting partner knows her husband/male cohabiting partner has a disease that she can contract during sexual intercourse, is she justified in refusing to have sex with him. The three variables are coded as 1=No, 2=DK/NS/Depends/No Opinion, 3=Yes. There are two variables that

measure self-efficacy. The first asked if a wife [or cohabiting partner] refuses to have sex with her husband [or male cohabiting partner], is he justified in hitting or beating his wife [or female cohabiting partner] and is coded as 1=No, 2=DK/NS/Depends/No Opinion, 3=Yes. The second self-efficacy variable asked who has greater say in deciding what to do with the money the wife [or female cohabiting partner] earns for her work and is coded as 1=Husband [or male cohabiting partner], 2= DK/NS/Depends/No Opinion, 3=Both equally, 4=Wife [or female cohabiting partner]. Here, responding with DK/NS/Depends/No Opinion is seen, in terms of ownership, as being between the husband [or cohabiting partner] and both the husband [or male cohabiting partner] and wife [or female cohabiting partner] equally.

Two variables were selected to measure the TPB concept of subjective norms: (a) whether a respondent believes that married [or cohabiting] men should only have sex with their wives [or female cohabiting partner], and (b) whether a respondent thinks that most married [or cohabiting] men they know have sex only with their wives [or female cohabiting partner]. Both variables are coded identically where 1=No, 2=DK/NS/Depends/No Opinion, and 3=Yes.

Control variables include level of education, a wealth index, type of place of residence, number of wives/cohabiting partners, age, and migration away from home in the past 12 months. The level of education is coded as 1=No education, 2=Primary, and 3=Secondary or higher. Secondary and higher education are combined because of the small number of individuals in sub-Saharan Africa who have a higher education certificate. A wealth index produced by DHS will be utilized as a measure for income. The wealth index calculated by DHS is an aggregate of the collective standard of living

for a household and is coded as 1=Poorest, 2=Poor, 3=Middle, 4=Rich, and 5=Richest. Household assets are selected to develop the index (e.g., televisions, radios, sanitation facilities, and access to water). Type of place of residence is coded as 0=Urban and 1=Rural. DHS utilized an urban definition where large cities of over one million, small cities with populations over 50,000, and towns with unspecified numbers of individuals are urban areas. All areas in the countryside are considered rural. The number of wives/cohabiting partners, age, and migration away from the home in the past 12 months (defined as spending a night away from home) are continuous variables.

Analytical Strategy and Procedure

The study will assess men's extra-dyadic behavior utilizing variables conceptualized through the HBM and the TPB. This study does not fully follow the expected analysis of the HBM and the TPB because the surveys do not include questions that can precisely fit into the concepts of each model. Therefore, all variables cannot be said to explicitly follow the HBM or the TPB. Also, the TPB concept of intention is not analyzed because there is no variable in the surveys that ask whether men intend to engage in an extra-dyadic affair. Both models will only be predicting married and cohabiting men's actual self-reported extra-dyadic behavior. Also, it is often the case that married and cohabiting men's actual extra-dyadic behaviors are not examined in other studies (such as Ali and Cleland 2001; Kimuna and Djamba 2005) because such behavior is under-reported and includes only married or cohabiting men. As a result, under-reporting will be considered in any analysis. The analytical procedures will utilize PASW Statistics 18 and will commence with running frequencies and conducting t-tests

for each variable within each country and across each country. After analyses of the descriptive statistics are completed, regression models will be run.

Ordinary least squares (OLS) regression was run initially on each country independent of the others and on the HBM and the TPB models separately. In each regression model, the dependent variable of the number of extra-dyadic relationships in which married and cohabiting men engage will be regressed on the independent and control variables in a stepwise fashion. This will provide an indication of what variables are significant within countries.

Once the analysis of the models of each country independent of the other is complete, a dummy variable of country in sub-Saharan Africa will be constructed and included in the models in order to better examine differences between countries. All of the countries' respondents will be merged into one dataset. Again, the HBM and TPB models will be run separately from each other using the stepwise method discussed above.

Finally, a model comprised of all of the variables from both the HBM and TPB will be analyzed, first within countries followed by merging the countries together. This new model will be compared with the HBM and the TPB in predicting married and cohabiting men's extra-dyadic relationships. The dependent variable will be regressed upon the independent and control variables in the stepwise fashion discussed.

Results

This study will first examine the results of the independent sample t-tests (Table 2) highlighting differences between countries of selected variables. Second, I will investigate the results of the different models within each country: Zambia (Tables 3, 4,

and 5), Nigeria (Table 7, 8, and 9), and Namibia (Table 13, 14, and 15). The first series of models in each table, M1, are the baseline models for the HBM, TPB, or Combined models. The Combined models contain all of the variables included in both the HBM and TPB. The second series of models in each table, M2, are the baseline models plus the control variables. A positive coefficient means that the variable is positively correlated with the number of reported extra-dyadic affairs in the past twelve months, whereas a negative coefficient means that there is an inverse relationship. The strength of the relationship for each variable will be measured by the level of significance and the size of the standardized coefficient. The standardized coefficient will be highlighted in variables where they are strong. Significance will be reported at $p < 0.05$. Finally, this study will include a single interaction term (to avoid multicollinearity) in separate models and countries. This study suspect multicollinearity may be a problem due to strong correlations among some independent/control variables.

Results of T-tests

According to the t-tests (Table 2), most variables are significantly different between countries. Zambia men report knowing the most people who have or have died of AIDS whereas Nigerian men report knowing the fewest. Men read newspapers or magazines more frequently in Namibia than in Nigeria and Zambia. Radio is the most frequently utilized source of media in each country where respondents listen to the radio on average at least once a week. Men watch television more frequently in Namibia than in Nigeria or Zambia. On average, men tend to believe that having one sex partner with no other sex partners will reduce their chances of getting AIDS. There is no significance difference between Zambia and Namibia on whether someone can get AIDS by

witchcraft or supernatural means but there is a significant difference between Nigeria and Namibia, where belief that one can get AIDS by witchcraft or supernatural means is on average greater than in Namibia. On average, men in Nigeria had a stronger belief that people with AIDS should be ashamed of themselves whereas men in Namibia had the weakest belief. On average, men in each country are more likely to believe that a wife is justified in asking her husband to use a condom or refuse sex if she believes that he has an STD. Wife beating had a higher rate of acceptance in Zambia than in Nigeria or Namibia. Men believed that wives had more of a say in what to do with the money that they earn in Namibia than in Nigeria or Zambia. The belief that married [or cohabiting] men should only have sex with their wives [or partners] was highest in Zambia whereas the belief that most married [or cohabiting] men only have sex with their wives [or partners] was highest in Nigeria. Men surveyed in Namibia were, on average, the youngest at 28 years old compared to Zambia where the average is 30 and Nigeria with 31. The education level of respondents was not significantly different between men in Namibia and Zambia but the average level of education for each country was above primary school. The wealth index was not significantly different between Zambia and Nigeria. The average index value of respondents in each country was the middle income level. Respondents in Nigeria are more likely to be from an urban environment than were respondents in either Zambia or Namibia. On average, respondents in Nigeria reported being away from home almost four times in the past twelve months whereas respondents in Namibia reported almost three times and those in Zambia reported 1.8 times. Respondents in Nigeria had on average more wives than did respondents in either Zambia

or Namibia. There was no significant difference between cohabiting or married men in Namibia and Zambia. Zambia had a higher rate of cohabiting unions.

Analysis of Regression Models

The analysis of the regression models is broken up by country and model. Within the HBM and TPB, concepts are examined. Because the Combined models incorporate both concepts of the HBM and TPB, both concepts will be examined when explaining the results of the Combined models. After examining each country's models, the fit of each model will be examined followed by examination of the interaction terms across models.

Zambia

Health Belief Model (HBM)

Table 3 summarizes the OLS regression results for the HBM in Zambia. According to Hypothesis 1, married and cohabiting men who perceive that they are at risk of HIV infection will have fewer extra-dyadic affairs. Perceived susceptibility is significant in both models at $p < 0.001$ in predicting the number of reported extra-dyadic affairs in the past twelve months. Knowing someone who has AIDS or has died of AIDS significantly increases the number of extra-dyadic affairs by approximately 0.059 for both models. In sum, contrary to what was predicted, if a married or cohabiting man perceives that he is susceptible to HIV/AIDS, then he reports more extra-dyadic affairs than do men who do not perceive that they are susceptible to HIV/AIDS.

According to Hypothesis 2, married and cohabiting men who are exposed to cues to action that impact extra-dyadic behavior will have fewer extra-dyadic affairs. Frequency of reading newspapers or magazines and the frequency of listening to the radio are not significant predictors of the number extra-dyadic relationships reported in

the past twelve months in Zambia. Only one cue to action was found to be significant: frequency of watching television in M1 ($p < 0.05$, Table 3). As men's frequency of watching television increases, the number of reported extra-dyadic affairs in the past twelve months increases. When control variables are added (Table 3, HBM, M2) the frequency of watching television loses significance at $p < 0.05$. The loss in significance in Zambia is due to the effect that the control variables have in explaining the number of extra-dyadic relationships reported in the past twelve months. Because level of income can determine whether someone can afford a television, an interaction term was constructed between frequency of watching television and income and entered into a separate model, but no significance was found. In sum, the only cue to action that influenced the number of extra-dyadic affairs in Zambia was television watching, which, contrary to this study's prediction, increased the number of reported extra-dyadic affairs.

According to sub-Hypothesis 3a, married and cohabiting men who perceive the health consequences of extra-dyadic affairs will report fewer extra-dyadic affairs in the past twelve months. Perceived severity attained significance in Zambia at $p < 0.001$ (Table 3) for both models and is the strongest predictor in the model. The number of reported extra-dyadic affairs in the past twelve months increases as perceptions become more favorable of a man's right to have sex with another woman if his wife [or cohabiting partner] refuses to have sex. As men's attitude increases by one unit on a three point index from either "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," then the number of reported extra-dyadic affairs increases by 0.157 for HBM M1. In sum, the men who believe that a husband [or male cohabiting partner] has the right to have sex outside of marriage [or his primary

relationship] if his wife [or female cohabiting partner] refuses to have sex do not perceive the health risks of extra-dyadic relationships compared to men who do not believe that a husband [or cohabiting male partner] has the right to have sex outside of marriage [or his primary relationship] if his wife [or female cohabiting partner] refuses to have sex. In sum, the support for extra-dyadic behavior among married and cohabiting men in Zambia predicts the number of extra-dyadic affairs.

According to Hypothesis 3b, married and cohabiting men who perceive the effectiveness of actions available to them in reducing HIV infection will report fewer extra-dyadic affairs in the past twelve months. Neither of the variables that made up perceived benefits attained significance in Zambia (Table 3). Hence, whether an individual can reduce his/her chances of becoming infected with the AIDS virus by having sex with one partner who has no other partners and whether men believe individuals can contract the AIDS virus because of witchcraft or other supernatural means do not predict the number of reported extra-dyadic affairs in the past twelve months. In sum, the belief that married and cohabiting men have towards their actions in reducing HIV/AIDS risk do not affect the number of reported extra-dyadic affairs.

According to Hypothesis 4a, married and cohabiting men who have more barriers that prevent them from engaging in extra-dyadic affairs will report fewer extra-dyadic affairs in the past twelve months. In Zambia, only one perceived barrier was found to be significant at $p < 0.05$ in predicting the number of reported extra-dyadic affairs in the past twelve months: A wife's [or female cohabiting partner's] justification to refuse to have sex with her husband [or male partner] if she believes that he has an STD for M1 (Table 3). The variable becomes nonsignificant when control variables are added. Whether

married or cohabiting men believe that people with AIDS should be ashamed of themselves and whether a wife [or cohabiting partner] has the right to refuse sex if her husband [or cohabiting male partner] has an STD were found not to be significant. In sum, the only factor that could impede extra-dyadic affairs and predict the number of extra-dyadic affairs in Zambia was if a wife/cohabiting partner could refuse sex with her husband/cohabiting partner if she believes he has an STD.

According to Hypothesis 4b, married and cohabiting men who can overcome barriers to engage in extra-dyadic affairs will report engaging in more extra-dyadic affairs in the past twelve months. Neither of the variables selected to represent self-efficacy were found to be significant predictors of the number of reported extra-dyadic affairs in the past twelve months in Zambia: whether a husband [or male cohabiting partner] is justified in beating his wife [or female cohabiting partner] if she refuses to have sex and which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns. In sum, none of the abilities to overcome perceived barriers to extra-dyadic behavior predicted the number of reported extra-dyadic affairs in Zambia.

Theory of Planned Behavior (TPB)

Table 4 summarizes the TPB OLS regression models for Zambia. According to Hypothesis 3, married and cohabiting men who have a more favorable attitude toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. The only attitude toward behavior that was significant in Zambia's TPB models was men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex. Significance was

attained at $p < 0.001$ in both models. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is positively correlated with the number of reported extra-dyadic affairs in the past twelve months. More specifically, as attitudes become more favorable of a man's right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex, the number of reported extra-dyadic affairs in the past twelve months increases. As men's attitude increases by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of reported extra-dyadic affairs increases by at most 0.152 (Table 4, M1). The other attitudes toward behavior were found to be nonsignificant in Zambia: whether an individual can reduce his/her chances of becoming infected with the AIDS virus by having sex with one partner who has no other partners and whether men believe individuals can contract the AIDS virus because of witchcraft or other supernatural means.

According to Hypothesis 4, married and cohabiting men who perceive that men have self-efficacy to overcome perceived barriers toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. Perceived behavior control was found to be significant for a couple of variables in the baseline model (Table 4, M1). A wife's [or female cohabiting partner's] justification to ask her husband [or male partner] to use a condom if she believes that he has an STD is significant with regard to TPB M1 ($p < 0.01$, Table 4) and is positively associated with the number of extra-dyadic affairs reported in the past twelve months. A wife's [or female cohabiting partner's] justification to refuse to have sex with her husband [or male partner] if she believes that he has an STD is

significant and positively correlated with the number of extra-dyadic affairs reported in the past twelve months for M1 ($p < 0.05$, Table 4). Both variables are not statistically significant when control variables are added. The other variables that make up perceived behavioral control were found not to be significant: (a) whether men believe that those with the AIDS virus should be ashamed of themselves, (b) whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if she believes he has a sexually transmitted disease, and (c) which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns. In sum, married and cohabiting men's ability or perceived ability to pursue extra-dyadic behavior is only partially predicted by number of reported extra-dyadic affairs in the past twelve months in Zambia. This predictive power was lost when control variables were added to the model.

According to Hypothesis 5, Married and cohabiting men who perceive that most married and cohabiting men they know do not engage in extra-dyadic behavior will have a lower rate of extra-dyadic behavior. Both variables that make up social norms were found to be significant in both models at $p < 0.001$ (Table 5) in predicting the number of extra-dyadic affairs in the past twelve months in Zambia. The belief that men should only have sex with their wives [or female cohabiting partners] is inversely related to the number of extra-dyadic affairs reported in the past twelve months, in that the more men affirm the belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partners], the fewer the number of extra-dyadic affairs reported in the past twelve months. As men's beliefs increase by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number

of extra-dyadic affairs decreases by approximately 0.048 in both models (Table 5). A man believing that most people he knows have sex with only one partner is inversely related to the number of extra-dyadic affairs reported in the past twelve months. As men are more inclined to think people they know have sex with only one partner (i.e., increased by one unit from “No” to “DK/NS/Depends/No Opinion” or “DK/NS/Depends/No Opinion” to “Yes”), the number of extra-dyadic affairs decreases at most by 0.078 in M1 and 0.074 in M2 (Table 5). In sum, the perceived importance of whether or not to engage in extra-dyadic affairs predicts the number of reported extra-dyadic affairs in the past twelve months in Zambia.

Combined Models

Table 5 summarizes the Combined OLS regression models for Zambia. The Combined models include all of the baseline variables from both the HBM and TPB. According to Hypothesis 1, married and cohabiting men who perceive that they are at risk of HIV infection will have fewer extra-dyadic affairs. Whether a man knows someone who has AIDS or has died of AIDS is a significant predictor in both models at $p < 0.001$. Knowing someone who has AIDS or has died of AIDS significantly increases the number of extra-dyadic affairs between approximately 0.059 and 0.060 affairs M1 and M2 respectively. In sum, if a married or cohabiting man in Zambia perceives that he is susceptible to HIV/AIDS, then he reports more extra-dyadic affairs than do men who do not perceive that they are susceptible to HIV/AIDS.

According to Hypothesis 2, married and cohabiting men who are exposed to cues to action that impact extra-dyadic behavior will have fewer extra-dyadic affairs. In Zambia, the frequency of reading newspapers or magazines and the frequency of

listening to the radio are not significant predictors of the number of extra-dyadic relationships reported in the past twelve months. The frequency of watching television attains significance in M1 ($p < 0.05$). As men's frequency of watching television increases, the number of reported extra-dyadic affairs in the past twelve months increases. When control variables are added for M2, the frequency of watching television loses significance at $p < 0.05$. This is due to the effect that the control variables have in explaining the number of extra-dyadic relationships reported in the past twelve months. As a result, an interaction term of frequency of watching television and income was constructed and entered into a subsequent model, but no significance was found. In sum, the only cue to action that influenced the number of extra-dyadic affairs in Zambia was frequency of watching television, which, contrary to this study's prediction, increased the number of reported extra-dyadic affairs.

According to Hypothesis 3, married and cohabiting men who have a more favorable attitude toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is the strongest predictor in all of Zambia's models at $p < 0.001$, where the number of reported extra-dyadic affairs in the past twelve months increases as perceptions become more favorable of a man's right to have sex with another woman if his wife [or cohabiting partner] refuses to have sex. As men's attitude increases by one unit on a three point index from either "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of reported extra-dyadic affairs increases by 0.157 for M1. Men who believe that a husband (or male cohabiting partner]

has the right to have sex outside of marriage [or his primary relationship] if his wife [or female cohabiting partner] refuses to have sex do not perceive the health risks of extra-dyadic relationships. In sum, the support for extra-dyadic affairs among married and cohabiting men in Zambia predicts the number of extra-dyadic affairs.

Neither of the variables that made up perceived benefits was significant in predicting the number of extra-dyadic affairs reported in the past twelve months in Zambia: knowing whether individuals can reduce their chances of getting the HIV/AIDS virus by having sex with one partner who has no other sex partners and whether men believe individuals can get the AIDS virus because of witchcraft or other supernatural means. Hence, the belief that married and cohabiting men have towards their actions in reducing HIV/AIDS risk does not predict the number of reported extra-dyadic affairs in Zambia. In sum, only one attitude toward behavior (i.e., perceived severity) was found to increase the number of reported extra-dyadic affairs.

According to Hypothesis 4, married and cohabiting men who perceive that men have self-efficacy to overcome perceived barriers toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. In Zambia, whether men believe that those with the AIDS virus should be ashamed of themselves is not a significant predictor of the number of reported extra-dyadic affairs in the past twelve months, but a wife's [or female cohabiting partner's] justification to ask her husband [or male partner] to use a condom if she believes that he has an STD is significant with regard to M1 ($p < 0.05$) and is positively associated with the number of extra-dyadic affairs reported in the past twelve months. Also, a wife's [or female cohabiting partner's] justification to refuse to have sex with her husband [or male partner] if she believes that he has an STD is significant at

$p < 0.05$ and is positively correlated with the number of extra-dyadic affairs reported in the past twelve months for M1. The variable is not statistically significant when control variables are entered into the model. In sum, the factors selected that could impede extra-dyadic affairs in Zambia partially predict the number of reported extra-dyadic affairs.

Whether a husband [or male cohabiting partner] is justified in beating his wife [or female cohabiting partner] if she refuses to have sex is not a significant predictor at $p < 0.05$, nor is who has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns with regard to the number of reported extra-dyadic affairs in the past twelve months (Table 5). Hence, none of the abilities to overcome perceived barriers to extra-dyadic behavior predicted the number of reported extra-dyadic affairs. In sum, married and cohabiting men's ability or perceived ability to pursue extra-dyadic behavior in Zambia did partially predict the number of reported extra-dyadic affairs in the past twelve months.

According to Hypothesis 5, Married and cohabiting men who perceive that most married and cohabiting men they know do not engage in extra-dyadic behavior will have a lower rate of extra-dyadic behavior. Both variables that make up social norms were found significant in both models at $p < 0.001$ (Table 5) in predicting the number of extra-dyadic affairs in the past twelve months in Zambia. The belief that men should only have sex with their wives [or female cohabiting partners] is inversely related to the number of extra-dyadic affairs reported in the past twelve months, in that the more men affirm the belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partners], the fewer the number of extra-dyadic affairs reported in the past twelve months. As men's beliefs increase by one unit from "No" to

“DK/NS/Depends/No Opinion” or “DK/NS/Depends/No Opinion” to “Yes,” the number of extra-dyadic affairs decreases by approximately 0.049 in both models (Table 5). A man believing that most people he knows have sex with only one partner is inversely related to the number of extra-dyadic affairs reported in the past twelve months. As men are more inclined to think people they know have sex with only one partner (i.e., increased by one unit from “No” to “DK/NS/Depends/No Opinion” or “DK/NS/Depends/No Opinion” to “Yes”), the number of extra-dyadic affairs decreases between by 0.078 in M1 and 0.074 in M2. In sum, the perceived importance of whether or not to engage in extra-dyadic affairs predicts the number of reported extra-dyadic affairs in the past twelve months in Zambia.

Fit of Models

The baseline models for the HBM (Table 3, M1), TPB (Table 4, M1), and Combined (Table 5, M1) models were not as strong as the full models with the baseline model and the control variables (Tables 3-5, M2) in Zambia. The R^2 values of all M2 models were larger than all M1 models. In Zambia, the HBM R^2 increased from 0.039 in M1 to 0.060 in M2. The TPB R^2 rose from 0.038 to 0.063. The Combined models' R^2 increased from 0.046 to 0.068. The baseline models for the HBM, TPB, and Combined models, M1, were not as strong as the full models with the baseline model and the control variables, M2, for all countries. The R^2 values of all M2 models were larger than all M1 models. Based on all of the R^2 values in Zambia, the Combined full model, M2, provides the most explanation. It should be noted that even though M2 has the strongest explanatory power, the amount of variance explained is quite small.

Interaction Term

Table 6 summarizes the OLS regression models with interaction terms for Zambia the three models: HBM, TPB, and Combined. In Zambia, the interaction of whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex by whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use condom if he has an STD is significant for Zambia's HBM M3 ($p < 0.05$), TPB M3 ($p < 0.05$), and Combined M3 ($p < 0.05$) models (Table 6). For all of these models, the more respondents affirm that a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partners] refuses to have sex and a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if he has an STD, the larger the increase in the number of extra-dyadic affairs they are likely to report than those who feel the opposite.

Nigeria

Health Belief Models (HBM)

Table 7 summarizes the HBM OLS regression models for Nigeria. According to Hypothesis 1, married and cohabiting men who perceive that they are at risk of HIV infection will have fewer extra-dyadic affairs. Perceived susceptibility, whether a respondent knows someone who has AIDS or has died of AIDS, is not a significant predictor in Nigeria. Hence, married and cohabiting men's perception of susceptibility toward HIV/AIDS does not predict the number of reported extra-dyadic affairs in the past twelve months.

According to Hypothesis 2, married and cohabiting men who are exposed to cues to action that impact extra-dyadic behavior will have fewer extra-dyadic affairs. In

Nigeria, the frequency of reading newspapers or magazines and the frequency of listening to the radio are not significant predictors of the number extra-dyadic relationships reported in the past twelve months. The frequency of watching television attains significance at $p < 0.01$ in M1 and $p < 0.05$ in M2. In both models, as men's frequency of watching television increases, the number of reported extra-dyadic affairs in the past twelve months increases. In sum, the only cue to action that influenced the number of extra-dyadic affairs in Nigeria was frequency of watching television, which, contrary to this study's prediction, increased the number of reported extra-dyadic affairs.

According to sub-Hypothesis 3a, married and cohabiting men who perceive the health consequences of extra-dyadic affairs will report fewer extra-dyadic affairs in the past twelve months. Perceived severity attains significance at $p < 0.001$ in both models and is the strongest predictor in Nigeria's HBM models. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is the strongest predictor for all Nigeria's models at $p < 0.001$, where the number of reported extra-dyadic affairs in the past twelve months increases as perceptions become more favorable of a man's right to have sex with another woman if his wife [or cohabiting partner] refuses to have sex. As men's attitude increases by one unit on a three point index from either "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of reported extra-dyadic affairs increases by 0.114 for M1 and 0.113 for M2. In sum, the seriousness of married and cohabiting men's opinion about extra-dyadic behavior predicts the number of extra-dyadic affairs in Nigeria.

According to Hypothesis 3b, married and cohabiting men who perceive the effectiveness of actions available to them in reducing HIV infection will report fewer extra-dyadic affairs in the past twelve months. Perceived benefits are not significant predictors. Hence, whether an individual can reduce his/her chances of becoming infected with the AIDS virus by having sex with one partner who has no other partners and whether men believe individuals can contract the AIDS virus because of witchcraft or other supernatural means do not predict the number of reported extra-dyadic affairs in the past twelve months. In sum, the belief that married and cohabiting men have towards their actions in reducing HIV/AIDS risk does not predict the number of reported extra-dyadic affairs.

According to Hypothesis 4a, married and cohabiting men who have more barriers that prevent them from engaging in extra-dyadic affairs will report fewer extra-dyadic affairs in the past twelve months. None of the perceived barriers was significant in predicting the number of reported extra-dyadic affairs in the past twelve months including (a) whether men believe that those with the AIDS virus should be ashamed of themselves, (b) whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if she believes he has a sexually transmitted disease, and (c) whether a wife [or female cohabiting partner] is justified in refusing sex with her husband [or male cohabiting partner] if she believes he has an STD. In sum, none of the factors selected that could impede extra-dyadic affairs predicts the number of reported extra-dyadic affairs.

According to Hypothesis 4b, married and cohabiting men who can overcome barriers to engage in extra-dyadic affairs will report engaging in more extra-dyadic affairs

in the past twelve months. Neither of the variables selected to represent self-efficacy were found to be significant predictors of the number of reported extra-dyadic affairs in the past twelve months in Nigeria: whether a husband [or male cohabiting partner] is justified in beating his wife [or female cohabiting partner] if she refuses to have sex and which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns. In sum, none of the abilities to overcome perceived barriers to extra-dyadic behavior predicted the number of reported extra-dyadic affairs in Nigeria.

Theory of Planned Behavior (TPB)

Table 8 summarizes the OLS regression results for Nigeria's TPB models. According to Hypothesis 3, married and cohabiting men who have a more favorable attitude toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. The only attitude toward behavior that was significant in Nigeria's TPB models was men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex. Significance was attained at $p < 0.001$ in both models. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is positively correlated with the number of reported extra-dyadic affairs in the past twelve months. More specifically, as attitudes become more favorable of a man's right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex, the number of reported extra-dyadic affairs in the past twelve months increases. As men's attitude increases by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to

“Yes,” the number of reported extra-dyadic affairs increases by at most 0.111 in M1. The other attitudes toward behavior were found to be nonsignificant: whether an individual can reduce his/her chances of becoming infected with the AIDS virus by having sex with one partner who has no other partners and whether men believe individuals can contract the AIDS virus because of witchcraft or other supernatural means. In sum, Nigerian men’s attitude toward behavior only partially predicts the number of reported extramarital affairs in the past twelve months.

According to Hypothesis 4, married and cohabiting men who perceive that men have self-efficacy to overcome perceived barriers toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. In Nigeria, perceived behavioral control was found not to be significant in predicting the number of reported extra-dyadic affairs including (a) whether men believe that those with the AIDS virus should be ashamed of themselves, (b) whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if she believes he has a sexually transmitted disease, (c) whether a wife [or female cohabiting partner] is justified in refusing sex with her husband [or male cohabiting partner] if she believes he has a STD, (d) whether a husband [or male cohabiting partner] is justified in beating his wife [or female cohabiting partner] if she refuses to have sex, and (e) which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns (Table 8). In sum, married and cohabiting men’s ability or perceived ability to pursue extra-dyadic behavior did not predict the number of reported extra-dyadic affairs in the past twelve months in Nigeria.

According to Hypothesis 5, married and cohabiting men who perceive that most married and cohabiting men they know do not engage in extra-dyadic behavior will have a lower rate of extra-dyadic behavior. Both variables that make up social norms attain significance in both models at $p < 0.001$ in predicting the number of extra-dyadic affairs in the past twelve months in Nigeria. The belief that men should only have sex with their wives [or female cohabiting partners] is inversely related to the number of extra-dyadic affairs reported in the past twelve months, in that the more men affirm the belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partners], the fewer extra-dyadic affairs reported in the past twelve months. As men's beliefs increase by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of extra-dyadic affairs decreases between 0.037 in M1 and 0.036 in M2. A man believing that most people he knows have sex with only one partner is inversely related to the number of extra-dyadic affairs reported in the past twelve months. As men are more inclined to think people they know have sex with only one partner (i.e., increased by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes"), the number of extra-dyadic affairs decreases at most by 0.031 in M1 and 0.027 in M2. In sum, the perceived importance of whether or not to engage in extra-dyadic affairs in Nigeria predicts the number of reported extra-dyadic affairs in the past twelve months.

Combined Models

Table 9 summarizes the OLS regression results for Nigeria's Combined models. The Combined models include all of the baseline variables from both the HBM and TPB. According to Hypothesis 1, married and cohabiting men who perceive that they are at

risk of HIV infection will have fewer extra-dyadic affairs. Whether a respondent knows someone who has AIDS or has died of AIDS is not a significant predictor in Nigeria. Hence, whether a married or cohabiting man perceives that he is susceptible to HIV/AIDS does not predict the number of reported extra-dyadic affairs in the past twelve months.

According to Hypothesis 2, married and cohabiting men who are exposed to cues to action that impact extra-dyadic behavior will have fewer extra-dyadic affairs. In Nigeria, the frequency of reading newspapers or magazines and the frequency of listening to the radio are not significant predictors of the number extra-dyadic relationships reported in the past twelve months. The frequency of watching television attains significance at $p < 0.01$ (Table 9, M1). In all models, as men's frequency of watching television increases, the number of reported extra-dyadic affairs in the past twelve months increases. In sum, the only cue to action that influenced the number of extra-dyadic affairs in Nigeria was the frequency of watching television, which, contrary to this study's prediction, increased the number of reported extra-dyadic affairs.

According to Hypothesis 3, married and cohabiting men who have a more favorable attitude toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is the strongest predictor for all Nigeria's Combined models at $p < 0.001$, where the number of reported extra-dyadic affairs in the past twelve months increases as perceptions become more favorable of a man's right to have sex with another woman if his wife [or cohabiting partner] refuses to have sex. As men's attitude increases by one

unit on a three point index from either “No” to “DK/NS/Depends/No Opinion” or “DK/NS/Depends/No Opinion” to “Yes,” the number of reported extra-dyadic affairs increases by 0.100 (Table 9, M1). The men who believe that a husband (or male cohabiting partner) has the right to have sex outside of marriage [or his primary relationship] if his wife [or female cohabiting partner] refuses to have sex do not perceive the health risks of extra-dyadic relationships. In sum, the support for extra-dyadic affairs among married and cohabiting men in Nigeria predicts the number of extra-dyadic affairs.

In Nigeria, neither of the variables that made up perceived benefits was found significant in predicting the number of extra-dyadic affairs reported in the past twelve months: knowing whether individuals can reduce their chances of getting the HIV/AIDS virus by having sex with one partner who has no other sex partners and whether men believe individuals can get the AIDS virus because of witchcraft or other supernatural means. Hence, the belief that married and cohabiting men have towards their actions in reducing HIV/AIDS risk do not predict the number of reported extra-dyadic affairs. In sum, only one attitude toward behavior (i.e., perceived severity) was found to increase the number of reported extra-dyadic affairs in Nigeria.

According to Hypothesis 4, married and cohabiting men who perceive that men have self-efficacy to overcome perceived barriers toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. None of variables that make up perceived behavioral control (and hence perceived barriers and self-efficacy) attained significance in Nigeria including (a) whether men believe that those with the AIDS virus should be ashamed of themselves, (b) whether a wife [or female cohabiting partner] is justified in

asking her husband [or male cohabiting partner] to use a condom if she believes he has a sexually transmitted disease, (c) whether a wife [or female cohabiting partner] is justified in refusing sex with her husband [or male cohabiting partner] if she believes he has a STD, (d) whether a husband [or male cohabiting partner] is justified in beating his wife [or female cohabiting partner] if she refuses to have sex, and (e) which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns. In sum, married and cohabiting men's ability or perceived ability to pursue extra-dyadic behavior did not predict the number of reported extra-dyadic affairs in the past twelve months.

According to Hypothesis 5, married and cohabiting men who perceive that most married and cohabiting men they know do not engage in extra-dyadic behavior will have a lower rate of extra-dyadic behavior. Both variables that make up social norms attained significance in both models at $p < 0.001$ in predicting the number of extra-dyadic affairs in the past twelve months in Nigeria. The belief that men should only have sex with their wives [or female cohabiting partners] is inversely related to the number of extra-dyadic affairs reported in the past twelve months, in that the more men affirm the belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partners], the fewer the number of extra-dyadic affairs reported in the past twelve months. As men's beliefs increase by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of extra-dyadic affairs decreases by approximately 0.036 for both models. Believing that most people one knows have sex with only one partner is inversely related to the number of extra-dyadic affairs reported in the past twelve months. As men are more inclined to think people they

know have sex with only one partner (i.e., increased by one unit from “No” to “DK/NS/Depends/No Opinion” or “DK/NS/Depends/No Opinion” to “Yes”), the number of extra-dyadic affairs decreases approximately 0.025 for both models. In sum, the perceived importance of whether or not to engage in extra-dyadic affairs predicts the number of reported extra-dyadic affairs in the past twelve months in Nigeria.

Fit of Models

The baseline models in Nigeria for the HBM (Table 7, M1), TPB (Table 8, M1), and Combined (Table 9, M1) models were not as strong as the full models with the baseline model and the control variables (Tables 7-9, M2). The R^2 values of all M2 models were larger than all M1 models. For Nigeria, the HBM R^2 increased slightly from 0.016 in M1 to 0.017 in M2. The TPB R^2 rose somewhat from 0.016 to 0.018. The Combined model R^2 increased marginally from 0.018 to 0.019. The baseline models for the HBM, TPB, and Combined models, M1, were not as strong as the full models with the baseline model and the control variables, M2, for all countries. The R^2 values of all M2 models were larger than all M1 models. Based on all of the R^2 values in Nigeria, the Combined full model, M2, provides the most explanation. It should be noted that even though M2 has the strongest explanatory power, the amount of variance explained is quite small.

Interaction Terms

Tables 10-12 summarize the OLS regression models with interaction terms for Nigeria’s models. In Nigeria, the interaction of whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex by whether a wife [or female cohabiting partner] is justified

in asking her husband [or male cohabiting partner] to use a condom if he has an STD is significant for HBM at $p < 0.01$ for M3 (Table 10), TPB at $p < 0.01$ for M3 (Table 11), and at $p < 0.01$ for Combined M3 (Table 12) models. For all of these models, the more a man affirms that a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partners] refuses to have sex and a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if he has an STD, the larger the increase in the number of extra-dyadic affairs they are likely to report compared to those who feel the opposite. The only exception is for HBM M3 (Table 10), where there is an inverse relationship when a respondent indicated a “no” response to either question and only here whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if he has an STD retains its significance.

The interaction of the belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partner] by whether men think most married [or cohabiting] men only have sex with their wives [or female cohabiting partner] is significant for TPB M5 (Table 11) and Combined M5 (Table 12) for Nigeria at $p < 0.05$. For these two models, the more a man affirms that married [or cohabiting] men should only have sex with their wives [or female cohabiting partner] and most men only have sex with their wives [or female cohabiting partner], the stronger the inverse relationship with the number of reported extra-dyadic affairs in the past twelve months compared to men who affirm the opposite. Both the belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partner] and whether men think

most married [or cohabiting] men only have sex with their wives [or female cohabiting partner] retain significance for both models.

Namibia

Health Belief Model (HBM)

Table 13 summarizes the HBM OLS regression models for Namibia. According to Hypothesis 1, married and cohabiting men who perceive that they are at risk of HIV infection will have fewer extra-dyadic affairs. Perceived susceptibility of HIV/AIDS was a significant predictor in Namibia for the number of reported extra-dyadic affairs in the past twelve months. Whether a man knows someone who has AIDS or has died of AIDS is positively related to the number of extra-dyadic affairs for both models at $p < 0.05$. As men increase their affirmation of whether they know someone who has AIDS or has died of AIDS, the number of reported extra-dyadic affairs in the past twelve months increases. If a man knows someone who has AIDS or has died of AIDS, then the number of extra-dyadic affairs increases between 0.071 in M1 and 0.070 in M2. In sum, if a married or cohabiting man perceives that he is susceptible to HIV/AIDS, then he will report engaging in a higher number of extra-dyadic affairs than will men who do not perceive that they are susceptible to HIV/AIDS.

According to Hypothesis 2, married and cohabiting men who are exposed to cues to action that impact extra-dyadic behavior will have fewer extra-dyadic affairs. In Namibia, the frequency of reading newspapers or magazines, the frequency of listening to the radio, and the frequency of watching television are not significant predictors of the number extra-dyadic relationships reported in the past twelve months. Hence, cues to action is not a significant predictors in Namibia.

According to sub-Hypothesis 3a, married and cohabiting men who perceive the health consequences of extra-dyadic affairs will report fewer extra-dyadic affairs in the past twelve months. Perceived severity attains significance at $p < 0.001$ in Namibia for both models. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is positively correlated with the number of reported extra-dyadic affairs in the past twelve months. More specifically, as perceptions become more favorable of a man's right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex, the number of reported extra-dyadic affairs in the past twelve months increases. As men's attitude increases by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of reported extra-dyadic affairs increases by at most 0.100 for M2. In sum, the support for extra-dyadic affairs among married and cohabiting men in Namibia predicts the number of extra-dyadic affairs.

According to Hypothesis 3b, married and cohabiting men who perceive the effectiveness of actions available to them in reducing HIV infection will report fewer extra-dyadic affairs in the past twelve months. Only one of the two variables for perceived benefits was found to be significant in Namibia. Knowing whether individuals can reduce their chances of getting the HIV/AIDS virus by having sex with one partner who has no other sex partners is a significant predictor of the number of extra-dyadic affairs reported in the past twelve months at $p < 0.05$ for each model. Knowing whether people can reduce their chances of getting the HIV/AIDS virus by having sex with one partner who has no other sex partners is inversely related to the number of reported extra-

dyadic affairs in the past twelve months for all of Namibia's models. Namibian men who perceive that individuals can reduce their chances of getting the HIV/AIDS virus by having sex with one partner who has no other sex partners reported fewer extra-dyadic affairs. Whether men believe individuals can get the AIDS virus because of witchcraft or other supernatural means was found to be nonsignificant. In sum, only one belief that married and cohabiting men in Namibia have towards their actions in reducing HIV/AIDS risk predicted the number of extra-dyadic affairs.

According to Hypothesis 4a, married and cohabiting men who have more barriers that prevent them from engaging in extra-dyadic affairs will report fewer extra-dyadic affairs in the past twelve months. In Namibia, none of the perceived barriers was significant in predicting the number of reported extra-dyadic affairs in the past twelve months including (a) whether men believe that those with the AIDS virus should be ashamed of themselves, (b) whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if she believes he has a sexually transmitted disease, and (c) whether a wife [or female cohabiting partner] is justified in refusing sex with her husband [or male cohabiting partner] if she believes he has an STD. In sum, none of the factors selected that could impede extra-dyadic affairs predicted the number of reported extra-dyadic affairs.

According to Hypothesis 4b, married and cohabiting men who can overcome barriers to engage in extra-dyadic affairs will report engaging in more extra-dyadic affairs in the past twelve months. Neither of the variables selected to represent self-efficacy were found to be significant predictors of the number of reported extra-dyadic affairs in the past twelve months in Namibia: whether a husband [or male cohabiting partner] is

justified in beating his wife [or female cohabiting partner] if she refuses to have sex and which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns. In sum, none of the abilities to overcome perceived barriers to extra-dyadic behavior predicted the number of reported extra-dyadic affairs in Namibia.

Theory of Planned Behavior (TPB)

Table 14 summarizes the OLS regression results for Namibia's TPB models. According to Hypothesis 3, married and cohabiting men who have a more favorable attitude toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. Two attitudes toward behavior were found to be significant. Men's attitude towards whether a husband [or male cohabiting partner] has right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is the strongest predictor in all Namibia's models at $p < 0.001$, where the number of reported extra-dyadic affairs in the past twelve months increases as perceptions become more favorable of a man's right to have sex with another woman if his wife [or cohabiting partner] refuses to have sex. As men's attitude increases by one unit on a three point index from either "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," then the number of reported extra-dyadic affairs increases by 0.097 for M2. Knowing whether individuals can reduce their chances of getting the HIV/AIDS virus by having sex with one partner who has no other sex partners is a significant predictor of the number of extra-dyadic affairs reported in the past twelve months at $p < 0.05$ for both of the TPB models. Knowing whether people can reduce their chances of getting the HIV/AIDS virus by having sex with one partner who has no other sex partners is inversely related to

the number of reported extra-dyadic affairs in the past twelve months for all of Namibia's models. Whether men believe individuals can get the AIDS virus because of witchcraft or other supernatural means was not found to be a significant predictor of extra-dyadic behavior. In sum, Namibian men's attitudes toward extra-dyadic behavior only partially predicted the reported number of extra-dyadic affairs.

According to Hypothesis 4, married and cohabiting men who perceive that men have self-efficacy to overcome perceived barriers toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. In Namibia, perceived behavioral control was found to be nonsignificant in predicting the number of reported extra-dyadic affairs including (a) whether men believe that those with the AIDS virus should be ashamed of themselves, (b) whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if she believes he has a sexually transmitted disease, (c) whether a wife [or female cohabiting partner] is justified in refusing sex with her husband [or male cohabiting partner] if she believes he has an STD, (d) whether a husband [or male cohabiting partner] is justified in beating his wife [or female cohabiting partner] if she refuses to have sex, and (e) which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns. In sum, married and cohabiting men's ability or perceived ability to pursue extra-dyadic behavior did not predict the number of reported extra-dyadic affairs in the past twelve months in Namibia.

According to Hypothesis 5, married and cohabiting men who perceive that most married and cohabiting men they know do not engage in extra-dyadic behavior will have a lower rate of extra-dyadic behavior. Only one social norm variable was found to be

significant among the social norms variables in Namibia. The belief that men should only have sex with their wives [or female cohabiting partners] is not a significant predictor in either model, but whether a man thinks that most people he knows have sex with only one partner is a significant predictor of the number of extra-dyadic affairs reported in the past twelve months at $p < 0.01$ for TPB M1 and at $p < 0.05$ for TPB M2. As men are more inclined to think people they know have sex with only one partner (i.e., increased by one unit on a three point index from either “No” to “DK/NS/Depends/No Opinion” or “DK/NS/Depends/No Opinion” to “Yes”), the number of extra-dyadic affairs decreases at most by 0.080 for TPB M1. Whether a respondent thinks that most men he knows have sex with only one partner is inversely related to the number of extra-dyadic affairs reported in the past twelve months, where men who are more inclined to think that most married [or cohabiting] men have sex only with one partner reported fewer extra-dyadic affairs in the past twelve months. In sum, social norms only partially predict the number of extra-dyadic affairs in Namibia.

Combined Models

Table 15 summarizes the OLS regression results for Nigeria’s Combined models. The Combined models include all of the baseline variables from both the HBM and TPB. According to Hypothesis 1, married and cohabiting men who perceive that they are at risk of HIV infection will have fewer extra-dyadic affairs. In Namibia, whether a man knows someone who has AIDS or has died of AIDS is positively related to the number of extra-dyadic affairs for both models at $p < 0.05$. Knowing someone who has AIDS or has died of AIDS significantly increases the number of extra-dyadic affairs. Whether a man knows someone who has AIDS or had died of AIDS increased the number of extra-

dyadic affairs at most by 0.070 in HBM for M2. In sum, if a married or cohabiting man perceives that he is susceptible to HIV/AIDS in Namibia, then he reports a higher number of extra-dyadic affairs than do men who do not perceive that they are susceptible to HIV/AIDS, contrary to this study's prediction.

According to Hypothesis 2, married and cohabiting men who are exposed to cues to action that impact extra-dyadic behavior will have fewer extra-dyadic affairs. In Namibia, the frequency of reading newspapers or magazines, the frequency of listening to the radio, and the frequency of watching television are not significant predictors of the number extra-dyadic relationships reported in the past twelve months. Hence, cues to action is not a significant predictor in Namibia.

According to Hypothesis 3, married and cohabiting men who have a more favorable attitude toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is the strongest predictor in all Namibia's models at $p < 0.001$, where the number of reported extra-dyadic affairs in the past twelve months increases as perceptions become more favorable of a man's right to have sex with another woman if his wife [or cohabiting partner] refuses to have sex. As men's attitude increases by one unit on a three point index from either "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," then the number of reported extra-dyadic affairs increases by 0.114 for Combined M2. In sum, the men who believe that a husband (or male cohabiting partner] has the right to have sex outside of marriage [or his primary relationship] if his wife [or female cohabiting partner] refuses to have sex do not

perceive the health risks of extra-dyadic relationships. Hence, the support for extra-dyadic affairs among married and cohabiting men predicts the number of extra-dyadic affairs in Namibia.

Knowing whether individuals can reduce their chances of getting the HIV/AIDS virus by having sex with one partner who has no other sex partners is a significant predictor at $p < 0.05$ of the number of extra-dyadic affairs reported in the past twelve months for both Combined models in of Namibia's models. Knowing whether people can reduce their chances of getting the HIV/AIDS virus by having sex with one partner who has no other sex partners is inversely related to the number of reported extra-dyadic affairs in the past twelve months for all of Namibia's models. Whether men believe individuals can contract the AIDS virus because of witchcraft or other supernatural means does not predict the number of reported extra-dyadic affairs in the past twelve months. Hence, the belief that married and cohabiting men have towards their actions in reducing HIV/AIDS risk does not predict the number of reported extra-dyadic affairs. In sum, attitude toward behavior only partially predicts the number of reported extramarital affairs in the past twelve months in Namibia.

According to Hypothesis 4, married and cohabiting men who perceive that men have self-efficacy to overcome perceived barriers toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. In Namibia, none of variables that make up perceived behavioral control (and hence perceived barriers and self-efficacy) attained significance including (a) whether men believe that those with the AIDS virus should be ashamed of themselves, (b) whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if she believes he has a

sexually transmitted disease, (c) whether a wife [or female cohabiting partner] is justified in refusing sex with her husband [or male cohabiting partner] if she believes he has a sexually transmitted disease (STD), (d) whether a husband [or male cohabiting partner] is justified in beating his wife [or female cohabiting partner] if she refuses to have sex, and (e) which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns. Whether men believe individuals can get the AIDS virus because of witchcraft or other supernatural means and whether men believe that those with the AIDS virus should be ashamed of themselves are not significant predictors of the number of reported extra-dyadic affairs in the past twelve months. In sum, married and cohabiting men's ability or perceived ability to pursue extra-dyadic behavior did not predict the number of reported extra-dyadic affairs in the past twelve months in Namibia.

According to Hypothesis 5, married and cohabiting men who perceive that most married and cohabiting men they know do not engage in extra-dyadic behavior will have a lower rate of extra-dyadic behavior. The belief that men should only have sex with their wives [or female cohabiting partners] is not a significant predictor in either model, but whether a man thinks that most people he knows have sex with only one partner is a significant predictor of the number of extra-dyadic affairs reported in the past twelve months for Combined M1 ($p < 0.01$) and Combined M2 ($p < 0.05$) models. As men are more inclined to think people they know have sex with only one partner (i.e., increased by one unit on a three point index from either "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes"), the number of extra-dyadic affairs decreases at most by 0.080 for TPB M1. Whether a respondent thinks that most men he knows have sex with only one partner is inversely related to the number of extra-dyadic affairs

reported in the past twelve months, where men who are more inclined to think that most married [or cohabiting] men have sex only with one partner report fewer extra-dyadic affairs in the past twelve months. In sum, social norms partially impact the number of extra-dyadic relationships engaged in by married/cohabiting men in Namibia

Fit of Models

The baseline models for the HBM (Table 13, M1), TPB (Table 14, M1), and Combined (Table 15, M1) models were not as strong as the full models with the baseline model and the control variables (Tables 13-15, M2). The R^2 values of all M2 models were larger than all M1 models. Namibia had the largest increase in R^2 values from M1 to M2 in all models. In the HBM, the R^2 more than doubled from 0.025 in M1 to 0.062 in M2. The TPB R^2 rose by over almost 150 percent from 0.25 to 0.062. The Combined model R^2 increased by more than double from 0.031 to 0.067. Based on all of the R^2 values in Namibia, the Combined full model, M2, provides the most explanation. It should be noted that even though M2 has the strongest explanatory power, the amount of variance explained is quite small.

Interaction Terms

Tables 16-18 summarize the OLS regression models with interaction terms for Namibia. In Namibia, the interaction of whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex by whether a wife [or female cohabiting partner] has the right to refuse sex with her husband [or male cohabiting partner] if he has an STD is significant at $p < 0.01$ for Nigeria's HBM M4 (Table 16), at $p < 0.05$ for TPB M4 (Table 17), and at $p < 0.05$ for Combined M4 (Table 18). For the three models, the more a man affirms that a

husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex and if a wife [or female cohabiting partner] has the right to refuse sex with her husband [or male cohabiting partner] if he has an STD, the larger the increase in the number of extra-dyadic affairs he is likely to report than if a man affirms the opposite. Whether a wife [or female cohabiting partner] has the right to refuse sex with her husband [or male cohabiting partner] if he has an STD retains significance in TPB M4.

The interaction of wealth by the number of times away from home in the past twelve months is significant for HBM (Table 16, M3), TPB (Table 17, M3), and Combined (Table 18, M3) for Namibia. Men who have lower incomes and have been away from home frequently in the past twelve months experience a larger increase in the number of extra-dyadic affairs they are likely to report compared to those men who have higher income and have been away from home frequently in the past twelve months. Also, men who have less income but do not travel away from home have a smaller increase in the number of extra-dyadic affairs they are likely to report compared to those men who have higher incomes and have not been away from home in the past twelve months.

The interaction of whether a wife [or female cohabiting partner] has the right to refuse sex with her husband [or male cohabiting partner] if he has an STD by whether a wife [or female cohabiting partner] is justified in asking husband to use condom if he has an STD is significant for HBM (Table 16, M4), TPB (Table 17, M4), and Combined (Table 18, M4) for Namibia at $p < 0.05$. Men who believe that a wife [or female cohabiting partner] has the right to refuse sex with her husband [or male cohabiting

partner] if he has an STD but do not believe that a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if he has an STD experience the largest increase in the number of reported extra-dyadic affairs in the past twelve months. This rate of increase is followed by the rate of increase among men who believe that a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use condom if he has an STD but do not believe that a wife [or female cohabiting partner] has the right to refuse sex with her husband [or male cohabiting partner] if he has an STD. The interaction in the M4 models (Tables 16-18) adds very little additional explanatory power to the R^2 compared to the M2 Models (Tables 13-15).

Discussion

The results of the hypotheses vary slightly by country in predicting extra-dyadic behavior. Whether a man knows someone who has AIDS or has died of AIDS does not reduce the number of reported extra-dyadic affairs as predicted, but instead increases it for Zambia and Namibia and is not significant for Nigeria. Hence, perceiving the risk of HIV/AIDS is not associated with reducing extra-dyadic affairs. This result would not be very surprising if we were simply considering the fatalism that surrounds HIV/AIDS in sub-Saharan Africa (Caldwell 2000) or the fact that with the long latency period, men are not likely to minimize negative behaviors that might reduce their chances of HIV infection. We should consider what type of relationship the respondent has with the person he knows that has AIDS or has died of AIDS. Whether the person is a close relative, friend, public figure, or even a fictional character would likely influence the level of severity. As a result, the perceived susceptibility of a man's belief or opinion of

contracting AIDS, represented as any possible person he knows with AIDS, is not associated with the reduction in the number of extra-dyadic affairs among men in Zambia and Namibia. The result also leads to the speculation of the reverse relationship: the more extra-dyadic affairs a man has, the more he perceives that he is susceptible to HIV/AIDS.

The only cue to action form of media that is associated with the number of reported extra-dyadic affairs for any country was the frequency of watching television. Contrary to this study's prediction, frequency of watching television did not reduce men to make better health decisions by reducing their number of extra-dyadic affairs. Instead, the frequency of watching television is associated with an increase in the number of reported extra-dyadic affairs in Zambia and Nigeria, while remaining nonsignificant in Namibia. There could be several reasons for this because it depends on what the respondents were watching. If they were not watching anything related to HIV/AIDS or about the negative consequences of extra-dyadic behavior, then they are not likely to make better decisions concerning extra-dyadic behavior. Exposure to television may spread ideas that might even encourage extra-dyadic sex. It may not just be the exposure to television, but the perceived realism of what is viewed that is important here (Busselle 2001). Zambia and Nigeria may have different levels of exposure to televised media campaigns that aim to inform men that reducing the number of extra-dyadic affairs reduces their chances of becoming infected with HIV in comparison with Namibia. Nigeria has a very large film-making industry, the third largest, behind Hollywood in the United States and Bollywood in India (Wortham 2007). The Nigerian film industry,

often call Nollywood, affects other parts of Africa, such as Zambia (BBC 2010), and does not necessarily highlight HIV prevention and further what people know about the disease.

Men had mixed responses on their attitude toward extra-dyadic behavior.

Perceived severity was the concept that is most strongly associated with the number of extra-dyadic affairs. As predicted, believing that husbands [or male cohabiting partners] could engage in extra-dyadic sex if their wives [or female cohabiting partners] refuse to have sex with them is connected to the increase in the number of reported extra-dyadic affairs. Men who believed that a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex affected perceived severity and the support for extra-dyadic relationships. This study is unable to examine the reasons why a wife/female cohabiting partner refuses to have sex, such as postpartum abstinence or her economic power. Cultural norms play an important role in men's extra-dyadic behavior (Kimuna and Djamba 2005). These men are likely not to take into consideration the effect that such health risks have on their children and are likely not to see themselves as family men (Kaler 2004).

The study correctly predicted only one out of two perceived benefit variables in Namibia: knowing whether individuals can reduce their chances of contracting the HIV/AIDS virus by having sex with one partner who has no other sex partners is associated with the reduction in the number of reported extra-dyadic affairs. These men may understand the health risks involved in having multiple congruent partners, which would influence the number of extra-dyadic affairs in which they engage. The association between the number of extra-dyadic relationships and HIV/AIDS can be attributed to the silence around AIDS (Caldwell 2000) and may contribute to the variable

failing to attain significance in Zambia and Nigeria. Also, these models do not account for external factors that are better at predicting HIV behavior in Zambia and Nigeria. External factors include factors behind the motivations to engage in particular health behavior, such as a person's environment or alternative belief systems. The analysis did not find any support for the hypothesis regarding whether men believe individuals can contract the AIDS virus by means of witchcraft or other supernatural means. Believing whether individuals can become infected with HIV via supernatural means is not connected with the number of extra-dyadic affairs, and hence, the risk of HIV infection.

Perceived barriers towards extra-dyadic behavior were found not to be significant. Dispelling the stigma around HIV/AIDS is unlikely to be associated with the number of men's extra-dyadic affairs by itself. External factors may be more important than stigma surrounding HIV/AIDS or stigma may indirectly affect extra-dyadic affairs through external factors. The results run counter to the hypothesis in Zambia: Zambian men who believe that women are justified in asking their husband [or male cohabiting partner] to use a condom or refuse sex if they believe he has an STD are associated with higher rates of reported extra-dyadic affairs than do men who do not believe that women are justified in asking their husband [or male cohabiting partner] to use a condom or refusing to have sex if they believe he has an STD.

Self-efficacy was found not to be significant in any models for any countries. Whether a husband is justified [or male cohabiting partner] in beating his wife [or female cohabiting partner] if she refuses to have sex with him was found not to be related to the number of extra-dyadic affairs in which men engage in. Men's attitudes towards domestic violence concerning sexual matters did not affect extra-dyadic behavior. Men

who have a more positive attitude toward domestic violence did not report engaging in a significantly different number of extra-dyadic affairs compared to men who had a negative attitude towards domestic violence. Hence, solely overcoming the hegemonic masculine notion of violent sexual behavior may not affect the number of extra-dyadic affairs. Some men who favor domestic violence may believe that forcing a wife [or female cohabiting partner] to have sex is appropriate and hence would be less likely to engage in extra-dyadic affairs because they could force their wives [or female cohabiting partners] to have sex. Other men may wish to dominate as many women as they can, utilizing domestic violence.

For almost all models and countries, the study supported the hypothesis that social norms were significant predictors of extra-dyadic behavior. Men's belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partners] was not significant in Namibia only. Whether men think that most individuals they know have sex with only one partner was significant for all models in all countries. Though social networks can vary across sub-Saharan Africa (Caldwell, Caldwell, and Orubuloye 1992), each country analyzed highlighted the relationship that men's social norms have with their number of extra-dyadic affairs. Men who believe that married [or cohabiting] men should only have sex with their wives [or female cohabiting partners] or that most individuals have only one sexual partner perceived the importance of fidelity to one partner. The importance of fidelity to one partner could be due to various factors such as reducing the risk of HIV or preventing gossip or rumors in the community. Changing how men perceive their social norms could be a method to reduce the number of extra-dyadic relationships, and consequently, the number of HIV infections.

Strengths and Limitations

This study has several strengths. First, this study was able to highlight issues concerning men's reproductive health. Most studies focus on women's reproductive health and few give mention to men's reproductive health. Second, the data utilized were nationally represented surveys and more than one country was analyzed. Third, this study was able to identify individual behavioral factors that were associated with married and cohabiting men's extra-dyadic affairs.

There are several limitations to this study. First, the variables in the DHS surveys were not designed for either the TPB or HBM, and hence, a strict analysis of the models could not be accomplished. Instead, variables were selected that best fit each model for the number of reported extra-dyadic relationships. Second, these models omit external factors that can influence the models. Third, based on other studies on extra-dyadic affairs (Ali and Cleland 2001; Kimuna and Djamba 2005), the number of affairs is likely under-reported. The results of this study may be different if all men reported truthfully on the number of extra-dyadic relationships in which they have engaged over the past twelve months. Fourth, the DHS survey only asks for the number of extra-dyadic affairs in the past twelve months. As a result, respondents who may have engaged in extra-dyadic affairs prior to the past twelve months are not included in the analysis; including them may provide more insight into men's extra-dyadic behavior given the long latency period of AIDS. Fifth, the explained variance for this study was very small as indicated by the R^2 values, highlighting the lack of fit for these models to be utilized explicitly in a sub-Saharan Africa context. Sixth, only three counties were examined because the DHS didn't ask all of the questions that make up each model to the respondents of other

countries in sub-Saharan Africa. Seventh, this study did not incorporate women's views into the models. Eighth, given the scope of the study, we are not able to study the nuances of the data. Finally, even though the data are the most recent available, current data would likely provide varying results because of the pace of change in sub-Saharan Africa.

Future Research

Further research is needed to understand the effect that exposure to television has on men and their extra-dyadic behavior. Many studies have employed the frequency of watching television in the DHS survey as a measure of wealth (e.g., Isiugo-Abanihe 1994; Oster 2009). Given the large volume of videos being created in and exported from Nigeria, many African men and women are being exposed to this growing media source. It would be essential to see how social media has affected men's and women's engagement in extra-dyadic relationships. An increasing number of men and women are gaining access to computers and the internet and men's social networks are becoming more global as a result. Men's interaction with social media will exponentially increase as smartphones and other forms of communication technology become more accessible. Finally, more counties should be analyzed in order to identify modal patterns among all sub-Saharan African countries.

Conclusion

This study examined married and cohabiting men's extra-dyadic affairs utilizing two health belief models. These models are not the most suitable in a sub-Saharan Africa context because of the complexities surrounding HIV/AIDS and the external factors surrounding them (the small R^2 values also highlight this fact), but these models do

provide some substantive findings about the individual cognitive factors surrounding HIV/AIDS and extra-dyadic behavior. Being aware of HIV/AIDS in men's lives does not stop extra-dyadic behavior. It could be because men who engage in extra-dyadic affairs have a fatalistic belief that HIV/AIDS surrounds them. Being exposed to television exposes to men content that increases participation in extra-dyadic behavior. Hence, television and other forms of media (e.g., computers, smartphones, and other devices) play significant and growing roles in men's lives and needs to be examined further. Men's attitude about extra-dyadic behavior needs to be addressed if countries and communities want to combat HIV/AIDS. In order to change men's attitudes, and consequently influence behavior, men need to change what are the dominant forms of masculinity. One way to do this is to change how men view other men. Men need to start believing that other men are faithful as a way to stay faithful.

Men need to start believing that other men practice comprehensive HIV prevention and are faithful to their partner. As a result, men, and masculinity, need to be reinvented and marketed throughout society, particularly through the media. Instead of men normally being portrayed as dominant, risk-taking, and a cause of HIV infection, men need to be portrayed as compromising, cautious, faithful, and practicing comprehensive HIV prevention. Just like a good teacher knows that treating her students as being above average will improve student performance, society should recognize men as being capable of practicing comprehensive HIV prevention and committing to one partner while holding them accountable. Some methods to do this could be encouraging television and movie producers to change the status quo of glorifying or vilifying hegemonic masculinity. Male television and movie characters should be presented with

new masculinities that are seen as socially appropriate alternatives. For example, the media could portray a man who received a bonus from work and decided not to spend it on booze and women, but instead thought about the consequences of his actions on the health of his children and wife (or cohabiting partner).

CHAPTER II

ANALYSIS OF MERGED DATASET

Introduction

In order to examine how the countries compare to each other with regard to the HBM and TPB, all three datasets from Chapter 1 (Zambia, Nigeria, and Namibia) were merged together into one dataset. It is important to compare countries to see if extra-dyadic behavior across sub-Saharan African countries differs so we can identify if considerably different approaches are needed to reduce men's extra-dyadic behavior. A variable indicating where the respondent resides was created where 1=Zambia, 2=Nigeria, and 3=Namibia. This variable was not included in the baseline models, but only the full models with the control variables. As in Chapter 1, OLS regression was run in a stepwise fashion for each model (Tables 19-21).

Results

This section will begin by investigating the concepts within each model. The strength of the relationship between each independent/control variable and the dependent variable will be measured by the significance level and the size of the standardized coefficient. The standardized coefficient will be highlighted where there is a strong relationship between the independent/control variable and the dependent variable. Significance will be reported at $p < 0.05$. A positive coefficient means that the variable is positively correlated with the number of reported extra-dyadic affairs in the past twelve

months, while a negative coefficient means that there is an inverse relationship. After examining each model, a summary of the fit of each model is provided. Finally, this study will test a single interaction term (to avoid multicollinearity) for different models and countries by adding them to the models (Tables 22-24). This study suspects multicollinearity with interaction terms because there may be strong correlations between some independent and/or control variables. The first series of models in each table, M1, are the baseline models for the HBM, TPB, and Combined models. The Combined models contain all of the variables included in both the HBM and TPB. The second series of models in each table, M2, are the baseline models plus the control variables.

Health Belief Model (HBM)

Table 19 summarized the HBM OLS regression results. According to Hypothesis 1, married and cohabiting men who perceive that they are at risk of HIV infection will have fewer extra-dyadic affairs. Whether a man knows someone who has AIDS or has died of AIDS is a significant predictor of and positively related to the number of extra-dyadic affairs he reports experiencing in the past twelve months at $p < 0.01$ for HBM M1 and at $p < 0.05$ for M2. As men increase their affirmation of whether they know someone who has AIDS or has died of AIDS, the number of reported extra-dyadic affairs in the past twelve months increases. If a man knows someone who has AIDS or has died of AIDS, then the number of extra-dyadic affairs increases by at most 0.024 in M1. Contrary to this study's prediction, if a married or cohabiting man perceives that he is susceptible to HIV/AIDS, then he reports more extra-dyadic affairs than do men who do not perceive that they are susceptible to HIV/AIDS.

According to Hypothesis 2, married and cohabiting men who are exposed to cues to action that impact extra-dyadic behavior will have fewer extra-dyadic affairs. Frequency of reading newspapers or magazines and the frequency of listening to the radio are not significant predictors of the number of reported extra-dyadic relationships in the past twelve months. Frequency of watching television attains significance at $p < 0.01$ for M1 and at $p < 0.05$ for M2. As the frequency of watching television increases, the number of extra-dyadic relationships reported by men in the past twelve months increases. In sum, the only cue to action that affects married and cohabiting men's extra-dyadic behavior is frequency of watching television, which, contrary to the study's prediction, increases the number of extra-dyadic affairs.

According to sub-Hypothesis 3a, married and cohabiting men who perceive the health consequences of extra-dyadic affairs will report fewer extra-dyadic affairs in the past twelve months. Perceived severity attained significance at $p < 0.001$ in both models. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is positively correlated with the number of reported extra-dyadic affairs in the past twelve months. More specifically, as perceptions become more favorable of a man's right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex, the number of reported extra-dyadic affairs in the past twelve months increases. As men's attitude increases by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of reported extra-dyadic affairs increases by at most 0.105 M1. In sum, support for extra-dyadic behavior predicts the number of extra-dyadic affairs among married and cohabiting men.

According to Hypothesis 3b, married and cohabiting men who perceive the effectiveness of actions available to them in reducing HIV infection will report fewer extra-dyadic affairs in the past twelve months. Perceived benefits are not significant predictors. Hence, whether an individual can reduce his/her chances of becoming infected with the AIDS virus by having sex with one partner who has no other partners and whether men believe individuals can contract the AIDS virus because of witchcraft or other supernatural means do not predict the number of reported extra-dyadic affairs in the past twelve months. In sum, the belief that married and cohabiting men have towards their actions in reducing HIV/AIDS risk does not predict the number of reported extra-dyadic affairs.

According to Hypothesis 4a, married and cohabiting men who have more barriers that prevent them from engaging in extra-dyadic affairs will report fewer extra-dyadic affairs in the past twelve months. None of the perceived barriers was significant in predicting the number of reported extra-dyadic affairs in the past twelve months including (a) whether men believe that those with the AIDS virus should be ashamed of themselves, (b) whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if she believes he has a sexually transmitted disease, and (c) whether a wife [or female cohabiting partner] is justified in refusing sex with her husband [or male cohabiting partner] if she believes he has an STD. In sum, none of the factors selected that could impede extra-dyadic affairs predicts the number of reported extra-dyadic affairs.

According to Hypothesis 4b, married and cohabiting men who can overcome barriers to engage in extra-dyadic affairs will report engaging in more extra-dyadic affairs

in the past twelve months. Neither of the variables selected to represent self-efficacy was a significant predictor of the number of reported extra-dyadic affairs in the past twelve months: whether a husband [or male cohabiting partner] is justified in beating his wife [or female cohabiting partner] if she refuses to have sex and which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns. In sum, none of the abilities to overcome perceived barriers to extra-dyadic behavior predicts the number of reported extra-dyadic affairs.

Theory of Planned Behavior (TPB)

Table 20 summarizes the OLS regression results for the TPB models. According to Hypothesis 3, married and cohabiting men who have a more favorable attitude toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. The only attitude toward behavior that is significant in the models is men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex. Significance was attained at $p < 0.001$ in both models. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is positively correlated with the number of reported extra-dyadic affairs in the past twelve months. More specifically, as attitudes become more favorable of a man's right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex, the number of reported extra-dyadic affairs in the past twelve months increases. As men's attitude increases by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of reported extra-dyadic affairs increases by at most 0.101 in M1. The other attitudes

toward behavior did not attain significance: whether an individual can reduce his/her chances of becoming infected with the AIDS virus by having sex with one partner who has no other partners and whether men believe individuals can contract the AIDS virus because of witchcraft or other supernatural means. In sum, attitude toward behavior only partially predicts the number of reported extramarital affairs in the past twelve months.

According to Hypothesis 4, married and cohabiting men who perceive that men have self-efficacy to overcome perceived barriers toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. Perceived behavioral control is not significant in predicting the number of reported extra-dyadic affairs including (a) whether men believe that those with the AIDS virus should be ashamed of themselves, (b) whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if she believes he has a sexually transmitted disease, (c) whether a wife [or female cohabiting partner] is justified in refusing sex with her husband [or male cohabiting partner] if she believes he has an STD, (d) whether a husband [or male cohabiting partner] is justified in beating his wife [or female cohabiting partner] if she refuses to have sex, and (e) which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns. In sum, married and cohabiting men's ability or perceived ability to pursue extra-dyadic behavior did not predict the number of reported extra-dyadic affairs in the past twelve months.

According to Hypothesis 5, married and cohabiting men who perceive that most married and cohabiting men they know do not engage in extra-dyadic behavior will have a lower rate of extra-dyadic behavior. Both variables that make up social norms attain significance in both models at $p < 0.001$ in predicting the number of extra-dyadic affairs in

the past twelve months. The belief that men should only have sex with their wives [or female cohabiting partners] is inversely related to the number of extra-dyadic affairs reported in the past twelve months, in that the more men affirm the belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partners], the fewer the number of extra-dyadic affairs reported in the past twelve months. As men's beliefs increase by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of extra-dyadic affairs decreases by approximately 0.032 in both models. A man believing that most people he knows have sex with only one partner is inversely related to the number of extra-dyadic affairs reported in the past twelve months. As men are more inclined to think people they know have sex with only one partner (i.e., increased by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes"), the number of extra-dyadic affairs decreases at most by 0.037 in M1 and 0.032 in M2. In sum, the perceived importance of whether or not to engage in extra-dyadic affairs predicts the number of reported extra-dyadic affairs in the past twelve months.

Combined Models

Table 21 summarizes the OLS regression results for the TPB models. The Combined models include all of the baseline variables from both the HBM and TPB. According to Hypothesis 1, married and cohabiting men who perceive that they are at risk of HIV infection will have fewer extra-dyadic affairs. Whether a man knows someone who has AIDS or has died of AIDS is a significant predictor of and positively related to the number of extra-dyadic affairs he reports experiencing in the past twelve months at $p < 0.05$ for Combined M1 and $p < 0.05$ for M2. As men increase their

affirmation of whether they know someone who has AIDS or has died of AIDS, the number of reported extra-dyadic affairs in the past twelve months increases. If a man knows someone who has AIDS or has died of AIDS, then the number of extra-dyadic affairs increases by at most 0.023 in M2. In sum, if a married or cohabiting man perceives that he is susceptible to HIV/AIDS, then he reports a higher number of extra-dyadic affairs than do men who do not perceive that they are susceptible to HIV/AIDS.

According to Hypothesis 2, married and cohabiting men who are exposed to cues to action that impact extra-dyadic behavior will have fewer extra-dyadic affairs.

Frequency of reading newspapers or magazines and the frequency of listening to the radio are not significant predictors of the number of reported extra-dyadic relationships reported in the past twelve months. Frequency of watching television attains significance at $p < 0.01$ for M1 and $p < 0.05$ for M2. As the frequency of watching television increases, the number of reported extra-dyadic relationships reported by men in the past twelve months increases. In sum, the only media source that predicts married and cohabiting men's extra-dyadic behavior is the frequency of watching television.

According to Hypothesis 3, married and cohabiting men who have a more favorable attitude toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex attains significance at $p < 0.001$ in all models for the number of reported extra-dyadic affairs in the past twelve months. Men's attitude towards whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex is positively correlated with the number of

reported extra-dyadic affairs in the past twelve months. More specifically, as perceptions become more favorable of a man's right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex, the number of reported extra-dyadic affairs in the past twelve months increases. As men's attitude increases by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of reported extra-dyadic affairs increases by at most 0.100 in M1.

According to Hypothesis 4, married and cohabiting men who perceive that men have self-efficacy to overcome perceived barriers toward extra-dyadic behavior will have a higher rate of extra-dyadic affairs. Several other variables are not significant predictors of the number of extra-dyadic affairs in the past twelve months including (a) whether an individual can reduce his/her chances of becoming infected with the AIDS virus by having sex with one partner who has no other partners, (b) whether men believe individuals can contract the AIDS virus because of witchcraft or other supernatural means, (c) whether men believe that those with the AIDS virus should be ashamed of themselves, (d) whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if she believes he has a sexually transmitted disease, (e) whether a wife [or female cohabiting partner] is justified in refusing sex with her husband [or male cohabiting partner] if she believes he has an STD, (f) whether a husband [or male cohabiting partner] is justified in beating his wife [or female cohabiting partner] if she refuses to have sex, and (g) which spouse/partner has a greater say in deciding what to do with the money the wife [or female cohabiting partner] earns.

According to Hypothesis 5, married and cohabiting men who perceive that most married and cohabiting men they know do not engage in extra-dyadic behavior will have a lower rate of extra-dyadic behavior. The belief that men should only have sex with their wives [or female cohabiting partners] is a significant predictor of the number of extra-dyadic affairs reported in the past twelve months for Combined M1 and M2 at $p < 0.001$. The belief that men should only have sex with their wives [or female cohabiting partners] is inversely related to the number of extra-dyadic affairs reported in the past twelve months, in that the more men affirm the belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partners], the fewer the number of extra-dyadic affairs reported in the past twelve months. As men's beliefs increase by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes," the number of extra-dyadic affairs decreases at most by 0.033 in Combined M2.

Whether a man thinks that most people he knows have sex with only one partner is a significant predictor of the number of extra-dyadic affairs reported in the past twelve months at $p < 0.001$ for Combined M1 and $p < 0.01$ for M2 (Table 21). A man believing that most people he knows have sex with only one partner is inversely related to the number of extra-dyadic affairs reported in the past twelve months. As men are more inclined to think people they know have sex with only one partner (i.e., increased by one unit from "No" to "DK/NS/Depends/No Opinion" or "DK/NS/Depends/No Opinion" to "Yes"), the number of extra-dyadic affairs decreases at most by 0.030 in Combined M2.

Fit of Models

Overall, there were substantial differences between the Combined models (Table 21) and the HBM (Table 19) and TPB (Table 20) models. The Combined models added social norms to the HBM models and perceived susceptibility and cues to action to the TPB models. Based on the R^2 values, the models with control variables (HBM M2, TPB M2, and Combined M2) strengthen the HBM, TPM, and Combined models. The full models with control variables are only slightly stronger than the baseline models. The Combined model M2 ($R^2=0.018$), which includes variables from both the HBM and TPB, has the strongest predictive power compared to the HBM M2 ($R^2=0.016$) and TPB M2 ($R^2=0.017$). As a result, interaction effects were tested only on models that included the control variables. It should be noted that even though M2 has the strongest explanatory power, the amount of variance explained is quite small.

Interaction Terms

Tables 22-24 summarize the OLS regression results for each of the models with interaction terms. The interaction of whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex by whether a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a condom if he has an STD was tested because both variables refer to a wife's/partner's ability to have some control in sexual manners. The interaction is significant for HBM (Table 22, M3), TPB (Table 23, M3), and Combined (Table 24, M3) models. For all three models, the more a man affirms that a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex and a wife [or female cohabiting partner] is justified in asking her husband [or male cohabiting partner] to use a

condom if he has an STD, the larger the increase in the number of extra-dyadic affairs they are likely to report compared to those who express the opposite opinion.

The interaction of whether a husband [or male cohabiting partner] has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex by whether a wife [or female cohabiting partner] has the right to refuse sex with her husband [or male cohabiting partner] if he has an STD was tested because both variables concern a wife's/partner's ability to refuse sex. This interaction is significant for HBM (Table 22, M4), TPB (Table 23, M4), and Combined (Table 24, M4) models. For all three models, the more a respondent affirms that a man has the right to have sex with another woman if his wife [or female cohabiting partner] refuses to have sex and if a wife [or female cohabiting partner] has the right to refuse sex with her husband [or male cohabiting partner] if he has an STD, the larger the increase in the number of extra-dyadic affairs they are likely to report compared to men who express the opposite opinion.

The interaction of the belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partner] by whether respondents think most married [or cohabiting] men only have sex with their wives [or female cohabiting partners] was tested because both variables concern social norms. This interaction is significant for TPB (Table 22, M5) and Combined (Table 23, M5) models. The more a respondent affirms that men should only have sex with their wives [or female cohabiting partners] and that most married [or cohabiting] men only have sex with their wives [or female cohabiting partners], the stronger the inverse relationship with the number of reported extra-dyadic affairs in the past twelve months compared to those men who

express the opposite opinion. When a respondent indicates that those men should not only have sex with their wives [or female cohabiting partners] and that married [or cohabiting] men do not have sex only with their wives [or male cohabiting partners], there is a positive relationship. Both the belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partners] and whether respondents think most married [or cohabiting] men only have sex with their wives [or female cohabiting partners] retain significance for both models

The interaction of wealth by the number of wives [or female cohabiting partners] was tested because wealth can determine the ability to have multiple wives. This interaction term is significant for HBM (Table 22, M6), TPB (Table 23, M6), and Combined (Table 24, M6) models. The more wives [or female cohabiting partners] and the richer a man is, the larger the increase in the number of reported extra-dyadic affairs in the past twelve months. For men with one wife [or female cohabiting partner], as wealth increases, the number of reported extra-dyadic reported in the past twelve months decreases. For TPB M6 (Table 23), as the number of wives [or female cohabiting partner] and income increase, the number of reported extra-dyadic affairs in the past twelve months increases dramatically, with the exception of the poorest men, for whom the increase in the number of reported extra-dyadic affairs in the past twelve months is not as dramatic as the number of wives [or female cohabiting partners] increases. For Combined M6 (Table 24), as the number of wives [or female cohabiting partners] and income increase, the increase in the number of reported extra-dyadic affairs in the past twelve months is substantial, except for the poorest among whom the effect is less

pronounced as the number of wives [or female cohabiting partners] increases and for men who have one wife, for whom the effect is also less pronounced as wealth increases.

Discussion

Men who perceive that they are at risk of HIV/AIDS by knowing someone who has AIDS or has died of AIDS report more extra-dyadic affairs, contrary to this study's prediction. Because of the high death rate that accompanies HIV/AIDS and the frequent experiences many people have with the deaths of friends and family members, it is not too surprising a result in sub-Saharan Africa, particularly with the fatalistic attitudes that surround HIV/AIDS (Caldwell 2000). The result also leads to the speculation of the reverse association: the more extra-dyadic affairs a man has, the more he perceives that he is susceptible to HIV/AIDS.

The only cue to action that was found to be associated with extra-dyadic affairs was frequency of watching television, but contrary to this study's prediction, the frequency of watching television was not associated with the reduction in the number of extra-dyadic affairs. There could be several reasons for this because it depends on what respondents were watching. For example, television may have exposed men to behavior that would increase extra-dyadic behavior, such as portraying men who engage in risky sexual behavior. If they were not watching anything related to HIV/AIDS or about the negative consequences of extra-dyadic behavior, then they are not likely to make better decisions regarding their extra-dyadic behavior. Exposure to television may spread ideas that might even encourage extra-dyadic sex. It may not just be the exposure to television, but the perceived realism of what is viewed, that is important (Busselle 2001). Also, key political leaders may be silent about AIDS on television (Caldwell 2000). If we measure

modernity in terms of watching television, then watching television is associated with extra-dyadic affairs rather than the risk of HIV infections that could result from multiple congruent sexual partners.

Men had mixed responses on their attitude toward extra-dyadic behavior.

Perceived severity was the concept that had the strongest relationship to the number of extra-dyadic affairs across all models. As predicted, men who do not perceive the health consequences of extra-dyadic behavior (i.e., whether married or cohabiting men believe that men are allowed to engage in extra-dyadic affairs if their wife/partner refuses sex) were associated with an increase in the number of extra-dyadic affairs. Unlike other studies on extramarital behavior (Thomas 1983) men's attitude toward extra-dyadic behavior was consistent and homogenous in the three sub-Saharan Africa countries. Hence, it would make good policy to push for more initiatives aimed at addressing men's attitude toward extra-dyadic behavior as a way to reduce the number of extra-dyadic affairs and consequently HIV infections. Men also need to be involved in family planning programs that can increase men's consideration of their children when engaging in risky health behaviors, such as extra-dyadic affairs. Other factors that were not analyzed and could impact a wife's refusal to have sex would be postpartum abstinence or her economic power. Hence, changing a family's attitude about condom use during postpartum abstinence may reduce extra-dyadic behavior. One key obstacle to getting a couple to utilize condoms is that condom use is often connected to the level of trust between partners. Health care providers could talk to both the mother and father of the child separately and explain the health risks of extra-dyadic affairs and recommend that condoms be used for the duration that is appropriate to the culture and reduces risk of

another pregnancy before the mother is physically ready. Health care providers should stress that condom use should not be seen as an issue of trust during this time, but rather to help the family.

This study did not support the prediction that men who perceive the effectiveness of their actions available to them in reducing their chances of HIV infection and the number of extra-dyadic affairs had fewer extra-dyadic affairs. Men are restricted by hegemonic masculinity; hence limiting the number of sexual partners is often difficult or not conceivable. Many men are confined by hegemonic masculinity, which causes an aversion to health-seeking behavior and even fatalistic attitudes towards AIDS. Men are encouraged to have multiple congruent sexual partners, even if they are married or in a cohabiting relationship, and have the belief that they are going to become infected with an STD (e.g., HIV) but do not seek any medical attention when they should. For a man to contradict hegemonic masculine behavior, he then becomes less of a man. As a result, knowing whether individuals can reduce their chances of contracting the HIV/AIDS virus by having sex with one partner who has no other sex partners does not impact men's extra-dyadic behavior. In sum, attitude toward extra-dyadic behavior is not a strong concept in the TPB model, nor are the perceived benefits.

The study did not find support for the hypothesis that pertained to men's ability to overcome perceived barriers toward extra-dyadic behavior, and hence the sub-hypotheses concerning men's ability to prevent and overcome barriers to extra-dyadic behavior. This is a major weakness of both the HBM and TPB models. Hence, these internal cognitive factors are not appropriate in a sub-Saharan Africa context. External factors are likely influencing perceived behavioral control (and perceived barriers and self-efficacy) of

extra-dyadic behavior. It could also be that the variables selected for the models' concepts were not appropriate for the models.

This study predicted correctly the effect of social norms on extra-dyadic behavior given the diversity of social interactions and norms across sub-Saharan Africa (Caldwell, Caldwell, and Orubuloye 1992). Both men's belief that married [or cohabiting] men should only have sex with their wives [or female cohabiting partners] and whether men think that most individuals they knows have sex with only one partner is associated with a reduction in the number of reported extra-dyadic affairs. Perceiving that the members of one's social network are faithful to their partner(s) is related to fidelity. These social networks are likely to be influenced by gossip and rumors about extra-dyadic relationships (Watkins 2004). Because men are more predisposed to influence through their social network than are women (Bernardi 2002), changing how men perceive their social network can be a method to reduce the number of extra-dyadic relationships, and consequently, the chance of HIV infection.

The models were not significantly different across the different countries, as indicated by the lack of significance of the country variable in the models. These models fail in showing the diversity within sub-Saharan Africa, but they do highlight the fact that individual cognitive extra-dyadic behavior is not significantly different across these countries. These similarities may be because of the hold that hegemonic masculinity has over sub-Saharan Africa. A key factor then in reducing extra-dyadic behavior among men, and hence in reducing HIV infections, is to change masculine identities concerning sexual relationship. Because men's extra-dyadic behavior is impacted by frequency of watch television, different masculinities need to be marketed through television. Also,

audiences need to see how dominant hegemonic masculinities can harm men, women, and their children. Key public figures that appear on television (e.g., professional soccer players, political leaders, and musicians) should also be encouraged to present different forms of masculinity that promote comprehensive knowledge of HIV prevention and fidelity.

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TABLES

Table 1: Independent and Control Variables by Theoretical Model

Health Belief Model	Variables	Theory of Planned Behavior
Perceived Susceptibility	<ul style="list-style-type: none"> Do you personally know someone who has or is suspected to have the AIDS virus? (1=No; 2=Don't know/Not sure/Depends/No opinion; 3=Yes) 	
Cues to Action	<ul style="list-style-type: none"> Do you read a newspaper or magazine almost every day, at least once a week, less than once a week or not at all? (1="Not at all"; 2="Less than once a week"; 3="At least once a week"; 4="Almost every day") Do you listen to the radio almost every day, at least once a week, less than once a week or not at all? (1="Not at all"; 2="Less than once a week"; 3="At least once a week"; 4="Almost every day") Do you watch television almost every day, at least once a week, less than once a week or not at all? (1="Not at all"; 2="Less than once a week"; 3="At least once a week"; 4="Almost every day") 	
Perceived Severity	<ul style="list-style-type: none"> If a woman refuses to have sex with her husband when he wants her to, he has the right to go ahead and have sex with another woman? (1=No; 2=Don't know/Not sure/Depends/No opinion; 3=Yes) 	
Perceived Benefits	<ul style="list-style-type: none"> Can people reduce their chances of getting the HIV/AIDS virus by having just one uninfected sex partner who has no other sex partners? (1=No; 2=Don't know/Not sure/Depends/No opinion; 3=Yes) Can people get the AIDS virus because of witchcraft or other supernatural means? (1=No; 2=Don't know/Not sure/Depends/No opinion; 3=Yes) 	Attitude toward behavior
Perceived Barriers	<ul style="list-style-type: none"> Do you agree or disagree with the following statement: People with the AIDS virus should be ashamed of themselves. (1=No; 2=Don't know/Not sure/Depends/No opinion; 3=Yes) If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in asking that they use a condom when they have sex? 	Perceived behavioral control

	<p>(1=No; 2=Don't know/Not sure/Depends/No opinion; 3=Yes)</p> <ul style="list-style-type: none"> • If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in refusing to have sex with him? (1=No; 2=Don't know/Not sure/Depends/No opinion; 3=Yes) 	
Self-Efficacy	<ul style="list-style-type: none"> • Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situation: If she refuses to have sex with him? (1=No; 2=Don't know/Not sure/Depends/No opinion; 3=Yes) • In a couple, who do you think should have the greater say in each of the following decisions: the husband, the wife or both equally: [1=Husband; 2=Don't know/Not sure/Depends/No opinion 3=Both equally; 4=Wife) Deciding what to do with the money she earns for her work? 	
	<ul style="list-style-type: none"> • Do you believe that married men should only have sex with their wives? (1=No; 2=Don't know/Not sure/Depends/No opinion; 3=Yes) • Do you think that most married men you know have sex only with their wives? (1=No; 2=Don't know/Not sure/Depends/No opinion; 3=Yes) 	Subjective Norms
Control Variables	<ul style="list-style-type: none"> • Age • Level of Education (No Education=1; Primary=2; and Secondary or Higher=2) • Wealth Index (1=Poorest; 2=Poor; 3=Middle; 4=Rich; 5=Richest) • Type of place of residence (0=Urban; 1=Rural) • Migration: In the last 12 months, on how many separate occasions have you traveled away from your home community and slept away? • Number of wives 	Control Variables

Table 2: Independent Samples T-test Mean Differences between Countries

Selected Variables	Zambia		Nigeria		Namibia	
	Mean	SD	Mean	SD	Mean	SD
Knows someone who has or died of AIDS	2.121 (.993)	****	1.419 (.814)	----	1.854 (.989)	****
Frequency of reading newspaper or magazine	1.881 (1.069)	****	1.810 (1.025)	----	2.349 (1.112)	****
Frequency of listening to radio	3.147 (1.098)	****	3.244 (1.043)	----	3.421 (.952)	****
Frequency of watching television	2.113 (1.289)	****	2.361 (1.243)	----	2.394 (1.303)	****
Husband/partner has right to: have sex with another woman	1.179 (.564)	****	1.222 (.591)	----	1.349 (.719)	****
Reduce chance of AIDS: have 1 sex partner with no other partners	2.802 (.589)	****	2.834 (.509)	----	2.865 (.482)	****
Can get AIDS by witchcraft or supernatural means	1.311 (.702)	****	1.449 (.751)	----	1.316 (.676)	ns
People with AIDS should be ashamed of themselves	1.581 (.901)	*****	2.164 (.964)	----	1.378 (.754)	****
Wife/partner justified to ask husband/partner to use condom if he has STD	2.760 (.638)	****	2.714 (.644)	----	2.870 (.463)	****
Reason for not having sex: Husband/partner has STD	2.745 (.653)	***	2.771 (.603)	--	2.794 (.583)	****
Wife beating justified if she refuses to have sex with him	1.362 (.760)	****	1.288 (.684)	----	1.187 (.551)	****
Final say on deciding what to do with money wife earns	2.506 (1.226)	****	2.704 (1.234)	----	2.895 (.954)	****
Married/cohabiting men should only have sex with their wives/partners	2.878 (.475)	*****	2.788 (.593)	----	2.630 (.743)	****
Most married/cohabiting men only have sex with their wives/partners	1.497 (.839)	****	1.939 (.929)	----	1.819 (.898)	****
Current age - respondent	30.126 (11.341)	****	31.694 (11.690)	----	28.074 (9.400)	****
Highest educational level	2.524 (.702)	****	2.453 (.995)	----	2.548 (.757)	ns
Wealth index	3.200 (1.403)	ns	3.024 (1.415)	----	3.135 (1.278)	++
Type of place of residence	1.564 (.496)	****	1.669 (.471)	----	1.573 (.495)	ns
Times away from home in last 12 months	1.807 (3.757)	****	3.886 (7.421)	----	2.949 (7.416)	****
Number of wives, partners	1.086 (.310)	****	1.232 (.511)	----	1.029 (.208)	****
Current marital status	.764 (.910)	****	.665 (.723)	ns	.662 (1.138)	****

Zambia and Nigeria: * = p<0.10, ** = p<0.05, *** = p<0.01, **** = p<0.001
Zambia and Namibia: + = p<0.10, ++ = p<0.05, +++ = p<0.01, ++++ = p<0.001
Nigeria and Namibia: - = p<0.10, -- = p<0.05, --- = p<0.01, ---- = p<0.001

Table 3: Ordinary Least Squares Regressions of Extra-dyadic Behavior on HBM for Zambia

Independent Variables	HBM			
	M1	M2	M1	M2
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
<u>Perceived Susceptibility</u>				
Knows someone who has or died of AIDS	.030 (.009) ****	.059	.031 (.009) ***	.059
<u>Cues to Action</u>				
Frequency of reading newspaper or magazine	.013 (.009)	.028	.015 (.010)	.032
Frequency of listening to radio	.000 (.008)	-.001	.000 (.008)	.001
Frequency of watching television	.020 (.008) **	.050	.016 (.009) *	.039
<u>Perceived Severity†</u>				
Husband/partner has right to have sex with another woman	.157 (.017) ****	.157	.155 (.017) ****	.155
<u>Perceived Benefits†</u>				
Reduce chance of AIDS: have 1 sex partner with no other partners	-.021 (.015)	-.023	-.017 (.015)	-.019
Can get AIDS by witchcraft or supernatural means	-.011 (.012)	-.016	-.005 (.012)	-.008
<u>Perceived Barriers††</u>				
People with AIDS should be ashamed of themselves	.012 (.009)	.022	.009 (.009)	.017
Woman justified in asking husband/partner to use a condom if he has an STI	.026 (.014) *	.033	.018 (.013)	.024
Reason for not having sex: Husband/partner has STD	-.035 (.014) **	-.042	-.026 (.014) *	-.032
<u>Self-Efficacy††</u>				
Beating of wife/partner justified if she refuses to engage in sex	.010 (.012)	.015	.009 (.012)	.013
Final say in determining what to do with money woman earns	.000 (.007)	.000	.004 (.007)	.009
<u>Subjective Norms</u>				
Married/cohabiting men should only have sex with their wives/partners				
Most married/cohabiting men have sex only with their wives/partners				
<u>Control Variables</u>				
Current age - respondent			-.007 (.001) ****	-.129
Highest educational level			-.019 (.015)	-.027
Wealth index			.008 (.010)	.023
Type of place of residence			-.004 (.025)	-.003
Times away from home in last 12 months			.008 (.002) ****	.063
Number of wives/partners			-.027 (.028)	-.016
(Constant)	-.076 (.079)		.196 (.107) *	
R-squared	0.039		0.060	
Adjusted R-squared	0.035		0.056	
F	11.928		12.706	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 4: Ordinary Least Squares Regressions of Extra-dyadic Behavior on TPB for Zambia

Independent Variables	TPB			
	M1	M2	M1	M2
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility				
Knows someone who has or died of AIDS				
Cues to Action				
Frequency of reading newspaper or magazine				
Frequency of listening to radio				
Frequency of watching television				
Perceived Severity†				
Husband/partner has right to have sex with another woman	.151 (.017) ****	.152	.149 (.017) ****	.149
Perceived Benefits†				
Reduce chance of AIDS: have 1 sex partner with no other partners	-.012 (.015)	-.013	-.013 (.015)	-.015
Can get AIDS by witchcraft or supernatural means	-.018 (.012)	-.025	-.008 (.012)	-.011
Perceived Barriers††				
People with AIDS should be ashamed of themselves	.008 (.009)	.015	.011 (.009)	.019
Woman justified in asking husband/partner to use a condom if he has an STD	.035 (.013) ***	.044	.023 (.013) *	.030
Reason for not having sex: Husband/partner has STD	-.030 (.014) **	-.036	-.023 (.014) *	-.028
Self-Efficacy††				
Beating of wife/partner justified if she refuses to engage in sex	.006 (.012)	.008	.008 (.012)	.012
Final say in determining what to do with money woman earns	.003 (.007)	.006	.004 (.007)	.010
Subjective Norms				
Married/cohabiting men should only have sex with their wives/partners	-.056 (.020) ***	-.048	-.056 (.019) ***	-.048
Most married/cohabiting men have sex only with their wives/partners	-.047 (.010) ****	-.078	-.045 (.010) ****	-.074
Control Variables				
Current age - respondent			-.007 (.001) ****	-.129
Highest educational level			-.002 (.013)	-.002
Wealth index			.020 (.009)	.054
Type of place of residence			-.007 (.025)	-.006
Times away from home in last 12 months			.008 (.002) ****	.064
Number of wives/partners			-.022 (.028)	-.013
(Constant)	.242 (.092) ***		.455 (.117) ****	
R-squared	0.038		0.063	
Adjusted R-squared	0.035		0.058	
F	14.097		14.902	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 5: Ordinary Least Squares Regressions of Extra-dyadic Behavior on Combined Model for Zambia

Independent Variables	Combined			
	M1	M1	M2	M2
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
<u>Perceived Susceptibility</u>				
Knows someone who has or died of AIDS	.031 (.009) ****	.059	.031 (.009)	.060
<u>Cues to Action</u>				
Frequency of reading newspaper or magazine	.011 (.009)	.022	.013 (.010)	.027
Frequency of listening to radio	-.001 (.008)	-.001	.000 (.008)	.000
Frequency of watching television	.021 (.008) **	.050	.017 (.009) *	.040
<u>Perceived Severity†</u>				
Husband/partner has right to have sex with another woman	.149 (.017) ****	.150	.147 (.017) ****	.148
<u>Perceived Benefits†</u>				
Reduce chance of AIDS: have 1 sex partner with no other partners	-.018 (.015)	-.020	-.014 (.015)	-.016
Can get AIDS by witchcraft or supernatural means	-.014 (.012)	-.019	-.008 (.012)	-.011
<u>Perceived Barriers††</u>				
People with AIDS should be ashamed of themselves	.013 (.009)	.023	.010 (.009)	.018
Woman justified in asking husband/partner to use a condom if he has an STI	.028 (.013) **	.036	.021 (.013)	.026
Reason for not having sex: Husband/partner has STD	-.031 (.014) **	-.038	-.022 (.014)	-.027
<u>Self-Efficacy††</u>				
Beating of wife/partner justified if she refuses to engage in sex	.010 (.012)	.015	.009 (.012)	.013
Final say in determining what to do with money woman earns	-.001 (.007)	-.002	.003 (.007)	.007
<u>Subjective Norms</u>				
Married/cohabiting men should only have sex with their wives/partners	-.058 (.019) ***	-.049	-.058 (.019)	-.050
Most married/cohabiting men have sex only with their wives/partners	-.044 (.010) ****	-.073	-.043 (.010)	-.071
<u>Control Variables</u>				
Current age - respondent			-.007 (.001) ****	-.130
Highest educational level			-.018 (.014)	-.027
Wealth index			.009 (.010)	.025
Type of place of residence			.001 (.025)	.001
Times away from home in last 12 months			.007 (.002) ****	.061
Number of wives/partners			-.024 (.028)	-.014
(Constant)	.152 (.096)		.410 (.119) ***	
R-squared	0.046		0.068	
Adjusted R-squared	0.042		0.063	
F	12.286		12.900	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 6: Ordinary Least Squares Regressions of Extra-dyadic Behavior on Control Variables and Interactions for Zambia

Independent Variables	HBM M3		TPB M3		Combined M3	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility						
Knows someone who has or died of AIDS	.030 (.009) ****	.058			.031 (.009) ****	.059
Cues to Action						
Frequency of reading newspaper or magazine	.015 (.010)	.032			.013 (.010)	.028
Frequency of listening to radio	.001 (.008)	.001			.000 (.008)	.001
Frequency of watching television	.016 (.009) *	.039			.017 (.009) *	.041
Perceived Severity†						
Husband/partner has right to have sex with another woman	.007 (.072)	.007	.002 (.072)	.002	.007 (.072)	.007
Perceived Benefits†						
Reduce chance of AIDS: have 1 sex partner with no other partners	-.019 (.015)	-.021	-.015 (.015)	-.016	-.016 (.015)	-.017
Can get AIDS by witchcraft or supernatural means	-.005 (.012)	-.007	-.008 (.012)	-.011	-.008 (.012)	-.011
Perceived Barriers††						
People with AIDS should be ashamed of themselves	.009 (.009)	.017	.011 (.009)	.019	.010 (.009)	.018
Woman justified in asking husband/partner to use a condom if he has an STD	-.042 (.032)	-.054	-.036 (.031)	-.046	-.037 (.032)	-.047
Reason for not having sex: Husband/partner has STD	-.027 (.014) *	-.033	-.024 (.014) *	-.030	-.023 (.014)	-.028
Self-Efficacy††						
Beating of wife/partner justified if she refuses to engage in sex	.010 (.012)	.015	.009 (.012)	.014	.010 (.012)	.015
Final say in determining what to do with money woman earns	.004 (.007)	.010	.005 (.007)	.011	.003 (.007)	.008
Subjective Norms						
Married/cohabiting men should only have sex with their wives/partners			-.058 (.019) ***	-.049	-.059 (.019) ***	-.051
Most married/cohabiting men have sex only with their wives/partners			-.044 (.010) ****	-.072	-.042 (.010) ****	-.070
Control Variables						
Current age - respondent	-.007 (.001) ****	-.128	-.007 (.001) ****	-.129	-.007 (.001) ****	-.129
Highest educational level	-.018 (.015)	-.027	-.001 (.013)	-.002	-.018 (.014)	-.027
Wealth index	.009 (.010)	.023	.020 (.009) **	.054	.009 (.010)	.025
Type of place of residence	-.004 (.025)	-.003	-.007 (.025)	-.007	.001 (.025)	.001
Times away from home in last 12 months	.008 (.002) ****	.063	.008 (.002) ****	.064	.007 (.002) ****	.060
Number of wives/partners	-.027 (.028)	-.016	-.022 (.028)	-.013	-.024 (.028)	-.014
Intercation Terms						
Husband/partner has right to have sex with another woman * woman justified in asking husband/partner to use condom if he has an STD	.053 (.025) **	.171	.053 (.025) **	.169	.051 (.025) **	.162
(Constant)	.364 (.133) ***		.622 (.142) ****		.571 (.144) ****	
R-squared	0.062		0.064		0.069	
Adjusted R-squared	0.057		0.059		0.063	
F	12.281		14.295		12.487	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 7: Ordinary Least Squares Regressions of Extra-dyadic Behavior on HBM for Nigeria

Independent Variables	HBM			
	M1 Unstandardized Coefficients	Standardized Coefficients	M2 Unstandardized Coefficients	Standardized Coefficients
<u>Perceived Susceptibility</u>				
Knows someone who has or died of AIDS	.046 (.028)	.019	.037 (.029)	.015
<u>Cues to Action</u>				
Frequency of reading newspaper or magazine	-.007 (.027)	-.004	-.025 (.031)	-.013
Frequency of listening to radio	.011 (.025)	.006	.007 (.026)	.003
Frequency of watching television	.068 (.023) ***	.042	.056 (.028) **	.035
<u>Perceived Severity†</u>				
Husband/partner has right to have sex with another woman	.440 (.045) ****	.114	.434 (.045) ****	.113
<u>Perceived Benefits†</u>				
Reduce chance of AIDS: have 1 sex partner with no other partners	.040 (.049)	.010	.034 (.049)	.008
Can get AIDS by witchcraft or supernatural means	.036 (.031)	.013	.038 (.031)	.014
<u>Perceived Barriers††</u>				
People with AIDS should be ashamed of themselves	-.012 (.026)	-.006	-.013 (.026)	-.006
Woman justified in asking husband/partner to use a condom if he has an STD	.024 (.041)	.007	.017 (.041)	.005
Reason for not having sex: Husband/partner has STD	.025 (.045)	.007	.024 (.045)	.007
<u>Self-Efficacy††</u>				
Beating of wife/partner justified if she refuses to engage in sex	-.056 (.036)	-.019	-.061 (.036) *	-.020
Final say in determining what to do with money woman earns	-.018 (.019)	-.011	-.016 (.019)	-.010
<u>Subjective Norms</u>				
Married/cohabiting men should only have sex with their wives/partners				
Most married/cohabiting men have sex only with their wives/partners				
<u>Control Variables</u>				
Current age - respondent			-.005 (.003) *	-.023
Highest educational level			.043 (.032)	.022
Wealth index			-.007 (.027)	-.005
Type of place of residence			-.022 (.061)	-.005
Times away from home in last 12 months			.005 (.003) *	.021
Number of wives/partners			.076 (.047)	.019
(Constant)	-.771 (.224) ****		-.610 (.282) **	
R-squared	0.016		0.017	
Adjusted R-squared	0.015		0.015	
F	10.315		7.481	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 8: Ordinary Least Squares Regressions of Extra-dyadic Behavior on TPB for Nigeria

Independent Variables	TPB			
	M1		M2	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility				
Knows someone who has or died of AIDS				
Cues to Action				
Frequency of reading newspaper or magazine				
Frequency of listening to radio				
Frequency of watching television				
Perceived Severity†				
Husband/partner has right to have sex with another woman	.418 (.044) ****	.111	.408 (.044) ****	.108
Perceived Benefits†				
Reduce chance of AIDS: have 1 sex partner with no other partners	.062 (.047)	.015	.055 (.047)	.014
Can get AIDS by witchcraft or supernatural means	.025 (.031)	.009	.034 (.031)	.013
Perceived Barriers††				
People with AIDS should be ashamed of themselves	-.024 (.024)	-.012	-.011 (.026)	-.005
Woman justified in asking husband/partner to use a condom if he has an STD	.032 (.040)	.010	.016 (.040)	.005
Reason for not having sex: Husband/partner has STD	.032 (.045)	.009	.032 (.045)	.009
Self-Efficacy††				
Beating of wife/partner justified if she refuses to engage in sex	-.066 (.035) *	-.022	-.064 (.035) *	-.021
Final say in determining what to do with money woman earns	-.010 (.019)	-.006	-.011 (.019)	-.007
Subjective Norms				
Married/cohabiting men should only have sex with their wives/partners	-.127 (.040) ***	-.037	-.124 (.040) ***	-.036
Most married/cohabiting men have sex only with their wives/partners	-.067 (.025) ***	-.031	-.058 (.025) **	-.027
Control Variables				
Current age - respondent			-.006 (.002) **	-.027
Highest educational level			.037 (.027)	.019
Wealth index			.011 (.023)	.008
Type of place of residence			-.030 (.059)	-.007
Times away from home in last 12 months			.005 (.003) *	.022
Number of wives/partners			.078 (.047) *	.020
(Constant)	-.091 (.231)		-.054 (.297)	
R-squared	0.016		0.018	
Adjusted R-squared	0.015		0.016	
F	12.629		8.935	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 9: Ordinary Least Squares Regressions of Extra-dyadic Behavior on Combined Models for Nigeria

Independent Variables	Combined			
	M1	M1	M2	M2
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility				
Knows someone who has or died of AIDS	.050 (.028) *	.021	.042 (.029)	.017
Cues to Action				
Frequency of reading newspaper or magazine	-.011 (.028)	-.006	-.024 (.031)	-.012
Frequency of listening to radio	.011 (.025)	.006	.007 (.026)	.004
Frequency of watching television	.062 (.024) ***	.038	.051 (.028) *	.032
Perceived Severity†				
Husband/partner has right to have sex with another woman	.424 (.045) ****	.110	.419 (.045) ****	.108
Perceived Benefits†				
Reduce chance of AIDS: have 1 sex partner with no other partners	.048 (.049)	.011	.042 (.049)	.010
Can get AIDS by witchcraft or supernatural means	.030 (.031)	.011	.032 (.031)	.012
Perceived Barriers††				
People with AIDS should be ashamed of themselves	-.010 (.026)	-.005	-.011 (.026)	-.005
Woman justified in asking husband/partner to use a condom if he has an STD	.022 (.041)	.007	.015 (.041)	.005
Reason for not having sex: Husband/partner has STD	.033 (.046)	.009	.033 (.046)	.009
Self-Efficacy††				
Beating of wife/partner justified if she refuses to engage in sex	-.057 (.036)	-.019	-.062 (.036) *	-.020
Final say in determining what to do with money woman earns	-.017 (.019)	-.011	-.015 (.019)	-.009
Subjective Norms				
Married/cohabiting men should only have sex with their wives/partners	-.126 (.040) ***	-.036	-.124 (.040) ***	-.036
Most married/cohabiting men have sex only with their wives/partners	-.054 (.025) **	-.025	-.053 (.026) **	-.025
Control Variables				
Current age - respondent			-.005 (.003) **	-.024
Highest educational level			.031 (.032)	.016
Wealth index			-.006 (.027)	-.004
Type of place of residence			-.026 (.061)	-.006
Times away from home in last 12 months			.005 (.003) *	.020
Number of wives/partners			.079 (.048) *	.020
(Constant)	-.320 (.254)		-.150 (.308)	
R-squared	0.018		0.019	
Adjusted R-squared	0.016		0.017	
F	9.922		7.455	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 10: Ordinary Least Squares Regressions of Extra-dyadic Behavior on HBM, Control Variables, and Interactions for Nigeria

Independent Variables	HBM			
	M3		M4	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
<u>Perceived Susceptibility</u>				
Knows someone who has or died of AIDS	.037 (.029)	.015	.037 (.029)	.015
<u>Cues to Action</u>				
Frequency of reading newspaper or magazine	-.024 (.031)	-.012	-.023 (.031)	-.012
Frequency of listening to radio	.006 (.026)	.003	.007 (.026)	.003
Frequency of watching television	.054 (.028) *	.033	.055 (.028) **	.034
<u>Perceived Severity†</u>				
Husband/partner has right to have sex with another woman	-.127 (.198)	-.033	-.092 (.205)	-.024
<u>Perceived Benefits†</u>				
Reduce chance of AIDS: have 1 sex partner with no other partners	.038 (.049)	.009	.033 (.049)	.008
Can get AIDS by witchcraft or supernatural means	.037 (.031)	.014	.038 (.031)	.014
<u>Perceived Barriers††</u>				
People with AIDS should be ashamed of themselves	-.013 (.026)	-.006	-.012 (.026)	-.006
Woman justified in asking husband/partner to use a condom if he has an STD	-.222 (.092) **	-.070	.022 (.041)	.007
Reason for not having sex: Husband/partner has STD	.026 (.045)	.007	-.206 (.099) **	-.058
<u>Self-Efficacy††</u>				
Beating of wife/partner justified if she refuses to engage in sex	-.062 (.036) *	-.020	-.061 (.036) *	-.020
Final say in determining what to do with money woman earns	-.015 (.019)	-.009	-.015 (.019)	-.009
<u>Subjective Norms</u>				
Married/cohabiting men should only have sex with their wives/partners				
Most married/cohabiting men have sex only with their wives/partners				
<u>Control Variables</u>				
Current age - respondent	-.005 (.003) **	-.024	-.005 (.003) *	-.023
Highest educational level	.044 (.032)	.022	.042 (.032)	.021
Wealth index	-.006 (.027)	-.004	-.006 (.027)	-.004
Type of place of residence	-.021 (.061)	-.005	-.025 (.061)	-.006
Times away from home in last 12 months	.005 (.003) *	.020	.005 (.003) *	.020
Number of wives/partners	.078 (.047)	.020	.073 (.047)	.019
<u>Intercation Terms</u>				
Husband/partner has right to have sex with another woman *			.189 (.072) ***	.152
Reason for not having sex: Husband/partner has STD				
Husband/partner has right to have sex with another woman * Woman justified to ask husband/partner to use condom if he has STD	.204 (.070) ***	.167		
Married/cohabiting men should only have sex with their wives/partners * Most married/cohabiting men only have sex with their wives/partners (Constant)	.030 (.358)		.027 (.372)	
R-squared	0.018		0.019	
Adjusted R-squared	0.016		0.016	
F	7.458		7.540	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 11: Ordinary Least Squares Regressions of Extra-dyadic Behavior on TPB, Control Variables, and Interactions for Nigeria

Independent Variables	TPB					
	M3		M4		M5	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility						
Knows someone who has or died of AIDS						
Cues to Action						
Frequency of reading newspaper or magazine						
Frequency of listening to radio						
Frequency of watching television						
Perceived Severity†						
Husband/partner has right to have sex with another woman	-.122 (.195)	-.032	-.085 (.200)	-.022	.405 (.044) ****	.107
Perceived Benefits†						
Reduce chance of AIDS: have 1 sex partner with no other partners	.059 (.047)	.014	.054 (.047)	.013	.060 (.047)	.015
Can get AIDS by witchcraft or supernatural means	.033 (.031)	.012	.034 (.031)	.013	.032 (.031)	.012
Perceived Barriers††						
People with AIDS should be ashamed of themselves	-.011 (.026)	-.005	-.011 (.026)	-.005	-.013 (.026)	-.006
Woman justified in asking husband/partner to use a condom if he has an STD	-.208 (.090) **	-.066	.020 (.040)	.006	.011 (.040)	.003
Reason for not having sex: Husband/partner has STD	.033 (.045)	.009	-.183 (.097) *	-.052	.023 (.045)	.007
Self-Efficacy††						
Beating of wife/partner justified if she refuses to engage in sex	-.065 (.035) *	-.022	-.064 (.035) *	-.021	-.067 (.035) *	-.022
Final say in determining what to do with money woman earns	-.011 (.019)	-.007	-.011 (.019)	-.007	-.012 (.019)	-.008
Subjective Norms						
Married/cohabiting men should only have sex with their wives/partners	-.121 (.040) ***	-.035	-.122 (.040) ***	-.035	-.322 (.086) ****	-.093
Most married/cohabiting men have sex only with their wives/partners	-.058 (.025) **	-.027	-.058 (.025) **	-.027	-.356 (.119) ***	-.166
Control Variables						
Current age - respondent	-.006 (.002) **	-.027	-.006 (.002) **	-.027	-.005 (.002) **	-.026
Highest educational level	.038 (.027)	.020	.037 (.027)	.019	.039 (.027)	.020
Wealth index	.011 (.023)	.008	.011 (.023)	.008	.012 (.023)	.009
Type of place of residence	-.029 (.059)	-.007	-.033 (.059)	-.008	-.028 (.059)	-.007
Times away from home in last 12 months	.005 (.003) *	.021	.005 (.003) *	.022	.005 (.003) *	.021
Number of wives/partners	.080 (.047) *	.020	.076 (.047)	.019	.078 (.047) *	.020
Interaction Terms						
Husband/partner has right to have sex with another woman * Reason for not having sex: Husband/partner has STD			.177 (.070) **	.145		
Husband/partner has right to have sex with another woman * Woman justified to ask husband/partner to use condom if he has STD	.193 (.069) ***	.161				
Married/cohabiting men should only have sex with their wives/partners * Most married/cohabiting men only have sex with their wives/partners					.107 (.041) **	.155
(Constant)	.535 (.364)		.535 (.378)		.524 (.373)	
R-squared	0.019		0.019		0.019	
Adjusted R-squared	0.017		0.017		0.017	
F	8.789		8.876		8.804	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 12: Ordinary Least Squares Regressions of Extra-dyadic Behavior on Combined Models, Control Variables, and Interactions for Nigeria

Independent Variables	Combined					
	M3		M4		M5	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility						
Knows someone who has or died of AIDS	.042 (.029)	.017	.041 (.029)	.017	.040 (.029)	.016
Cues to Action						
Frequency of reading newspaper or magazine	-.023 (.031)	-.012	-.022 (.031)	-.011	-.028 (.031)	-.014
Frequency of listening to radio	.007 (.026)	.003	.007 (.026)	.004	.009 (.026)	.004
Frequency of watching television	.049 (.028) *	.030	.050 (.028) *	.031	.049 (.028) *	.030
Perceived Severity†						
Husband/partner has right to have sex with another woman	-.122 (.200)	-.031	-.088 (.207)	-.023	.416 (.045) ****	.108
Perceived Benefits†						
Reduce chance of AIDS: have 1 sex partner with no other partners	.045 (.049)	.011	.040 (.049)	.010	.047 (.049)	.011
Can get AIDS by witchcraft or supernatural means	.032 (.031)	.012	.032 (.031)	.012	.030 (.031)	.011
Perceived Barriers††						
People with AIDS should be ashamed of themselves	-.011 (.026)	-.005	-.011 (.026)	-.005	-.013 (.026)	-.006
Woman justified in asking husband/partner to use a condom if he has an STD	-.214 (.092) **	-.067	.020 (.041)	.006	.010 (.041)	.003
Reason for not having sex: Husband/partner has STD	.034 (.046)	.010	-.188 (.099) *	-.053	.023 (.046)	.007
Self-Efficacy††						
Beating of wife/partner justified if she refuses to engage in sex	-.062 (.036) *	-.020	-.062 (.036) *	-.020	-.065 (.036) *	-.021
Final say in determining what to do with money woman earns	-.014 (.019)	-.008	-.014 (.019)	-.009	-.015 (.019)	-.009
Subjective Norms						
Married/cohabiting men should only have sex with their wives/partners	-.120 (.040) ***	-.034	-.121 (.040) ***	-.035	-.319 (.088) ****	-.091
Most married/cohabiting men have sex only with their wives/partners	-.053 (.026) **	-.025	-.053 (.026) **	-.024	-.347 (.121) ***	-.161
Control Variables						
Current age - respondent	-.005 (.003) **	-.024	-.005 (.003) **	-.024	-.005 (.003) *	-.024
Highest educational level	.032 (.032)	.017	.031 (.032)	.016	.036 (.032)	.019
Wealth index	-.005 (.027)	-.003	-.005 (.027)	-.004	-.003 (.027)	-.002
Type of place of residence	-.025 (.061)	-.006	-.028 (.061)	-.007	-.025 (.061)	-.006
Times away from home in last 12 months	.005 (.003) *	.020	.005 (.003) *	.020	.005 (.003)	.019
Number of wives/partners	.081 (.048) *	.020	.076 (.048)	.019	.078 (.048)	.020
Interaction Terms						
Husband/partner has right to have sex with another woman *			.182 (.073) **	.146		
Reason for not having sex: Husband/partner has STD						
Husband/partner has right to have sex with another woman * Woman justified to ask husband/partner to use condom if he has STD	.197 (.071) ***	.160				
Married/cohabiting men should only have sex with their wives/partners * Most married/cohabiting men only have sex with their wives/partners					.105 (.042) **	.152
(Constant)	.456 (.378)		.456 (.391)		.425 (.385)	
R-squared	0.020		0.020		0.02	
Adjusted R-squared	0.018		0.017		0.02	
F	7.405		7.473		7.401	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 13: Ordinary Least Squares Regressions of Extra-dyadic Behavior on HBM for Namibia

Independent Variables	HBM			
	M1		M2	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
<u>Perceived Susceptibility</u>				
Knows someone who has or died of AIDS	.032 (.014) **	.071	.032 (.013) **	.070
<u>Cues to Action</u>				
Frequency of reading newspaper or magazine	.002 (.014)	.006	-.005 (.017)	-.012
Frequency of listening to radio	-.016 (.015)	-.033	-.010 (.015)	-.020
Frequency of watching television	-.006 (.012)	-.016	-.013 (.014)	-.038
<u>Perceived Severity†</u>				
Husband/partner has right to have sex with another woman	.075 (.023) ***	.097	.078 (.023) ****	.100
<u>Perceived Benefits†</u>				
Reduce chance of AIDS: have 1 sex partner with no other partners	-.069 (.029) **	-.069	-.061 (.029) **	-.061
Can get AIDS by witchcraft or supernatural means	.004 (.020)	.006	.010 (.020)	.014
<u>Perceived Barriers††</u>				
People with AIDS should be ashamed of themselves	-.013 (.018)	-.022	-.021 (.018)	-.035
Woman justified in asking husband/partner to use a condom if he has an STD	-.013 (.034)	-.012	-.006 (.034)	-.006
Reason for not having sex: Husband/partner has STD	.001 (.027)	.001	.002 (.026)	.002
<u>Self-Efficacy††</u>				
Beating of wife/partner justified if she refuses to engage in sex	.001 (.033)	.001	-.007 (.033)	-.006
Final say in determining what to do with money woman earns	-.027 (.015) *	-.054	-.025 (.015) *	-.049
<u>Subjective Norms</u>				
Married/cohabiting men should only have sex with their wives/partners				
Most married/cohabiting men have sex only with their wives/partners				
<u>Control Variables</u>				
Current age - respondent			-.008 (.002) ****	-.127
Highest educational level			.006 (.019)	.011
Wealth index			.002 (.015)	.005
Type of place of residence			-.031 (.033)	-.034
Times away from home in last 12 months			.002 (.001)	.039
Number of wives/partners			.308 (.062) ****	.143
(Constant)	.386 (.153) **		.340 (.186) *	
R-squared	0.025		0.062	
Adjusted R-squared	0.015		0.048	
F	2.454		4.271	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 14: Ordinary Least Squares Regressions of Extra-dyadic Behavior on TPB for Namibia

Independent Variables	TPB			
	M1		M2	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
<u>Perceived Susceptibility</u>				
Knows someone who has or died of AIDS				
<u>Cues to Action</u>				
Frequency of reading newspaper or magazine				
Frequency of listening to radio				
Frequency of watching television				
<u>Perceived Severity†</u>				
Husband/partner has right to have sex with another woman	.074 (.023) ***	.095	.076 (.023) ****	.097
<u>Perceived Benefits†</u>				
Reduce chance of AIDS: have 1 sex partner with no other partners	-.072 (.029) **	-.072	-.062 (.029) **	-.062
Can get AIDS by witchcraft or supernatural means	.002 (.020)	.003	.008 (.020)	.012
<u>Perceived Barriers††</u>				
People with AIDS should be ashamed of themselves	-.004 (.018)	-.007	-.014 (.018)	-.024
Woman justified in asking husband/partner to use a condom if he has an STD	-.018 (.034)	-.016	-.011 (.034)	-.010
Reason for not having sex: Husband/partner has STD	-.003 (.027)	-.004	-.004 (.026)	-.005
<u>Self-Efficacy††</u>				
Beating of wife/partner justified if she refuses to engage in sex	.000 (.033)	.000	-.008 (.032)	-.007
Final say in determining what to do with money woman earns	-.025 (.015) *	-.049	-.023 (.015)	-.046
<u>Subjective Norms</u>				
Married/cohabiting men should only have sex with their wives/partners	-.006 (.018)	-.009	.002 (.018)	.004
Most married/cohabiting men have sex only with their wives/partners	-.040 (.015) ***	-.080	-.037 (.015) **	-.072
<u>Control Variables</u>				
Current age - respondent			-.008 (.002) ****	-.129
Highest educational level			.002 (.017)	.005
Wealth index			-.005 (.013)	-.014
Type of place of residence			-.018 (.032)	-.020
Times away from home in last 12 months			.002 (.001)	.042
Number of wives/partners			.303 (.061) ****	.141
(Constant)	.490 (.152) ***		.429 (.188) **	
R-squared	0.025		0.062	
Adjusted R-squared	0.017		0.049	
F	3.043		4.829	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 15: Ordinary Least Squares Regressions of Extra-dyadic Behavior on Combined Models for Namibia

Independent Variables	Combined			
	M1		M2	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
<u>Perceived Susceptibility</u>				
Knows someone who has or died of AIDS	.029 (.014) **	.062	.028 (.013) **	.061
<u>Cues to Action</u>				
Frequency of reading newspaper or magazine	.004 (.014)	.010	-.003 (.017)	-.007
Frequency of listening to radio	-.019 (.015)	-.038	-.013 (.015)	-.026
Frequency of watching television	-.004 (.012)	-.013	-.012 (.014)	-.035
<u>Perceived Severity†</u>				
Husband/partner has right to have sex with another woman	.071 (.023) ***	.092	.075 (.023) ***	.096
<u>Perceived Benefits†</u>				
Reduce chance of AIDS: have 1 sex partner with no other partners	-.069 (.029) **	-.069	-.061 (.029) **	-.061
Can get AIDS by witchcraft or supernatural means	.007 (.020)	.011	.012 (.020)	.018
<u>Perceived Barriers††</u>				
People with AIDS should be ashamed of themselves	-.007 (.018)	-.011	-.015 (.018)	-.026
Woman justified in asking husband/partner to use a condom if he has an STD	-.019 (.035)	-.017	-.011 (.034)	-.010
Reason for not having sex: Husband/partner has STD	-.001 (.027)	-.001	-.001 (.026)	-.002
<u>Self-Efficacy††</u>				
Beating of wife/partner justified if she refuses to engage in sex	-.001 (.033)	-.001	-.008 (.033)	-.008
Final say in determining what to do with money woman earns	-.027 (.015) *	-.053	-.025 (.015)	-.049
<u>Subjective Norms</u>				
Married/cohabiting men should only have sex with their wives/partners	-.007 (.018)	-.012	.002 (.018)	.003
Most married/cohabiting men have sex only with their wives/partners	-.040 (.015) ***	-.078	-.035 (.015) **	-.069
<u>Control Variables</u>				
Current age - respondent			-.008 (.002) ****	-.127
Highest educational level			.004 (.020)	.007
Wealth index			.003 (.015)	.009
Type of place of residence			-.029 (.033)	-.032
Times away from home in last 12 months			.002 (.001)	.040
Number of wives/partners			.299 (.062) ****	.140
(Constant)	.505 (.162) ***		.433 (.194) **	
R-squared	0.031		0.067	
Adjusted R-squared	0.019		0.051	
F	2.623		4.119	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 16: Ordinary Least Squares Regressions of Extra-dyadic Behavior on HBM, Control Variables, and Interactions for Namibia

Independent Variables	HBM			
	M3		M4	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
<u>Perceived Susceptibility</u>				
Knows someone who has or died of AIDS	.032 (.013) **	.070	.032 (.013) **	.069
<u>Cues to Action</u>				
Frequency of reading newspaper or magazine	-.004 (.017)	-.011	-.004 (.017)	-.011
Frequency of listening to radio	-.011 (.015)	-.021	-.009 (.015)	-.019
Frequency of watching television	-.012 (.014)	-.034	-.013 (.014)	-.037
<u>Perceived Severity†</u>				
Husband/partner has right to have sex with another woman	.077 (.023) ****	.098	.078 (.023) ****	.100
<u>Perceived Benefits†</u>				
Reduce chance of AIDS: have 1 sex partner with no other partners	-.060 (.029) **	-.060	-.064 (.029) **	-.064
Can get AIDS by witchcraft or supernatural means	.006 (.020)	.010	.012 (.020)	.017
<u>Perceived Barriers††</u>				
People with AIDS should be ashamed of themselves	-.021 (.018)	-.036	-.022 (.018)	-.036
Woman justified in asking husband/partner to use a condom if he has an STD	-.009 (.034)	-.008	.149 (.085) *	.135
Reason for not having sex: Husband/partner has STD	.004 (.026)	.005	.188 (.098) *	.219
<u>Self-Efficacy††</u>				
Beating of wife/partner justified if she refuses to engage in sex	-.010 (.033)	-.009	-.010 (.033)	-.009
Final say in determining what to do with money woman earns	-.024 (.015)	-.047	-.026 (.015) *	-.050
<u>Subjective Norms</u>				
Married/cohabiting men should only have sex with their wives/partners				
Most married/cohabiting men have sex only with their wives/partners				
<u>Control Variables</u>				
Current age - respondent	-.008 (.002) ****	-.128	-.008 (.002) ****	-.127
Highest educational level	.006 (.019)	.011	.005 (.019)	.010
Wealth index	.010 (.015)	.029	.001 (.015)	.002
Type of place of residence	-.033 (.033)	-.036	-.031 (.033)	-.034
Times away from home in last 12 months	.015 (.005) ***	.340	.002 (.001)	.039
Number of wives/partners	.307 (.061) ****	.143	.312 (.061) ****	.145
<u>Interaction Terms</u>				
Wealth Index * Times away from home in last 12 months	-.003 (.001)	-.318		
Woman justified to ask husband/partner to use condom if he has STD *			-.070 (.035)	-.301
Reason for not having sex: Husband/partner has STD (Constant)	.319 (.186) *		-.050 (.272)	
R-squared	0.068		0.065	
Adjusted R-squared	0.053		0.050	
F	4.446		4.261	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 17: Ordinary Least Squares Regressions of Extra-dyadic Behavior on TPB, Control Variables, and Interactions for Namibia

Independent Variables	TPB			
	M3 Unstandardized Coefficients	Standardized Coefficients	M4 Unstandardized Coefficients	Standardized Coefficients
<u>Perceived Susceptibility</u>				
Knows someone who has or died of AIDS				
<u>Cues to Action</u>				
Frequency of reading newspaper or magazine				
Frequency of listening to radio				
Frequency of watching television				
<u>Perceived Severity†</u>				
Husband/partner has right to have sex with another woman	.075 (.023) ***	.096	.076 (.023) ****	.098
<u>Perceived Benefits†</u>				
Reduce chance of AIDS: have 1 sex partner with no other partners	-.062 (.029) **	-.062	-.065 (.029) **	-.065
Can get AIDS by witchcraft or supernatural means	.005 (.020)	.007	.010 (.020)	.015
<u>Perceived Barriers††</u>				
People with AIDS should be ashamed of themselves				
Woman justified in asking husband/partner to use a condom if he has an STD	-.013 (.034)	-.012	.149 (.085) *	.135
Reason for not having sex: Husband/partner has STD	-.002 (.026)	-.002	.189 (.098) *	.219
<u>Self-Efficacy††</u>				
Beating of wife/partner justified if she refuses to engage in sex	-.011 (.032)	-.010	-.011 (.032)	-.010
Final say in determining what to do with money woman earns	-.022 (.015)	-.044	-.024 (.015)	-.047
<u>Subjective Norms</u>				
Married/cohabiting men should only have sex with their wives/partners	.003 (.018)	.005	.002 (.018)	.003
Most married/cohabiting men have sex only with their wives/partners	-.035 (.015) **	-.068	-.037 (.015) **	-.073
<u>Control Variables</u>				
Current age - respondent	-.008 (.002) ****	-.130	-.008 (.002) ****	-.128
Highest educational level	.003 (.017)	.007	.003 (.017)	.006
Wealth index	.004 (.014)	.010	-.006 (.013)	-.017
Type of place of residence	-.021 (.031)	-.024	-.019 (.031)	-.021
Times away from home in last 12 months	.015 (.005) ***	.327	.002 (.001)	.041
Number of wives/partners	.303 (.061) ****	.141	.307 (.061) ****	.143
<u>Intercation Terms</u>				
Wealth Index * Times away from home in last 12 months	-.003 (.001)	-.302		
Woman justified to ask husband/partner to use condom if he has STD *			-.072 (.035)	-.309
Reason for not having sex: Husband/partner has STD (Constant)	.402 (.188) **		.030 (.271)	
R-squared	0.067		0.065	
Adjusted R-squared	0.054		0.052	
F	4.950		4.803	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 18: Ordinary Least Squares Regressions of Extra-dyadic Behavior on Combined Models, Control Variables, and Interactions for Namibia

Independent Variables	Combined			
	M3		M4	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
<u>Perceived Susceptibility</u>				
Knows someone who has or died of AIDS	.028 (.013) **	.062	.028 (.013) **	.061
<u>Cues to Action</u>				
Frequency of reading newspaper or magazine	-.002 (.017)	-.006	-.002 (.017)	-.005
Frequency of listening to radio	-.013 (.015)	-.027	-.012 (.015)	-.025
Frequency of watching television	-.011 (.014)	-.032	-.012 (.014)	-.034
<u>Perceived Severity†</u>				
Husband/partner has right to have sex with another woman	.074 (.023) ***	.095	.075 (.023) ***	.097
<u>Perceived Benefits†</u>				
Reduce chance of AIDS: have 1 sex partner with no other partners	-.060 (.029) **	-.060	-.064 (.029) **	-.064
Can get AIDS by witchcraft or supernatural means	.009 (.020)	.014	.014 (.020)	.021
<u>Perceived Barriers††</u>				
People with AIDS should be ashamed of themselves				
Woman justified in asking husband/partner to use a condom if he has an STD	-.014 (.034)	-.012	.147 (.087) *	.132
Reason for not having sex: Husband/partner has STD	.001 (.026)	.001	.190 (.099) *	.219
<u>Self-Efficacy††</u>				
Beating of wife/partner justified if she refuses to engage in sex	-.011 (.033)	-.010	-.011 (.033)	-.010
Final say in determining what to do with money woman earns	-.024 (.015)	-.047	-.026 (.015) *	-.050
<u>Subjective Norms</u>				
Married/cohabiting men should only have sex with their wives/partners	.002 (.018)	.004	.001 (.018)	.002
Most married/cohabiting men have sex only with their wives/partners	-.033 (.015) **	-.065	-.035 (.015) **	-.070
<u>Control Variables</u>				
Current age - respondent	-.008 (.002) ****	-.128	-.008 (.002) ****	-.127
Highest educational level	.004 (.020)	.008	.004 (.020)	.007
Wealth index	.011 (.016)	.032	.002 (.015)	.005
Type of place of residence	-.031 (.033)	-.034	-.028 (.033)	-.031
Times away from home in last 12 months	.015 (.005) ***	.327	.002 (.001)	.039
Number of wives/partners	.300 (.061) ****	.140	.303 (.062) ****	.141
<u>Intercation Terms</u>				
Wealth Index * Times away from home in last 12 months	-.003 (.001)	-.304		
Woman justified to ask husband/partner to use condom if he has STD *			-.071 (.036)	-.304
Reason for not having sex: Husband/partner has STD (Constant)	.406 (.193) **		.033 (.279)	
R-squared	0.072		0.070	
Adjusted R-squared	0.055		0.053	
F	4.254		4.122	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 19: Ordinary Least Squares Regressions of Extra-dyadic Behavior on HBM and for All Countries Together

Independent Variables	HBM			
	M1	M1	M2	M2
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility				
Knows someone who has or died of AIDS	.040 (.015) ***	.024	.031 (.016) **	.019
Cues to Action				
Frequency of reading newspaper or magazine	-.002 (.016)	-.001	-.014 (.018)	-.009
Frequency of listening to radio	.006 (.015)	.004	.005 (.015)	.003
Frequency of watching television	.046 (.014) ***	.036	.035 (.017) **	.027
Perceived Severity†				
Husband/partner has right to have sex with another woman	.321 (.028) ****	.105	.318 (.028) ****	.104
Perceived Benefits†				
Reduce chance of AIDS: have 1 sex partner with no other partners	.007 (.029)	.002	.007 (.029)	.002
Can get AIDS by witchcraft or supernatural means	.022 (.020)	.010	.026 (.020)	.012
Perceived Barriers††				
People with AIDS should be ashamed of themselves				
Woman justified in asking husband/partner to use a condom if he has an STD	.027 (.025)	.010	.019 (.025)	.008
Reason for not having sex: Husband/partner has STD	-.001 (.027)	-.001	.002 (.027)	.001
Self-Efficacy††				
Beating of wife/partner justified if she refuses to engage in sex	-.031 (.022)	-.013	-.037 (.023)	-.015
Final say in determining what to do with money woman earns	-.014 (.012)	-.011	-.011 (.012)	-.008
Subjective Norms				
Married/cohabiting men should only have sex with their wives/partners				
Most married/cohabiting men have sex only with their wives/partners				
Control Variables				
Current age - respondent			-.006 (.002) ****	-.035
Highest educational level			.032 (.021)	.019
Wealth index			.001 (.017)	.001
Type of place of residence			-.015 (.039)	-.005
Times away from home in last 12 months			.005 (.002) **	.024
Number of wives/partners			.071 (.034) **	.020
Country			-.031 (.026)	-.011
(Constant)	-.437 (.139) ***		-.237 (.180)	
R-squared	0.013		0.016	
Adjusted R-squared	0.012		0.014	
F	13.966		10.309	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 20: Ordinary Least Squares Regressions of Extra-dyadic Behavior on TPB and for All Countries Together

Independent Variables	TPB			
	M1		M2	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility				
Knows someone who has or died of AIDS				
Cues to Action				
Frequency of reading newspaper or magazine				
Frequency of listening to radio				
Frequency of watching television				
Perceived Severity†				
Husband/partner has right to have sex with another woman	.306 (.027) ****	.101	.301 (.027) ****	.100
Perceived Benefits†				
Reduce chance of AIDS: have 1 sex partner with no other partners	.022 (.028)	.007	.019 (.028)	.006
Can get AIDS by witchcraft or supernatural means	.014 (.020)	.006	.022 (.020)	.010
Perceived Barriers††				
People with AIDS should be ashamed of themselves				
Woman justified in asking husband/partner to use a condom if he has an STD	.034 (.025)	.013	.021 (.025)	.008
Reason for not having sex: Husband/partner has STD	.004 (.027)	.002	.008 (.027)	.003
Self-Efficacy††				
Beating of wife/partner justified if she refuses to engage in sex	-.038 (.022) *	-.016	-.039 (.022) *	-.016
Final say in determining what to do with money woman earns	-.008 (.012)	-.006	-.009 (.012)	-.006
Subjective Norms				
Married/cohabiting men should only have sex with their wives/partners	-.089 (.025) ****	-.032	-.092 (.026) ****	-.032
Most married/cohabiting men have sex only with their wives/partners	-.064 (.016) ****	-.037	-.056 (.016) ****	-.032
Control Variables				
Current age - respondent			-.006 (.002) ****	-.037
Highest educational level			.031 (.018) *	.019
Wealth index			.012 (.015)	.011
Type of place of residence			-.020 (.038)	-.006
Times away from home in last 12 months			.005 (.002)	.024
Number of wives/partners			.074 (.034) **	.021
Country			-.034 (.025)	-.013
(Constant)	.067 (.145)		.184 (.188)	
R-squared	0.014		0.017	
Adjusted R-squared	0.013		0.015	
F	17.420		12.501	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 21: Ordinary Least Squares Regressions of Extra-dyadic Behavior on Combined Models for All Countries Together

Independent Variables	Combined			
	M1 Unstandardized Coefficients	Standardized Coefficients	M2 Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility				
Knows someone who has or died of AIDS	.039 (.015) **	.023	.031 (.016) **	.018
Cues to Action				
Frequency of reading newspaper or magazine	-.005 (.016)	-.003	-.014 (.018)	-.009
Frequency of listening to radio	.006 (.015)	.004	.005 (.015)	.003
Frequency of watching television	.044 (.014) ***	.034	.034 (.017) **	.027
Perceived Severity†				
Husband/partner has right to have sex with another woman	.308 (.028) ****	.100	.305 (.028) ****	.100
Perceived Benefits†				
Reduce chance of AIDS: have 1 sex partner with no other partners	.013 (.029)	.004	.013 (.029)	.004
Can get AIDS by witchcraft or supernatural means	.019 (.020)	.009	.022 (.020)	.010
Perceived Barriers††				
People with AIDS should be ashamed of themselves				
Woman justified in asking husband/partner to use a condom if he has an STD	.025 (.025)	.010	.019 (.025)	.007
Reason for not having sex: Husband/partner has STD	.005 (.027)	.002	.009 (.027)	.003
Self-Efficacy††				
Beating of wife/partner justified if she refuses to engage in sex	-.031 (.022)	-.013	-.037 (.023) *	-.015
Final say in determining what to do with money woman earns	-.014 (.012)	-.010	-.011 (.012)	-.008
Subjective Norms				
Married/cohabiting men should only have sex with their wives/partners	-.091 (.026) ****	-.032	-.093 (.026) ****	-.033
Most married/cohabiting men have sex only with their wives/partners	-.056 (.016) ****	-.032	-.053 (.016) ***	-.030
Control Variables				
Current age - respondent			-.006 (.002) ****	-.035
Highest educational level			.026 (.021)	.016
Wealth index			.000 (.017)	.000
Type of place of residence			-.016 (.039)	-.005
Times away from home in last 12 months			.005 (.002) **	.024
Number of wives/partners			.075 (.034) **	.021
Country			-.029 (.026)	-.011
(Constant)	-.091 (.157)		.108 (.195)	
R-squared	0.015		0.018	
Adjusted R-squared	0.014		0.016	
F	13.803		10.498	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 22: Ordinary Least Squares Regressions of Extra-dyadic Behavior on HBM, Control Variables, and Interactions for All Countries Together

Independent Variables	HBM					
	M3		M4		M5	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility						
Knows someone who has or died of AIDS	.031 (.016) **	.018	.031 (.016) **	.018	.032 (.016) **	.019
Cues to Action						
Frequency of reading newspaper or magazine	-.013 (.018)	-.009	-.013 (.018)	-.009	-.012 (.018)	-.008
Frequency of listening to radio	.004 (.015)	.003	.004 (.015)	.003	.005 (.015)	.003
Frequency of watching television	.035 (.017) **	.027	.034 (.017) **	.027	.035 (.017) **	.028
Perceived Severity†						
Husband/partner has right to have sex with another woman	.012 (.125)	.004	-.061 (.125)	-.020	.317 (.028) ****	.104
Perceived Benefits†						
Reduce chance of AIDS: have 1 sex partner with no other partners	.006 (.029)	.002	.007 (.029)	.002	.008 (.029)	.002
Can get AIDS by witchcraft or supernatural	.026 (.020)	.012	.026 (.020)	.012	.026 (.020)	.012
Perceived Barriers††						
People with AIDS should be ashamed of themselves	-.008 (.016)	-.005	-.008 (.016)	-.005	-.008 (.016)	-.005
Woman justified in asking husband/partner to use a condom if he has an STD	.020 (.025)	.008	-.140 (.057) **	-.054	.019 (.025)	.007
Reason for not having sex: Husband/partner has STD	-.130 (.059) **	-.047	.001 (.027)	.000	.001 (.027)	.001
Self-Efficacy††						
Beating of wife/partner justified if she refuses to engage in sex	-.037 (.023)	-.015	-.036 (.023)	-.015	-.037 (.023)	-.015
Final say in determining what to do with money woman earns	-.011 (.012)	-.008	-.011 (.012)	-.008	-.011 (.012)	-.009
Subjective Norms						
Married/cohabiting men should only have sex with their wives/partners						
Most married/cohabiting men have sex only with their wives/partners						
Control Variables						
Current age - respondent	-.006 (.002) ****	-.035	-.006 (.002) ****	-.036	-.006 (.002) ****	-.035
Highest educational level	.032 (.021)	.019	.033 (.021)	.020	.031 (.021)	.019
Wealth index	.001 (.017)	.001	.001 (.017)	.001	-.059 (.034) *	-.052
Type of place of residence	-.016 (.039)	-.005	-.015 (.039)	-.004	-.018 (.039)	-.005
Times away from home in last 12 months	.005 (.002) **	.023	.005 (.002) **	.023	.005 (.002) **	.023
Number of wives/partners	.070 (.034) **	.019	.072 (.034) **	.020	-.066 (.076)	-.018
Country	-.031 (.026)	-.011	-.030 (.026)	-.011	-.031 (.026)	-.011
Intercation Terms						
Husband/partner has right to have sex with another woman * Woman justified to ask husband/partner to use condom if he has STD	.110 (.044) **	.112				
Husband has right to have sex with another woman * Reason for not having sex: Husband/partner has STD			.137 (.044) ***	.141		
Number of wives/partners * Wealth index					.052 (.026) **	.063
Married/cohabiting men should only have sex with their wives/partners * Most married/cohabiting men only have sex with (Constant)	.132 (.232)		.196 (.228)		-.070 (.198)	
R-squared	0.016		0.016		0.016	
Adjusted R-squared	0.015		0.015		0.014	
F	10.113		10.282		9.995	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 23: Ordinary Least Squares Regressions of Extra-dyadic Behavior on TPB, Control Variables, and Interactions for All Countries Together

Independent Variables	TPB							
	M3		M4		M5		M6	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility								
Knows someone who has or died of AIDS								
Cues to Action								
Frequency of reading newspaper or magazine								
Frequency of listening to radio								
Frequency of watching television								
Perceived Severity†								
Husband/partner has right to have sex with another woman	.001 (.123)	.000	-.062 (.124)	-.020	.300 (.027) ****	.099	.300 (.027) ****	.099
Perceived Benefits†								
Reduce chance of AIDS: have 1 sex partner with no other partners	.018 (.028)	.006	.019 (.028)	.006	.020 (.028)	.006	.022 (.028)	.007
Can get AIDS by witchcraft or supernatural	.022 (.020)	.010	.023 (.020)	.010	.022 (.020)	.010	.022 (.020)	.010
Perceived Barriers††								
People with AIDS should be ashamed of themselves	-.004 (.016)	-.002	-.004 (.016)	-.002	-.004 (.016)	-.002	-.004 (.016)	-.003
Woman justified in asking husband/partner to use a condom if he has an STD	.021 (.025)	.008	-.131 (.056) **	-.051	.020 (.025)	.008	.018 (.025)	.007
Reason for not having sex: Husband/partner has STD	-.122 (.058) **	-.044	.007 (.027)	.002	.007 (.027)	.003	.004 (.027)	.002
Self-Efficacy††								
Beating of wife/partner justified if she refuses to engage in sex	-.039 (.022) *	-.016	-.038 (.022) *	-.016	-.038 (.022) *	-.016	-.041 (.022) *	-.017
Final say in determining what to do with money woman earns	-.008 (.012)	-.006	-.008 (.012)	-.006	-.009 (.012)	-.007	-.009 (.012)	-.007
Subjective Norms								
Married/cohabiting men should only have sex with their wives/partners	-.092 (.026) ****	-.032	-.091 (.026) ****	-.032	-.092 (.026) ****	-.032	-.212 (.054) ****	-.075
Most married/cohabiting men have sex only with their wives/partners	-.055 (.016) ****	-.032	-.055 (.016) ****	-.032	-.056 (.016) ****	-.032	-.249 (.078) ***	-.144
Control Variables								
Current age - respondent	-.006 (.002) ****	-.037	-.006 (.002) ****	-.037	-.006 (.002) ****	-.037	-.006 (.002) ****	-.037
Highest educational level	.032 (.018) *	.019	.032 (.018) *	.019	.032 (.018) *	.019	.033 (.018) *	.020
Wealth index	.013 (.015)	.011	.013 (.015)	.011	-.046 (.033)	-.041	.013 (.015)	.011
Type of place of residence	-.021 (.038)	-.006	-.019 (.038)	-.006	-.023 (.038)	-.007	-.019 (.038)	-.006
Times away from home in last 12 months	.005 (.002) ***	.024	.005 (.002) ***	.024	.005 (.002) ***	.024	.005 (.002) ***	.024
Number of wives/partners	.073 (.034) **	.020	.075 (.034) **	.021	-.061 (.075)	-.017	.074 (.034) **	.021
Country	-.034 (.025)	-.013	-.033 (.025)	-.012	-.034 (.025)	-.012	-.037 (.025)	-.014
Interaction Terms								
Husband/partner has right to have sex with another woman * Woman justified to ask husband/partner to use condom if he has STD	.108 (.043) **	.111						
Husband has right to have sex with another woman * Reason for not having sex: Husband/partner has STD			.131 (.044) ***	.137				
Number of wives/partners * Wealth index					.051 (.026) **	.062		
Married/cohabiting men should only have sex with their wives/partners * Most married/cohabiting men only have sex with (Constant)							.069 (.027) **	.123
	.545 (.237) **		.594 (.232) **		.351 (.205) *		.535 (.234) **	
R-squared	0.017		0.017		0.017		0.017	
Adjusted R-squared	0.016		0.016		0.016		0.016	
F	12.159		12.316		12.032		12.163	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control

Table 24: Ordinary Least Squares Regressions of Extra-dyadic Behavior on Combined Models, Control Variables, and Interactions for All Countries Together

Independent Variables	Combined							
	M3		M4		M5		M6	
	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients	Unstandardized Coefficients	Standardized Coefficients
Perceived Susceptibility								
Knows someone who has or died of AIDS	.031 (.016) **	.018	.031 (.016) **	.018	.032 (.016) **	.019	.030 (.016) *	.018
Cues to Action								
Frequency of reading newspaper or magazine	-.014 (.018)	-.009	-.014 (.018)	-.009	-.013 (.018)	-.009	-.016 (.018)	-.010
Frequency of listening to radio	.005 (.015)	.003	.004 (.015)	.003	.005 (.015)	.003	.005 (.015)	.003
Frequency of watching television	.034 (.017) **	.027	.033 (.017) **	.026	.035 (.017) **	.027	.034 (.017) **	.026
Perceived Severity†								
Husband/partner has right to have sex with another woman	.003 (.126)	.001	-.060 (.126)	-.020	.304 (.028) ****	.099	.304 (.028) ****	.099
Perceived Benefits†								
Reduce chance of AIDS: have 1 sex partner with no other partners	.011 (.029)	.004	.012 (.029)	.004	.013 (.029)	.004	.015 (.029)	.005
Can get AIDS by witchcraft or supernatural	.022 (.020)	.010	.023 (.020)	.010	.022 (.020)	.010	.022 (.020)	.010
Perceived Barriers††								
People with AIDS should be ashamed of themselves	-.003 (.016)	-.002	-.003 (.016)	-.002	-.003 (.016)	-.002	-.004 (.016)	-.002
Woman justified in asking husband/partner to use a condom if he has an STD	.020 (.025)	.008	-.134 (.057) **	-.052	.018 (.025)	.007	.016 (.025)	.006
Reason for not having sex: Husband/partner has STD	-.122 (.059) **	-.044	.008 (.027)	.003	.008 (.027)	.003	.005 (.027)	.002
Self-Efficacy††								
Beating of wife/partner justified if she refuses to engage in sex	-.037 (.023) *	-.015	-.036 (.023)	-.015	-.037 (.023) *	-.015	-.040 (.023) *	-.016
Final say in determining what to do with money woman earns	-.010 (.012)	-.008	-.010 (.012)	-.008	-.011 (.012)	-.008	-.011 (.012)	-.008
Subjective Norms								
Married/cohabiting men should only have sex with their wives/partners	-.093 (.026) ****	-.033	-.092 (.026) ****	-.032	-.093 (.026) ****	-.033	-.212 (.055) ****	-.074
Most married/cohabiting men have sex only with their wives/partners	-.053 (.016) ***	-.030	-.052 (.016) ***	-.030	-.053 (.016) ***	-.030	-.243 (.079) ***	-.140
Control Variables								
Current age - respondent	-.006 (.002) ****	-.035	-.006 (.002) ****	-.035	-.006 (.002) ****	-.035	-.006 (.002) ****	-.035
Highest educational level	.026 (.021)	.016	.028 (.021)	.016	.026 (.021)	.015	.029 (.021)	.017
Wealth index	.000 (.017)	.000	.000 (.017)	.000	-.061 (.034) *	-.053	.001 (.017)	.001
Type of place of residence	-.017 (.039)	-.005	-.016 (.039)	-.005	-.019 (.039)	-.006	-.016 (.039)	-.005
Times away from home in last 12 months	.005 (.002) **	.024	.005 (.002) **	.023	.005 (.002) **	.023	.005 (.002) **	.023
Number of wives/partners	.075 (.034) **	.021	.077 (.034) **	.021	-.063 (.077)	-.017	.075 (.034) **	.021
Country	-.029 (.026)	-.011	-.028 (.026)	-.010	-.029 (.026)	-.011	-.032 (.026)	-.012
Interaction Terms								
Husband/partner has right to have sex with another woman * Woman justified to ask husband/partner to use condom if he has STD	.109 (.044) **	.110						
Husband has right to have sex with another woman * Reason for not having sex: Husband/partner has STD			.132 (.044) ***	.136				
Number of wives/partners * Wealth index					.052 (.026) **	.063		
Married/cohabiting men should only have sex with their wives/partners * Most married/cohabiting men only have sex with (Constant)	.471 (.244) *		.521 (.239) **		.277 (.212)		.456 (.241) *	
R-squared	0.018		0.018		0.018		0.018	
Adjusted R-squared	0.016		0.017		0.016		0.016	
F	10.300		10.429		10.208		10.299	

* - p<0.10, ** - p<0.05, *** - p<0.01, ****-p<0.001

† - HBM Concepts of Perceived Severity and Perceived Benefits Make Up the TPB Concept of Attitude Towards Behavior

†† - HBM Concepts of Perceived Barriers and Self-Efficacy Make Up the TPB Concept of Perceived Behavioral Control