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Research Report

Religiousness-Spirituality and its Relationship to the Sexual Risk-Taking Behaviour of University Students

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The following research report is submitted in partial fulfilment of the requirements necessary to obtain the degree of Masters in Community-Based Counselling Psychology in the Faculty of Humanities, University of the Witwatersrand, Johannesburg, 2014

Declaration

The author hereby declares that this research report is her own original work entirely, and it has never been submitted as part of any other degree or examination.

_____ _____

Ronel Carver Date

Acknowledgements

There are a number of people I would like to thank, who were of great support during the compilation of this research report. I would like to send my warmest thanks to:

- Dr Lynlee Howard-Payne, my research supervisor, for being an absolute blessing.
- To my family; Kenneth, Arlene, Jessie, Neville, Billy, Aunty Pangi, Aunty Angie, and my nieces and nephew, Phoebe, Caitlin, Gabi and Jonathan. There are no words which could express my gratitude for the love you have all given me.
- To the MACC group and my friends; simply knowing that there was always a compassionate ear to talk to carried me through many disheartening times.
- And lastly, to the Universal Creator, whom some call God, which I know in my heart exists within all things; your unspeakable love, peace, joy, and solitude to which I have returned many times, gives me the fortitude and fearlessness to endure any difficulty.

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Initialisms and Acronyms

AIDS- Acquired Immunodeficiency Syndrome

ARVs- Antiretrovirals

ASRBQ- Adult Sexual Risk Behaviour Questionnaire

BMMRS- Brief Multidimensional Measure of Religiousness-Spirituality

CADRE- Centre for AIDS Development, Research and Evaluation

GBV- Gender-Based Violence

GSA- Government of South Africa

HCT- HIV Counselling and Testing

HIV- Human Immunodeficiency Virus

NIA- National Institute on Aging

PLWH- Persons Living With HIV

PMTCT- Prevention of Mother to Child Transmission

SES- Socio-economic Status

SRH- Sexual and Reproductive Health

STI/STIs- Sexually Transmitted Infection(s)

TPB- Theory of Planned Behaviour

TRA- Theory of Reasoned Action

UN- United Nations

UNICEF- United Nations Children's Fund

USAID- The United States Agency for International Development

WHO- World Health Organisation

Abstract

This study investigates the relationships between religious-spiritual beliefs, values and practices, gender and sexual risk-taking in the young adult university population. Previous research in the field has mainly been conducted in high income countries using limited measures of religiousness as related to health outcomes, which may possibly have low ecological validity for the South African population. This quantitative study utilised a multidimensional measure of religiousness-spirituality to investigate its relationship to sexual risk-taking in the context of concern about South Africa's high rates of unplanned pregnancies, STIs and HIV/AIDS.

Male and female undergraduate students (aged 17-21) completed the Brief Multidimensional Measure of Religiousness-Spirituality (BMMRS) and the Adult Sexual Risk Behaviour Questionnaire (ASRBQ) and the data was explored statistically for relationships. A personal and meaningful connection to one's perceived Creator, strong faith and commitment to carrying over one's religious-spiritual beliefs and values in other areas of one's life, practicing forgiveness of self and others, private religious-spiritual practices, and using one's personal relationship with God as a source of support during difficult times were found to be significantly correlated to lowered sexual risk-taking, although weakly (rho = <0.3, 0.05). Significant differences between men and women were found for Religious-Spiritual History and sexual risk-taking (sexual behaviours and intercourse). These results bear testimony to the richer data that can be gathered using multidimensional measures of religiousness-spirituality, and the significance of psychosocial factors in the enactment of sexual risk-taking behaviours. Recommendations are made regarding the development and implementation of sexual and reproductive health (SRH) prevention and intervention programmes used within the university context, and for young people in South Africa more generally.

Chapter 1: Introduction

Background to the Study

Over the last two decades, sexual and reproductive health (SRH) has drawn greater attention from the Government of South Africa (GSA) and other international organisations, such as the United States Agency for International Development (USAID) and the United Nations (UN), as an urgent socio-political concern in South Africa and other parts of the world (Kelly, Mkhwanazi, Nkhwashu, Rapiti, & Mashale, 2012). The understanding that sexual health and sexual behaviour is critically located within a larger social context, which encompasses (in addition to broader social variables), gender relations and religious and spiritual practices, has also gained greater impetus amongst sexual health researchers (Kelly, et al., 2012). Furthermore, sexual behaviour, religiousness-spirituality, and gender are said to all form part of the intrinsic processes of personal decision-making and intention setting, both correlates of actual behaviour, in the broader context of other important social variables at the interpersonal, community, and social levels of interaction (Arnett, 2000).

Aims and Objectives

In an effort to further examine these processes this study seeks to examine whether or not specific aspects of religiousness-spirituality (beliefs, values and practices) are related to specific aspects of sexual risk-taking behaviour, namely, risky sexual behaviour and sexual intercourse practices for young adults attending university. It is also of interest as to whether these relationships differ on the basis of gender.

For reasons that will be unpacked in the rationale for this study, this investigation also aims to further the theoretical understanding of religion and spirituality as a multidimensional construct that change over time. The hope is that this will allow a greater understanding of the complex nature of religiousness-spirituality, and the therefore, complex effects of this quality on health behaviour.

Furthermore, more broadly, this study also seeks to re-emphasise the importance of SRH within the broader framework of public health and psychosocial well-being. Perhaps the results of this study, whatever they may be, might together with other research, further stress the pivotal nature of psychosocial factors in the development and implementation of public intervention and prevention programmes designed to address sexual risk-taking

behaviours. By examining the role of religiousness-spirituality in the sexual behaviour decision-making processes specific to young adults in the South African context, potentially new information will emerge for consideration, both theoretically and practically, in the development of informed public health intervention and prevention strategies.

Rationale

Sexual risk-taking behaviours have the potential to negatively affect the SRH of people in South Africa, which can further result in psychosocial, economic and political implications for population development. As the following section shows, current statistics regarding the prevalence, incidence and rate of SRH concerns in South Africa, such as the contraction of Sexually Transmitted Infections (STIs), such as the Human Immunodeficiency Virus (HIV) and the development of the Acquired Immunodeficiency Syndrome (AIDS), and unplanned pregnancies, may have negative economic, health and psychosocial consequences for the broader population. This informs the psychosocial and public health relevance and significance of this study.

Epidemiology.

Although the total number of persons living with HIV (PLWH) in South Africa has increased from four million in 2002 to 5.26 million in 2013, the rate of new infections has decreased from 1.26 in 2002 to 0.85 in 2013, and the total percentage of people infected with HIV in the population has decreased from an estimated 11% in 2008 to 10% in 2013 (Statistics South Africa, 2013; Shisana et al., 2009). HIV prevalence has also notably decreased for the age group 15-24, with 14% of this population being infected in 2002 in comparison to 9% in 2013. These drops although positive, are lower than the average international decline of 27% between 2001 and 2011 (UNAIDS, 2012). Moreover, prevalence rates continue to differ significantly for men and women and this difference seems to be increasing. Seventeen percent of women are HIV positive, whereas 16% of men are HIV positive, and this difference has increased from 16% for women and 15% for men in 2002 (Statistics South Africa, 2013).

Overall, life expectancy rates have been increasing for men and women and infant and childhood mortality rates have been decreasing (Statistics South Africa, 2013). Male life expectancy has increased from 50 (2002) to 57.7 years (2013), and female life expectancy

has increased from 55.2 (2002) to 61.4 years (2013) (Statistics South Africa, 2013). Most pointedly, AIDS-related deaths have decreased percentage-wise of total deaths from 40.4% in 2002 to 31.9% in 2013 (Statistics South Africa, 2013). Reductions in HIV incidence and prevalence, and lower AIDS-related deaths and Infant Mortality Rates have been largely attributed to the GSA's HIV prevention and treatment strategies (Kelly, et al., 2012). Some of these have included free HIV counselling and testing (HCT), free access to Antiretrovirals (ARVs), early testing during pregnancy and prevention of mother-to-child transmission (PMTCT), and the free provision of post-rape prophylaxis (Kelly, et al., 2012). However, these prevention and treatment strategies have been critiqued for not sufficiently addressing the individual, interpersonal, community and social drivers of HIV infection, or facilitating effective civil society service organisation partnerships in order to build satisfactory community-level support and preventative strategies (Kelly, et al., 2012).

Therefore, HIV remains a concern for South Africa. Females between the ages of 25-29 are at highest risk of infection, and the observed increase in differences between male and female prevalence is still of due concern (Shisana, et al., 2005). In addition, despite a general reduction in the prevalence of STIs other than HIV and AIDS over the last two decades, some STIs such as Chlamydia and Gonorrhoea have not experienced a decrease since 2003 (Mullick, Watson-Jones, Beksinska, & Mabey, 2005). Furthermore, South Africa seems to be experiencing higher rates of STIs than some other African countries with some approximately 11 million STI cases treated annually (Nunn, et al., 2009; McCormack, Ramjee, & Kamali, 2010).

Another major sexual health concern in South Africa is that of unwanted and unplanned pregnancies, as this tends to indicate a lack of consistent contraceptive use or safer-sex practices that would reduce the risk of pregnancy (Seutlwadi, Peltzer, Mchunu, & Tutshana, 2012). Due to the close association between unprotected peno-vaginal sex and HIV transmission in South Africa, the use of barrier methods is generally a good indicator of the success of HIV-related public health interventions (Seutlwadi, et al., 2012). MacPhail, Pettifor, Pascoe and Rees (2007) conducted a statistically representative study over South Africa's nine provinces and found that 87% of women between the ages of 15-24 have been sexually active in the twelve months preceding the survey, with only 52.2% reportedly using contraceptives. Half of these women reported having been pregnant before, with 65%

reporting their most recent pregnancy as being unwanted and unplanned (MacPhail, et al., 2007).

Moreover, approximately 35% of girls under the age of 19 had previously been pregnant or given birth and this number has since almost doubled by 2008 (Panday, Makiwane, Ranchod, & Letsoalo, 2009; Kaufman, de Wet, & Stadler, 2000). Worryingly, previously significant predictors of contraceptive use, such as previous pregnancy seem to no longer be significant, and being infected with HIV or having multiple concurrent partners does not seem to be related to increased contraceptive use (Seutlwadi, et al., 2012). The concern is that these statistics appear to suggest an increase in sexually risky behaviour in South Africa, particularly for the youth and young women (Seutlwadi, et al., 2012).

The negative consequences associated with poor sexual health outcomes are numerous and demonstrate the critical nature of this public health concern. Early sexual debut and experimentation when unprotected, if leading to an unwanted pregnancy or the contraction of HIV or another STI, can result in discontinued education, lowered employment opportunities, delinquency, sexual permissiveness, poor physical health and community decay, which can lead to long-term economic consequences related to a lack of education, unemployment, poverty, changing labour market conditions and psychosocial decline (Panday, et al., 2009; Kaufman, et al., 2000; Kelly, et al., 2012; Shisana, et al., 2005; 2009).

Other known consequences are increased risk of maternal death, infertility, increased cancer risk, obstetric complications, lowered birth weight, increased infant mortality, lower family income, increased dependency, exacerbated poverty, children growing up in poverty, school dropout and absenteeism, poor academic performance, poor educational attainment, poorer cognitive and academic outcomes for children, community stigma and discrimination, less stimulating and supportive environments for children, which can lead to behavioural problems, delinquency, criminal behaviour and the perpetuation of the cycle of early sexual experimentation and sexually-risky behaviour (Panday, et al., 2009; Kaufman, et al., 2000; Kelly, et al., 2012; Shisana, et al., 2005; 2009).

These conditions in turn tend to support and perpetuate permissive sexual behaviour and sexual risk-taking, and at times it is difficult to delineate whether poverty, poor educational attainment and work opportunities are a cause or a consequence of unwanted pregnancy, HIV or the contraction of a STI, although research has recognised these factors as both a cause and a consequence (Panday, et al., 2009). Thus, SRH can strongly precede numerous physical, economic and psychosocial outcomes and plays a significant role in the general well-being of the country (Panday, et al., 2009). Not only does the country sometimes suffer the loss of a potentially productive citizen, but it also has to bear the cost of their increased burden of care through the provision of social services such as grants, public programmes and other increasingly needed administrative, health, educational and policing services. The Bureau for Economic Research report that GDP growth is estimated to have been 0.5% lower on average per annum, than it might have been if South Africa had not experienced an HIV and AIDS epidemic (The Bureau for Economic Research, 2006).

The information in the preceding section suggests that there may be a number of factors related to sexual risk-taking behaviour and that there are also numerous consequences for the SRH, psychosocial and economic well-being of the citizens of South Africa. One possible psychosocial factor is religiousness-spirituality, which will now be discussed.

Religiousness-spirituality and sexual risk-taking.

Research into religiousness and spirituality is relatively new to the field of psychology. Researchers and mental health practitioners have only begun to investigate religiousness and spirituality and the "the complex functions of it in everyday human experience" (Mattis & Jagers, 2001, p. 4). Many international scholars over the last two decades have commented on the growing field of religion, spirituality and public health, where religion and reproductive health are emerging as a new area of focus (Gaydos, Smith, Hogue, & Blevins, 2010). The field, however, still seems to lack academic cohesiveness, in part due to mixed research outcomes, a lack of greater methodological variety, and the use of varying conceptual definitions (Gaydos, et al., 2010). Perhaps this study could provide some conceptual clarity within the South African context.

The importance of studying religiousness-spirituality gains greater impetus when one considers the diverse religious-spiritual make-up of the South African population. Unfortunately for this research report, the latest (2011) Census did not include any population statistics pertaining to religious affiliation, but, according to the 2001 national population Census, 83.3% of the population say that they subscribe to a mainstream religion (Statistics South Africa, 2001). Of this 83%, 80% are Christian (which encompasses the Zion Christian faith to which 24% of Black Christians subscribe), 1.5% are Muslim, 1.2% Hindu, and 0.2% Jewish, with the remaining 1.4% being undetermined, 0.6% subscribing to other beliefs, and 15% choosing no formalised faith (Statistics South Africa, 2001). The majority of the population appear to be affiliated to some form of Christianity with the remaining individuals subscribing to other faith traditions. Therefore, the South African population appears to consist of a diverse set of religious and spiritual beliefs, values, practices and traditions as a part of their individual and collective identities. Such religious and spiritual beliefs, practices and traditions are thought to impact upon their followers' sexual behaviours.

Existing studies on religiousness, spirituality, health and sexual risk-taking.

International research has historically centred on investigating how religiousness affects health and coping with health-related illnesses (Fetzer Institute/ National Institute on Aging (NIA), 2003). A great number of these studies have shown an association between increased religiousness and improved health outcomes, such as lower rates of mortality, lower blood pressure, and faster recovery from illness, better self-reports of coping with illness, and overall better health (Sloan, Bagiella, & Powell, 1999; Williams & Sternthal, 2007). However, much of this research has been conducted with an aging sample, in part due to their relatively higher concentration of age-related health concerns (Sloan, et al., 1999).

Furthermore, relatively fewer studies were found to include 'religiousness', 'spirituality' *and* 'sexual health' as variables simultaneously. 'Spirituality', which appears infrequently in research as a variable linked to health outcomes, has emerged as a new variable of interest as researchers seek to tease out the conceptual similarities and differences between religiousness and spirituality (Miller & Thoresen, 2003). Currently, its relationship to health and sexual health is still largely unexplored (Miller & Thoresen, 2003).

This study therefore, seeks to investigate the ways in which religiousness-spirituality is related to sexual health and risk-taking, within the South African milieu.

Previous studies examining sexual behaviour and religiousness-spirituality in adolescents and young adults have yielded a number of interesting findings. For example, it has been found that higher spiritual interconnectedness with friends and greater importance of religion is inversely associated with voluntary sexual activity (Holder, et al., 2000). Furthermore, religiousness and the anticipation of negative emotions post-coitus were inversely related to early sexual debut for both males and females (Rostosky, Regnerus, & Wright, 2010; Rostosky, Wilcox, Wright, & Randall, 2004). Dittus, Jaccard and Gordon (1999) found that conservative attitudes related to sex were more likely to result in sexual abstinence, although some studies did not find a correlation between religiousness and lowered sexual risk-taking and less risky sexual attitudes (Baldwin & Baldwin, 1988; Belgrave, Van Oss Marin, & Vhambers, 2000; Thomas & Freeman, 2011). No studies were found that depicted increased sexual risk-taking in relation to religiousness, although some studies suggest that something known as 'embodied spirituality' is associated with more permissive sexual attitudes and a more liberal spiritual interpretation of sexuality (Beckwith & Morrow, 2005; Murray, Ciarrocchi, & Murray-Swank, 2007; Horn, Piedmont, Fialkowski, Wicks, & Hunt, 2005). Yet, despite the majority of studies examined suggesting a significant link between religiousness-spirituality and lowered sexual risk-taking, South African statistics appear to contradict these findings because high rates of sexually transmitted infections and unwanted pregnancies persist despite 83% of the population identifying as religiously affiliated. This might suggest a more complex relationship between religiousness-spirituality and sexual behaviour than previously anticipated.

Even though the majority of studies investigating this area have found some relationship between religiousness-spirituality and sexual behaviour, mixed or negative findings suggest that the relationships between specific aspects of religiousness-spirituality and specifically sexual risk behaviours need to be more closely examined (Gaydos, et al., 2010). Given the seeming contradiction of a self-reportedly religious country experiencing signs of poor SRH, research within this context could reveal some of the perhaps complex mechanisms involved in how religious-spiritual beliefs, values and practices might actually affect sexual risk behaviour and decision-making. Therefore, this study aims to investigate

the relationship between religious-spiritual beliefs, values and practices and sexual risk-taking, both as related to sexual behaviour and sexual intercourse.

Gender and sexual risk-taking.

Additionally, this study will include a focus on whether males and females differ in their relationship to these variables. Prevalence rates for STIs are generally higher for women than for men, especially in the young adult age group, with women being four times more likely to be infected with HIV than men (Shisana, et al., 2005; Sprague, 2008). This seems to be counterintuitive when men have generally been found to have greater intent to engage in risky sexual behaviour, as well as greater overall rates of actual sexual risk-taking behaviour when compared to women (Turchik & Garske, 2008), receive more favourable messages about the acceptability of pre-marital sex from their religious institutions (Eriksson, Lindmark, Axemo, Haddad, & Ahlberg, 2010), and be more forceful and insistent about sex despite of their partner's reluctance or refusal (Ndinda, Uzodike, Chimbwete, & Pool, 2007).

This intriguing contradiction seems to suggest that sexual behaviour patterns are potentially different between the genders, as well as suggesting that sexual behaviour patterns possibly reflect an array of complex social, political and historical processes (Cooper, et al., 2004). Albeit women have been shown to possess greater biological vulnerability to HIV infection (Thege, 2009), this is not believed to solely explain the increasing discrepancies in prevalence data between the genders; it is strongly believed that deep-rooted gender inequalities also need to be seriously considered (Cooper, et al., 2004).

Gender has been found to be a considerable mediating variable between peer-influenced norms and beliefs and sexual risk-taking behaviour amongst adolescents and young adults in South Africa, with males being more susceptible to their peers beliefs and norms around sexual behaviour (Rogan, et al., 2010). With religious and spiritual traditions potentially playing a role in the development and socialisation of moral normative and control beliefs related to sexual behaviour for both males and females (Regnerus, 2005), gender could play a key role in the understanding of the relationship between religiousness-spirituality and sexual risk-taking behaviour, and could possibly influence public health programme development in this area.

South African women seem to bear the greatest burden of sexual and reproductive mortality and infection in part due to their unequal status and position in society, which negatively impacts on their ability to negotiate safer sex practices (Sprague, 2008). Gender-based violence (GBV), patriarchal notions, and the lower socioeconomic status of many women are reasons often cited for women's increased risk for engaging in risky sexual behaviour (Sprague, 2008). In South Africa, women often face increased hardship, discrimination and lowered social status due to their gender, which often places them at greater risk for poor SRH (Thege, 2009). Understanding gender in South Africa is likely to enable a better understanding of how it might impact upon sex relations (Ndinda, et al., 2007).

Religiousness-spirituality and gender.

Some research has also suggested that there seems to be gendered differences in relation to degree of religiousness and spirituality. Rostosky et al. (2004) report that although religion and spirituality seem to play a significant role in the lives of many adolescents, specific religious, spiritual and sexual behaviour beliefs and practices appear to differ depending on their age and gender in addition to other factors such as culture and race. Some studies indicate that religiousness-spirituality tends to decrease in importance as adolescents move into older adolescence and adulthood; however, other studies indicate no significant difference (Rostosky, et al., 2004).

Gender has consistently demonstrated religious, spiritual and sexual behaviour differences. Females seem to report greater religious and spiritual dedication, greater participation in religious services and activities, higher levels of service attendance, and assert more often that religion and spirituality play an role in their daily lives and decision-making (Koenig, McCullough, & Larson, 2001; Beckwith & Morrow, 2005; Johnstone, et al., 2012; Jones, Darroch, & Singh, 2005). In adult women, Koenig et al. (2001) found that they are more likely to take part in religious services, pray when alone, say that being religious is important in their lives, and depend on religion as a coping behaviour during times of personal difficulty than men. Thus, it is possible that religious beliefs and practices are more deeply ingrained into the social and psychological lives of women, and therefore, may confer greater health benefits (Koenig, et al., 2001, p.329).

Therefore, the interaction between religiousness-spirituality, sexual behaviour, and gender appears multifarious and an important area of study.

Theoretical and Practical Value of the Study in Public Health Intervention Development

Locally, most recent research efforts have been aimed at attempting to understand which contexts and interpersonal aspects are related to South Africa's high HIV, AIDS and unwanted/unplanned pregnancies rate, in order to better assist the GSA in trying to develop public health and prevention programmes that would ensure that individuals make safer sexual health choices through education, HIV prevention, and engaging with considered family planning efforts (Kelly, et al., 2012). Although HIV and other STI related research has rapidly increased in South Africa in recent decades (Kelly, et al., 2012), the lack of research within the particular field of religiousness-spirituality and sexual risk-taking seems to suggest that it has remained largely unnoticed within the South African body of research.

Additionally, Sadgrove (2007) highlights the importance of considering the highly contextualised nature of religion, spirituality and sex as part of a great array of other social variables, including tradition, culture, location, socio-economic status (SES), political views, and gender when engaging in programme development. Shisana et al. (2005) suggest that frequently programmes do not take into account that those who they are targeting have been exposed to multiple sources of information about how to conduct their sexual behaviour such as those espoused by political, religious, cultural and traditional leaders, which often leads to programmes where participants are confused about how to actually exercise their knowledge about pregnancy, STIs and HIV prevention within the context of their day-to-day relationships.

Therefore, for those developing programmes that aim to decrease sexual risk-taking behaviour, knowing more about these mitigating factors and utilising this information knowledgably when designing public intervention and prevention programmes would conceivably improve the reach of research and preventative efforts. An investigation into the roles of religiousness-spirituality and gender as potential mitigating or supportive factors seems warranted considering the high number of those subscribing to a religious affiliation in the context of South Africa's high rate of sexual risk-taking behaviour, unwanted pregnancies and HIV infection.

Outline of Thesis

An outline of the following thesis is provided in order to give the reader an idea of the coming chapters and their areas of focus.

Chapter 2 outlines definitions of the study's variables and presents an integrated theoretical framework that incorporates research findings in the field of religiousness-spirituality and sexual risk-taking behaviour. This is achieved by combining the Ecological Model of Health Behaviour with an individual model, the Theory of Planned Behaviour (TPB). This allows for a psychosocial approach that takes into account significant intrapersonal, interpersonal, community and social factors relevant to the decision-making of individuals considering religious-spiritual beliefs, attitudes and norms when intending to engage in sexual risk-taking behaviour. A brief discussion anout religious-spiritual doctrine and sex is also included.

Chapter 3 presents the study's chosen methodology. Its research questions, research design, sampling methods, data collection procedures, chosen instruments, and preliminary data analyses results are outlined in keeping with a quantitative approach. The chapter closes with a presentation of the study's ethical philosophy and how this philosophy was practically implemented at each stage of the study's process.

Chapter 4 provides the results of the data analysis. A Spearman's Rank Order Correlation suggests that significant indirect relationships exist between multiple religious-spiritual beliefs, values and practices and sexual risk-taking behaviour and intercourse. T-tests also reveal significant differences between males and females' Religious-Spiritual History and degrees of sexual risk-taking behaviour and intercourse. These results are discussed in the context of past research in the field, as well as relative to the theoretical framework provided in Chapter 2. Furthermore, serendipitous findings related to the significant differences between the Organisational Religiousness, Negative Religious Support and Private Religious practices of heterosexuals, homosexuals, bisexuals and those unsure of their sexual orientation are discussed.

Chapter 5 highlights how the current study is of benefit to both the international and local research field. Considering the diverse nature of religiousness-spirituality in South Africa, as well as the country's sexual health challenges, this study yielded interesting theoretical and

practice findings, which are presented in this final chapter. For example, this study shows how differential relations between religiousness-spirituality and sexual risk-taking behaviour according to gender could aid efforts to curb South Africa's sexual health epidemic as public health interventions are developed whilst considering the complex personal, social, historical and contextual patterns present in South Africa.

Chapter 2: Theoretical Framework and Literature Review

Introduction

This chapter will firstly define the study's variables. Thereafter, the Ecological Model of Health Behaviour (Sallis, Owen, & Fisher, 2008) is presented and integrated with Ajzen's (1988) Theory of Planned Behaviour (TPB). Ecological levels that are discussed and integrated with relevant research are the intrapersonal, interpersonal, community and social as relevant to sexual risk-taking behaviour. Together this represents An Ecological Model of Sexual Risk-Taking Behaviour. Following a presentation of this study's theoretical framework, a brief discussion is provided on religious-spiritual doctrine and sex. The framework presented will be applied to the study's statistical results in Chapters 4 and 5.

Conceptualising the Variables

Whenever a researcher embarks upon a research project one of the first obstacles is to define his/her variables. This is frequently a complicated task, as it is common to find that psychological concepts rarely contain one universally accurate or accepted definition, but are often more likely to be reflections of the author's frame of reference (Farran, Fitchett, Quiring-Emblem, & Burck, 1989). Despite the difficulties of subjectivity, definitions are required to some extent, and will now be discussed and provided in order to delineate the parameters of study.

Religiousness-spirituality.

Researchers in the field of religiousness-spirituality have to contend with the psychosocial complexity of this construct in an effort to provide universal definitions for these terms, which has, so far, been relatively unfruitful (Lee & Newberg, 2005). The concepts of 'spirituality', 'religiousness' and 'religiosity' are relatively new to the field of psychology, and as a consequence, there is yet an on-going debate about the meaning of these variables as well as how to define them (Unterrainer, Nelson, Collicutt, & Fink, 2012; Day, 2010). One possible reason is that religiousness, and spirituality in particular, are often defined in highly variable ways based on an individual's own subjective experiences with such matters (Lewis, 2008), and are frequently conflated or mistakenly used interchangeably (Lee & Newberg, 2005).

As a result, some researchers decided to meta-analyse the definitions used in a wide sample of studies in an attempt to thematically construct broad definitions of religiousness and spirituality. Day (2010) and Zinnbauer and Pargament (2005) found that across hundreds of studies, thematically, religiousness is mostly linked to a religious affiliation's institutionalised beliefs, practices, rituals, values, and authority structures, whilst being spiritual is most often associated with an individual quest for meaning and experiencing the transcendental, which was sometimes found through institutionalised religion, but more often times through independent practice. Therefore, sometimes religiousness occurs as a separate process from being spiritual; however, sometimes an individual is both spiritual and religious.

Day (2010) and Zinnbauer and Pargament's (2005) studies appear to concur with Farran et al.'s (1989) conceptualisation of religiousness and spirituality. Farran et al. (1989) define spirituality as when an individual identifies him/herself as a spirit or soul in relationship to some deity or transcendent, all-pervading higher power, and that such a relationship generally prioritises a life based on finding and making meaning, which often involves a very personal process of spiritual evolution and relation to a Universal Creator. Religiousness on the other hand, is generally conceptualised as being more closely associated with belonging to a specific religious affiliation, and participating in its associated rituals, ceremonies and practices, which usually occur within a group context and in the context of an institutionalised hierarchy of power; although these factors do vary somewhat depending on the specific religious affiliation (Farran, et al., 1989; Mattis & Jagers, 2001). These conceptualisations have also been applied by Ahrold, Farmer, Trapnell and Meston (2011) in their studies of religiousness-spirituality.

However, due to an emerging consensus about the interrelatedness of religiousness and spirituality, some researchers and theorists have attempted rather, to not continue to try to define religiousness and spirituality separately, but rather to combine them as one dimensional construct (Fetzer Institute/ NIA, 2003; Unterrainer, et al., 2012). The Fetzer Institute initiated a large-scale project by designing a multidimensional measurement scale for religiousness and spirituality, called the Brief Multidimensional Measure of Religiousness-Spirituality (BMMRS). They argue that it is more helpful in health related

research to use a combined scale, since the variables of religiousness and spirituality are so closely intertwined (Fetzer Institute/ NIA, 2003).

The researcher has, thus, chosen to include a measure that is multidimensional, based on the foregoing discussion as to the difficulty of being able to completely separate the construct of religiousness, from spirituality. This approach is fast becoming common practice (Lee & Newberg, 2005; Weaver, Pargament, Flanelly, & Oppenheimer, 2006). As a result, 'religiousness-spirituality' is the term that will be used throughout this report to refer to religiousness and spirituality as a multidimensional construct.

Sexual risk-taking behaviour.

Turchik and Garske (2008), who developed the Sexual Risk Survey, define sexual risk-taking behaviour as any behaviour, act, or intention that has the potential to lead to an unwanted pregnancy, or the contraction of HIV and AIDS, or any other STI (Turchik & Garske, 2008). Modes through which sexual risk-taking behaviours can take place generally involve an exchange of bodily fluids through the mouth, the anus or the male/female sexual organs. However, other behaviours, contexts and intentions such as the intention to have sex, substance use, transactional sex, intimate partner violence and having multiple concurrent partners have all been shown to generally increase the chances that risky sexual behaviour will take place (Turchik & Garske, 2008; Ndinda, et al., 2007). Examples include, but are not limited to having sexual intercourse, anal and/or oral sex with multiple partners (concurrently or simultaneously), with strangers or friends, with individuals whose sexual history and/or disease status are unknown, without barrier protection and/or other contraceptives, or engaging in other risky sexual behaviour such as fisting and using sex toys, which have not been properly cleaned between uses (Turchik & Garske, 2008).

Moreover, sexual behaviours such as kissing, fondling, and engaging in oral sex, as well as other risk-taking behaviours, such as accepting gifts or money in exchange for sex, excessively using drugs or alcohol, high number of sexual partners, and early age of sexual debut generally increase one's chance of engaging in risky sexual behaviour and sex (Turchik & Garske, 2008). Although, in general, the transmission of STIs and the risk of pregnancy are lower when penetration is absent, a percentage of risk still exists when engaging in any form of sexual behaviour (Turchik & Garske, 2008). These behaviours potentially characterise the

behaviour of young adults, as this age group has been said to engage in relatively high rates of sexual risk-taking behaviour, such as having multiple partners, and engaging in unprotected sex, in often risky conditions, such as whilst under the influence of drugs or alcohol, which frequently places them at risk for contracting STIs or having an unwanted pregnancy (Charles & Blum, 2008). GBV such as intimate partner violence has also been described as a sexual risk (Kelly, et al., 2012). In general, utilising a broader framework when assessing sexual risk is thought to be academically salient for the development of clinical and preventative interventions, as it ensures a broader sample of behaviours (Whitaker, Miller, & Clark, 2000). Therefore, this study made every effort to measure sexual risk-taking in the broadest possible terms.

Gender.

Commonly, 'gender' is considered to comprise social aspects, such as behaviours, attitudes, and appearances, as well as biological aspects which denote physical sex (Swarr, 2012). Traditionally, in South Africa, as well as in other parts of the world, gender is considered to exist as an expression of socially constructed, dualistic binaries, being masculine and feminine (Swarr, 2012). However, this concept has been heavily critiqued by social justice and human rights activists for its failure to account for the "multiple forms and contradictions", which gender expresses as it changes over time (Swarr, 2012, p. 12). The measurement and use of gender as one of the study's variables has, however, been used to denote sex, as the variable as a complex construct was not measured as such, due to the difficulties associated with attempting to do so.

Health behaviour.

Health behaviour research is said to have progressed significantly over the last few decades, and is now seen as a valid domain of scientific research and practice (Painter, Borba, Hynes, Mays, & Glanz, 2008; Brannon, Feist, & Updegraff, 2014). What makes the field unique is that it is considered an inter- and multi-disciplinary one, as it cuts across psychological, medical, sociological and public health domains. This confers unique benefits to the study of health behaviour, as the complex interactions between several social and personal systems which directly influence and are influenced by specific health behaviours are acknowledged. Brannon et al. (2014) define health behaviour as a set of personal attributes such as beliefs, expectations, motives, values, perceptions, and other cognitive

elements together with personality characteristics, including affective and emotional states and traits that together inform an individual's actions and habits that relate to health maintenance, to health restoration and to health improvement.

This definition highlights that an individual's perceptions, thoughts, feelings and behaviours related to their health status, deterioration, improvement, recovery or avoidance of illness are central to the conceptualisation of health behaviour. Although this definition situates itself paradigmatically as coming from a 'personal' perspective, it is useful to acknowledge that one's personal cognitive, psychological and affective states and behaviours are often also closely intertwined with one's social-cultural norms, values and practices (Brannon, et al., 2014). The actions of groups, communities, and organisations, such as government, non-profit organisations and other community structures can also affect the health status of a community or population (Brannon, et al., 2014). The increasingly complex conceptualisation of behaviour allows for the understanding that a number of protective and risk factors can combine to affect individual resilience or risk (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995).

Accordingly, this study will be seeking to make its theoretical framework amenable to conceptualising sexual health behaviour as a product of bi-directional interactions between personal and social dimensions.

The Ecological Model of Health Behaviour

In keeping with these definitions and conceptualisations, this study adopts the Ecological Model of Health Behaviour as the theoretical framework with which to interpret the data gathered. This framework recognises multiple levels of influence on health behaviour such as those which are individual, interpersonal, communal, and social (Sallis, et al., 2008). The Ecological Model of Health Behaviour has been shown to be one of the most effective strategies for conceptualising health behaviour research as it encourages multi-level interventions, which generally increase the effectiveness of preventative efforts (Sallis, et al., 2008), making it of increased value to this study.

Having conceptualised the study's fundamental variables, a theoretical framework within which to engage with the relationship between religiousness-spirituality, sexual risk-taking, and gender is now presented. Ecological models evolved from a number of

intersections between the behavioural sciences and public health, as theories and research began to demonstrate the link between the social environment and the development of the individual's thoughts, feelings and behaviours through the process of social learning and socialisation (Sallis, et al., 2008). Central to the Ecological Model of Health Behaviour is that because behaviour arises from the interaction between the individual and his/her broader environmental influences, it is necessary to conduct research to demonstrate how these interactions produce behaviours so that effective programmes can be developed which target both individual and environmental factors (Sallis, et al., 2008).

Another fundamental emphasis within the Ecological Model of Health Behaviour is the proposition that although individually-focused models of health behaviour are indeed useful and necessary for understanding how human health can be improved, community and social factors are equally as important; thus, health behaviour models that can incorporate individual, social and community factors are of increased value. The use of a combination of models is often seen as a way to more effectively and holistically tackle sometimes complex health issues at multiple levels of intervention (Brewer & Rimer, 2008).

In Bronfenbrenner's (1977) original article about the Ecological Model, *Toward an Experimental Ecology of Human Development*, he describes the ecological environment as consisting of four nested ecological structures, each existing in bi-directional relation to the other systems. These four ecological structures are known as the microsystem, the mesosystem, the exosystem and the macrosystem. Bronfenbrenner (1979) later added in the chronosystem in order to acknowledge that all social interaction takes place in a specific historical time that changes dynamically in accordance with changes in society as a whole (Leonard, 2011). The Ecological Model lends itself well to the multidimensional definition of concepts as it allows for the recognition that meaning changes over time as society changes, making it particularly amenable for use in this study where religiousness-spirituality is measured multidimensionally.

A microsystem consists of an immediate setting in which the developing individual plays certain roles (son, student, aunt etcetera) and performs particular activities; the immediate setting and the individual interact so as to create specific outcomes (Bronfenbrenner, 1977). Examples of microsystemic settings are home, school and work and

so forth. The mesosystem contains the interactions that occur between specific microsystems; for example, the interrelations between home and school, between home and work, or church and home (Bronfenbrenner, 1977). The exosystem encompasses a range of relatively larger social structures that may not directly contain the individual, but that have the power to directly impact upon an individual's micro- and meso-systems. Examples of such structures are local non-governmental organisations, transportation services, consumer services and goods, the media and the labour market (Bronfenbrenner, 1977).

And finally, the macrosystem is said to contain a specific society's 'blueprint', that is, their ideologies, paradigms, laws, regulations and rules, which are often made real through their expression in customs, rituals, social norms, economic, political, legal and educational systems. The macrosystem may exist in documented forms such as in laws or policies, but often it is carried implicitly within the minds of individual members of society (Bronfenbrenner, 1977).

Bronfenbrenner's (1977) Ecological Model stipulates clearly that the model is concerned with units of interaction between individuals and systems and not with the intrapsychic or internal workings of the individual. Its basic unit of analysis thus begins at the interpersonal level of interaction. In order to provide an even broader framework with which to work with, many other models have applied Bronfenbrenner's (1977) Ecological Model to health behaviour in particular and have also included intrapersonal factors related to health behaviour (Sallis, et al., 2008). This study adopts a similar approach and seeks to incorporate known factors related to sexual risk-taking behaviour at the intrapersonal, interpersonal, community and social levels. A new model, called An Ecological Model of Sexual Risk-Taking Behaviour is now presented.

An Ecological Model of Sexual Risk-Taking Behaviour

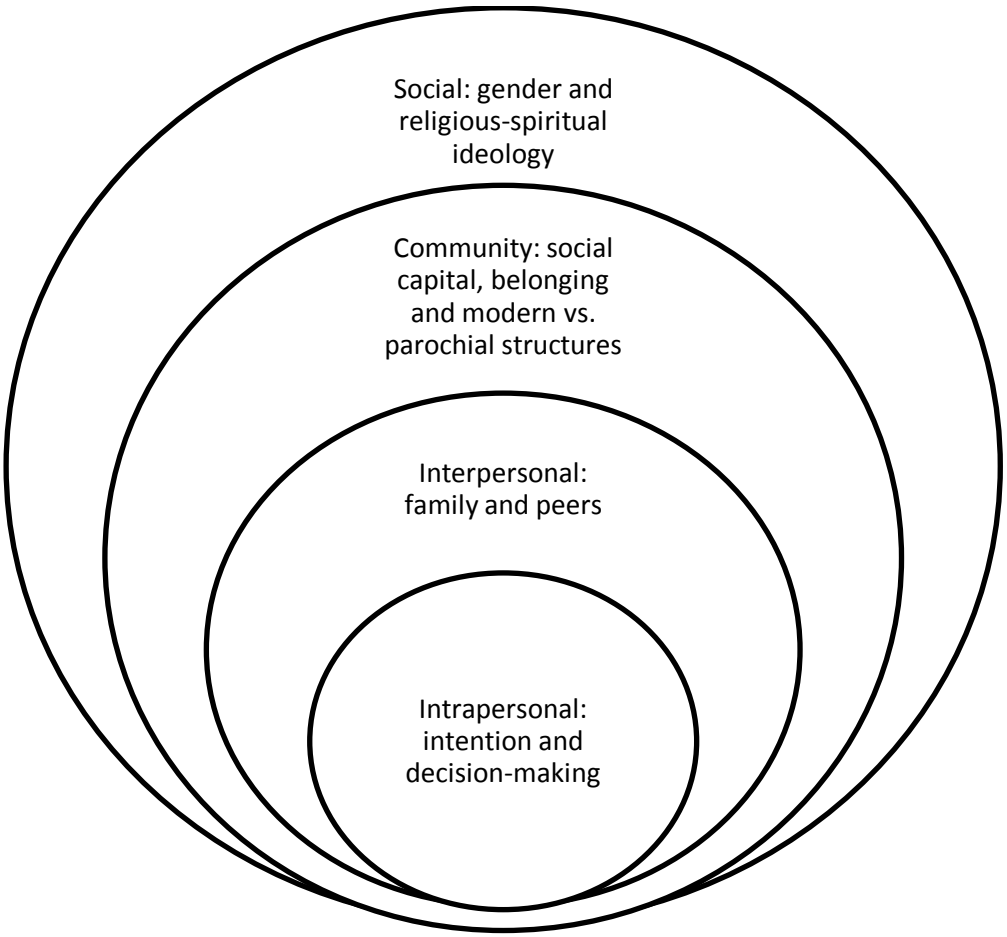


Figure 1: An Ecological Model of Sexual Risk-Taking Behaviour.

Combining Intrapersonal factors with broader factors.

An Ecological Model of Sexual Health Behaviour that recognises the importance of intrapersonal (intention and decision-making), interpersonal (peer and family relationships), community (social capital, belonging and religious-spiritual community structures) and social factors (gender and religious-spiritual ideologies) in relation to religiousness-spirituality, sexual risk-taking and gender is now outlined (see **Figure 1**).

Intrapersonal factors, as shown at the centre of **Figure 1,** are those factors that impact directly on the psychology of the individual (Rimer, 2008). Amongst these factors are biological factors like genetic pre-disposition, personal health and illness (physical and psychological current and past), psychological factors like self-identity, intention, decision-making, cognitive style, personality, personal history, and demographic factors like age, sex, race, and ethnicity (Sallis, et al., 2008; Rimer, 2008). The consideration of individual factors

is central to the understanding of health behaviour and the development of effective interventions in the effort to change or maintain such behaviours. There are a wide variety of models that focus on individual factors (the Health Belief Model, the Theory of Planned Behaviour, the Integrated Behavioural Model, the Transtheoretical Model and the Precaution Adoption Process Model, amongst dozens of others; see Rimer, 2008 for more details) and they are often combined with models that also take into account other levels of intervention, a practice that has become the norm in health behaviour research (Rimer, 2008). In this study, the TPB is combined with the Ecological Model of Health Behaviour so as to allow the researcher to understand sexual risk-taking behaviour through the analysis of the psychosocial importance of religiousness-spirituality and gender.

Brewer and Rimer (2008) discuss commentary by Noar and Zimmerman (2005) who reviewed a number of theory guided studies and interventions using individual models in an effort to compare their effectiveness, and reported that only nineteen at the time empirically compared multiple theories, and only three did so using rigorous methods. As a consequence, Brewer and Rimer (2008) suggest that due to the lack of evidence supporting one individual theory over another, theories should be chosen in accordance with their merits, appropriateness to the study's aims, and whether or not evidence exists supporting the theory's constructs for use in the specific study.

Considering the study's aim to measure the relationship between religiousness-spirituality, gender and sexual risk-taking, the TPB can assist the researcher in hypothesising whether specific religious-spiritual beliefs, values and practices and gender are possibly important to personal decision-making about engaging in sexual risk-taking behaviour. The theory thus lends itself suitably to the study, as the intention to perform sexual risk-taking behaviour has been shown to be significant in the performance of such behaviour (Shnyderman & Schwartz, 2012). Furthermore, other constructs of the theory, such as attitudes, subjective norm and perceived control have all been found to correlate with sexual risk-taking behaviours in consistent ways (Buhi & Goodson, 2007; Albarracin, Johnson, Fishbein, & Muellerleile, 2001).

In addition, although the TPB is considered to be useful for analysing factors found at the individual level of the Ecological Model of Health Behaviour, it also addresses

interpersonal, community and social factors pertinent to health behaviour decision-making (see **Figure 1**) (Shnyderman & Schwartz, 2012). Therefore, known interpersonal, community and social factors relevant to the study that have been linked to sexual risk-taking behaviour where relevant within the TPB to create An Ecological Model of Sexual Risk-Taking Behaviour. These are the influence of family and peers (interpersonal), the importance of social capital, belonging and different community structures (community) and the social normative effects of gender and religious-spiritual ideology on sexual risk-taking behaviour. The researcher thus feels the TPB appropriate for application in this study, as well as amenable for integration with the Ecological Model, as agreed by some other researchers investigating sexual risk-taking behaviour (Charles & Blum, 2008; Montano & Kasprzyk, 2008; Shnyderman & Schwartz, 2012).

Theory of Planned Behaviour.

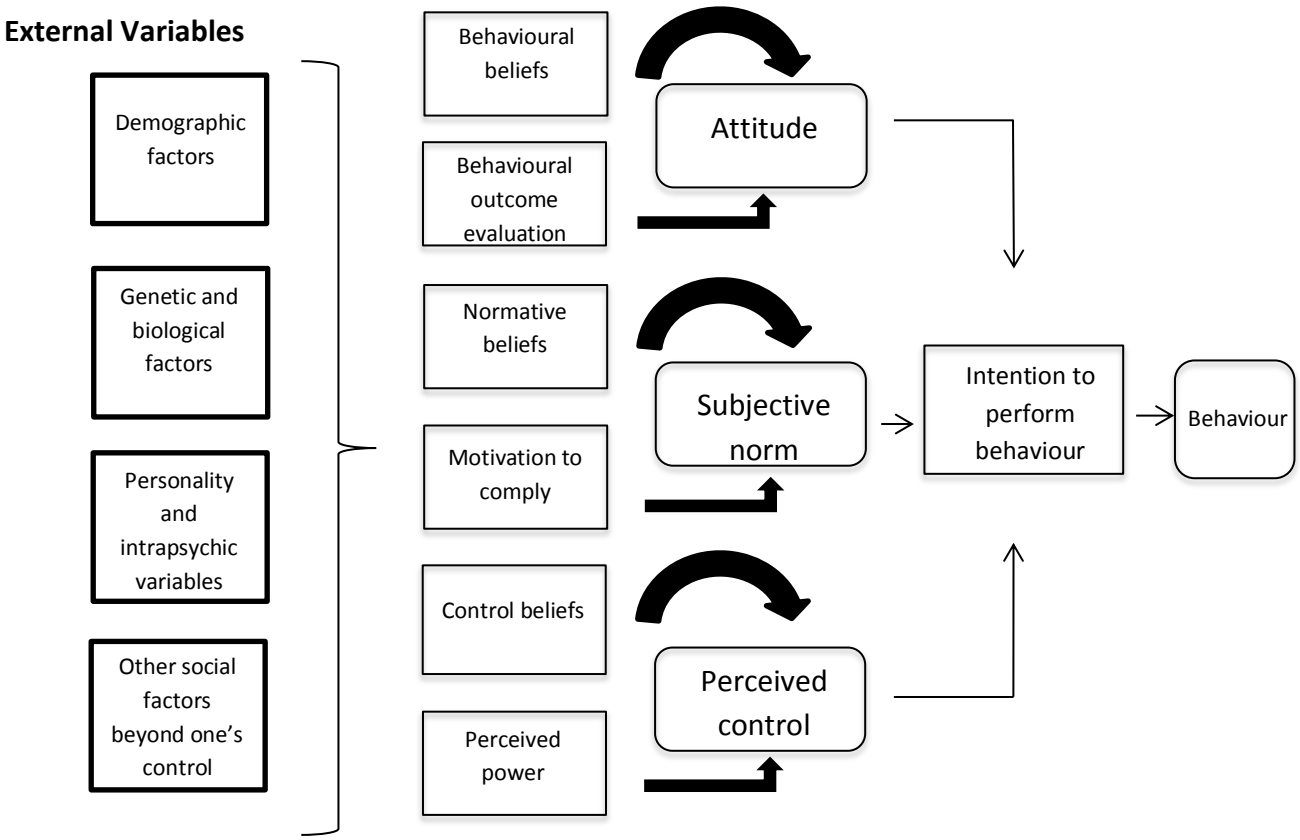


Figure 2: Theory of Planned Behaviour. (Adapted from Montano & Kasprzyk, 2008)

The TPB (Ajzen, 1988), see **Figure 2** above, is believed to offer a valuable contribution to this overarching framework in the sense that it extends it, by providing a more pragmatic framework from which to understand the individual decision-making processes associated with sexual behaviour. TPB is an extension of the Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen in 1975, and furthermore includes perceived control. Many correlational studies, intervention studies, reviews and meta-analyses have shown that changes in the theories' constructs can lead to changes in health behaviours, and the theories have thus been used in a wide range of contexts in order to predict and explain health behaviours and intentions, from sexual health risk prevention to breastfeeding, drinking, smoking and seatbelt usage (Maddux & DuCharme, 1997; Brewer & Rimer, 2008).

The TPB posits that the intention to perform a specific behaviour strongly predicts the performance of that behaviour, because an individual's intention indicates their motivation and willingness to perform that behaviour (Rutter & Quine, 2002), and that intentions are informed by attitudes towards that behaviour, the individual's social norms regarding that behaviour, and their perceived control over the performance of their behaviour and their environment (Rutter & Quine, 2002). It is also assumed that at any time the individual possesses the agency to make a different decision; thus, the theory foregrounds the role of volitional control in behaviour (Maddux & DuCharme, 1997).

The TPB accepts the TRA definition of intention as "the person's subjective probability that he will perform the behaviour in question" (Fishbein & Ajzen, 1975, p. 12), which is in contrast to the everyday understanding of intention which views it as one's intent or plan to perform a certain behaviour (Maddux & DuCharme, 1997). Therefore, intention according to Fishbein and Ajzen (1975) requires a delineation of factors to ascertain with great specificity what degree of intention an individual possesses. Intention will vary according to the (1) action one considers performing, (2) the goal behaviour or target which the action in aimed, (3) the context of the behaviour, (4) and the time it is performed (Maddux & DuCharme, 1997). Intention furthermore consists of attitude towards the behaviour, social norm, and perceived control, which together will predict whether the individual will choose to and actually perform a behaviour, such as one that will place them at sexual risk (Montano & Kasprzyk, 2008).

Attitude.

Attitude towards the behaviour refers to the person's beliefs about their behaviour and their favourable/unfavourable evaluation of the behaviour depending on its perceived consequences and the significance of these consequences (positive/ negative). Thus, attitude consists of the individual's behavioural beliefs and a behavioural outcome evaluation (Montano & Kasprzyk, 2008). Beliefs about the behaviour are somewhat of an indication of the individual's accumulated knowledge of the behaviour itself and the understood consequences of the behaviour and its significance (Shnyderman & Schwartz, 2012). According to the TPB, this would conceivably entail the individual's actual knowledge and experience of sexual behaviour and intercourse, knowledge associated with their religious-spiritual beliefs about sexual behaviour and intercourse in their specific context, and an evaluation of whether the consequences of their actions might perceivably lead to negative or positive outcomes. Together, this reasoning (whether conscious or unconscious) would result in an experienced attitude towards the individual's intended action. A review of the impact of sex education seems to support these predictions, as sex education and increased knowledge about safe sex practices appears to be related to a decrease in sexual risk-taking behaviour (Kirby, Laris, & Rolleri, 2007).

In a later study, Rostosky, Regenerus and Wright (2010) investigated the link between religiousness and sexual attitudes to sexual debut, and found that more conservative beliefs and the anticipation of negative feelings following intercourse reduced the likelihood of sexual intercourse for both males and females. Murray-Swank, Paragament and Mahoney (2005) also discovered that attitudes were significantly related to sexual intercourse. They found that in unmarried, religious college students involved in sexual relationships, attitudes of sanctification towards their sexual activity increased their sexual satisfaction and the amount of sex they had, even beyond the effects of their general religiousness. Therefore, those who perceived their behaviour as not being sanctified by their religious-spiritual beliefs would be expected to engage in sex less often, if at all, and experience less satisfaction as a result of their sexual behaviour. Such aspects possibly tie into spiritual coping and religious decision-making, factors found to be positively correlated with better health outcomes for teens, according to a review of the research examining

religiousness-spirituality and adolescent health outcomes (Cotton, Zebracki, Rosenthal, Tsevat, & Drotar, 2006).

***Subjective norm*.**

TPB understands subjective norm as the process that evaluates whether society will either support or disapprove of one's behaviour if known (Fishbein & Ajzen, 1975). Subjective norms are constructed by (1) normative beliefs (internalised societal norms about what behaviours should or should not be engaged in to achieve social approval), and (2) motivation to comply with these social preferences, which varies depending on the importance of these social norms in relation to who holds them and their relative value in society (Maddux & DuCharme, 1997).

For young adults, social norms can encompass those learnt from one's friends, family, intimate partners, as well as other larger social groupings, such as one's religious-spiritual community. Perceived parental disapproval of sexual intercourse was linked to sexual abstinence and lowered occurrence of sexual activity (Buhi & Goodson, 2007). In terms of peer interactions, the majority of studies found significant links between peer approval of sexual activity and early sexual debut, intention to have sex and increased sexual activity, and peer disapproval of sexual activity was linked to intention to remaining abstinent, delaying sexual debut, lower frequency of sexual intercourse, less number of sexual partners and lowered involvement in sexual behaviours (Buhi & Goodson, 2007). For Lefkowitz, Gillen, Shearer and Boone (2004), religiousness was a strong predictor of abstinence from pre-marital sex, fewer lifetime sexual partners, and having more conservative sexual behaviour attitudes. McCree et al. (2003) found that African American adolescent females who were more religious were more open about discussing the risks of sexual activity and were more likely to avoid risky sexual situations.

In another large study, personal devotion in adolescents was associated with fewer sexual partners, religious attendance, correct birth control use, and better understandings about the risks of contracting HIV and falling pregnant (Miller & Gurr, 2002). Aitken and Adam (2005) found that private school adolescents in South Africa who reported themselves as more religious were more likely to abstain from premarital sex, and when deciding to have sex, were more likely to use contraceptives (specifically, oral and barrier methods). In

the context of this study, these findings suggest the potentially important contributors of family, peer and religious-spiritual interactions to the internalisation of normative beliefs related to sexual risk-taking behaviour within younger populations. However, these findings are not necessarily universal, as some research has failed to find a link between religiousness and sexual behaviour (Dunne, Edwards, Lucke, Donald, & Raphael, 1994). Other research suggests that religiousness can also suppress discussion about sexual health and the use of methods for sexual risk prevention (Lefkowitz, Boone, Au, & Sigman, 2003).

Religious participation may be linked to better health outcomes for a number of potential reasons. Religious institutions sometimes play a role in educating members about the effects of poor health behaviour, they sometimes keep individuals free from boredom and mischief by involving them in community upliftment projects, they often provide social support and resources in times of personal distress, and at times, provide a sense of belonging (Lee & Newberg, 2005). Furthermore, the fear associated with violating religious codes and failing to meet the expectations of one's congregation should not be underestimated (Lee & Newberg, 2005).

Some research on the unique health benefits of certain religious sects has been conducted in Africa. A study in Uganda revealed that Pentecostals and Muslims had significantly lower rates of HIV infection, alcohol consumption, and higher rates of sexual abstinence, and individuals with fewer sexual partners, in comparison to Catholics and Protestants, in part because it is believed that Pentecostals and Muslims hold stricter moral codes around sexual behaviour (Sadgrove, 2007; Kiwanuka, et al., 1996). Social aspects such as a sense of belonging within one's religious community, as well as the positive rewards possibly associated with one's religious affiliation (such as honesty, loyalty, and trustworthiness) are also believed to lessen sexual risk-taking (Sadgrove, 2007).

Cockerham (1997) has further pointed to the important role community networks play in health behaviour. Community networks can embody vital processes such as communication, support, integration, normative standards and a sense of belonging. Heaney and Israel (2008, p. 189) define such networks through their emphasis on social integration and social support as the web of social relationships surrounding people that

may or may not provide social support, and that may serve functions other than providing support (like providing social ties, a sense of integration and belonging).

Evangelical Christians, such as Pentecostals, are reported to adhere more closely to strict moral codes around sexual behaviour (Sadgrove, 2007; Kiwanuka, et al., 1996; Garner, 2000). This group often presents with the lowest rates of pre- and extra-marital sexual behaviour, and the lowest HIV infection rates in comparison to other religious groups in studies investigating this subject (Sadgrove, 2007; Kiwanuka, et al., 1996; Garner, 2000). Garner (2000) actually tried to understand the 'why's' and 'how's' of the Pentecostal church's ability to influence the sexual behaviour of its members so strongly. He found that four aspects are crucial to any ideological stance which attempts to successfully teach its members beliefs and behaviours which counter dominant cultural ideals and behaviours; they are 1) indoctrination, 2) religious and subjective experience, 3) exclusion, and 4) socialisation (Garner, 2000).

Indoctrination was found to be strong when the church conducted a robust and varied educational programme that analyses and examines the application of religious principles in the context of significant religious and subjective experiences that fostered a sense of belonging, which the church member experiences in relation to the group (Sadgrove, 2007). This was facilitated when exclusion and socialisation fostered a 'special' group identity which created clear boundaries between members and their society at large (Sadgrove, 2007). Religious institutions fostering these aspects are then deemed to be more likely to have members closely follow its teachings. This would then likely impact on sex-related behaviour in relation to the church's associated 'righteous' sexual behaviour teachings and practices (Garner, 2000).

What Garner (2000) found about the need for a subjective sense of belonging for the successful transmission of practices and teachings is interesting, as it extends the narrow view that strict moral codes are what facilitate lower sexual risk-taking behaviour, when it could possibly be related to the strength of sense of togetherness experienced by group members. However, it must be taken into consideration that studies purely examining *self-reported* rates of HIV infection and sexual behaviours are likely to be underreported considering the nature of religious individual's expected standards of behaviour; supporting

the need for more in-depth studies such as Garner's (Sadgrove, 2007). Despite this methodological weakness, if a strong sense of belonging is found to decrease the need for risky sexual behaviour in conjunction with raised awareness about the health implications of such behaviour in further research, these findings could have significant programme development implications.

The dyadic features of social networks, groups and communities discussed earlier might provide a basis to examine group ties. Heaney and Israel (2008, p. 190) suggest that social networks are able to serve a variety of functions for their members, such as "social influence, social control, social undermining, social comparison, companionship, and social support". Social support as experienced by the group member can be determined by intensity and reciprocity within the group. Social support has been the group function most often studied and linked to health behaviour (Heaney & Israel, 2008). The strength of the social support function, based on the research by Garner (2000), appears to be linked to the ability to influence the individual, because the group has fostered a sense of shared experience and belonging, in conjunction with providing clear group boundaries so as to facilitate the feeling of a 'special' group identity. More simply, the nonmonetary benefits associated with group belonging can also be defined as social capital (Portes, 1998).

It is likely that the importance and strength of influence of such a group would be strongest within parochial communities where fewer multiple associations and a decreased presence of overlapping group ties tend to exist (Kusenbach, 2011). Individuals belonging to such communities are more likely to subvert individual desires and preferences for those upheld by the group. In keeping with the TPB, the greater the degree of social capital (nonmonetary benefits of group membership) available to the individual, the more likely the individual is to internalise the group's normative beliefs, and the more likely he/she is to give significance to adherence to these beliefs, and be motivated to comply.

In research, religious involvement, particularly within more conservative and orthodox religious communities has been linked to lowered sexual risk-taking (Garner, 2000; Agadjanian & Menjivar, 2008). However, more research on the group structures present within different ethnic, religious and socioeconomic classes is needed to further clarify the relationship between community factors and sexual health (Geertsen, 1997; Agadjanian &

Menjivar, 2008). Community contributors to lowered sexual risk-taking can also be modified and used to enhance the effectiveness of secular prevention programmes (Sadgrove, 2007).

On the other hand, involvement in broader community networks is not always positive. Negative aspects that might result from one's religious-spiritual community have been found to have an adverse effect on health and social integration (Williams & Sternthal, 2007). Williams and Sternthal (2007) cite studies which demonstrate that criticism from the congregation, and unpleasant interpersonal interactions at one's religious institution have been linked to a higher risk for depression amongst adolescents. Furthermore, chronically ill patients found that religious doubts and insecurities were associated with higher rates of mortality (Williams & Sternthal, 2007).

In addition, Ahrold et al. (2011) argue that although religiousness has been found historically to regulate sexual behaviour to some degree, contemporary expressions of religiousness and spirituality are changing as religions seem to be exerting less of a unique force on the shaping of the individual identity in the modern era where individuals are faced with a multitude of information sources. In addition, increasing social diversity and social mobility in modern society seems to be increasing individual freedom and eroding overlapping in-group ties, thereby seemingly weakening the influence of cultural values and social norms to a certain extent (Geertsen, 1997). It seems that individuals are increasingly participating in multiple group associations facilitated by individualistic lifestyles, thereby lessening the need to meet one particular group's approval in order to achieve social standing.

Ahrold et al. (2011) predicted that as religious groupings begin to exhibit less uniqueness in comparison to other religious groupings, as well as other social groupings, individual sexuality will likely be mediated by unique religious-spiritual aspects an individual chooses to have play a role in their life and identity. Their research confirmed this prediction, and found that individual differences in religiousness were better predictors of sexual attitudes than religious group per se, and this association was, furthermore, found to be moderated by gender (Ahrold et al., 2011). Males have generally been found to engage in riskier sexual practices, demonstrate greater intent to engage in sexual risk-taking behaviour than females (Beckwith & Morrow, 2005; Buhi & Goodson, 2007; Chara & Kuennen, 1994;

Turchik & Garske, 2008; McCabe & Killackey, 2004), whereas females have generally been found to have greater levels of religiousness-spirituality than males (Brasher, 1998; Gaydos, et al., 2010; Miller & Gur, 2002; Waldron, 1997; Scarlett & Warren, 2010).

Other studies linking religiousness-spirituality to sexual risk-taking behaviours, also found gender differences. Rostosky et al. (2004) reviewed many longitudinal studies linking the religiousness of adolescents and their sexual behaviours between 1980 and 2001. It was concluded that religiousness delayed the sexual debut of female adolescents, but the results were mixed for males. It seems that males tend to experienced lower rates of normative influence when compared to females, and that peer group influences tend to be the most significant for males (Ndinda, et al., 2007; Jones, Darroch, & Singh, 2005; Lee & Newberg, 2005; Rogan, et al., 2010).

In line with the aims of this study, gender is a social factor that has been frequently linked to the investigation of sexual risk-taking behaviour. Waldron (1997) states that gender differences in risk-taking in general are believed to be one of the causes of the gender differences found in some types of health behaviour. Males have repeatedly been found to engage in more risky behaviour, whereas, females have repeatedly been found to engage in more preventative and protective behaviour and have greater health concern (Nathanson, 1977; Weissfeld, Kirscht & Brock, 1990). However, gender differences in risk-taking and health concerns contribute only somewhat to the overall gender differences in health behaviour, with many more causal factors contributing to this dynamic (Weissfeld, et al., 1990). Other factors influencing gender roles are aspects of gender socialisation, advertising, biases in public health promotion, biological pre-disposing factors which place women at greater health risk (more complex reproductive systems), differing motivations for health, and even economic factors, such as trends in employment; in short, multiple bio-psychosocial influences affect the gendered differences in health behaviour and risk-taking, including sexual risk-taking (Waldron, 1997).

Hunt and Jung (2009) argue that the way sexual relations between men and women occur says something about the way gender and socioeconomic relations are constructed (Hunt & Jung, 2009). For example, the gendered and socioeconomic nature of sexual interaction can affect the way infections such as HIV are spread (Hunt & Jung, 2009). For

example, within South Africa the prevalence of age-disparate sex most commonly involving young girls and older males has been linked to material gain (also known as transactional sex), amongst the provision of other needs (Kelly, et al., 2012). In 2009, approximately 38% of 16-24 year old girls were involved in relationships with men five or more years older than them (Johnson, et al., 2010, as cited in Kelly, et al., 2012). This is hypothesised to significantly affect the spread of HIV, as age-disparate relationships provide somewhat of a bridge between older infected persons and younger uninfected persons (Kelly, et al., 2012). Given the culturally differential social positions between younger women and older men, both socio-economically and in accordance with traditional gender relations, negotiation around safe sex practices is often more difficult for young women, as well as the refusal of sex (Kelly, et al., 2012). Transactional sex has also been linked to the perpetration of GBV by men, placing women in these relationships at increased risk (Dunkle & Jewkes, 2007).

Furthermore, where cultures have been known to support multiple concurrent relationships that overlap for relatively long periods of time, HIV prevalence has been found to be significantly higher (Shisana, et al., 2005; Pettifor, Hudgens, Levandowski, Rees, & Cohen, 2009). Many cultures in South Africa, such as the isiZulu and isiXhosa, have traditionally supported polygamy. This appears to be related to the acceptability of men having multiple partners as a testimony to their virility and manhood (Hunter, 2008; 2010). Between the ages of 15-24 40% of males were found to be in multiple concurrent relationships, whereas about 25% of females were (Shisana, et al., 2005). The increase of women also engaging in multiple relationships suggests that perhaps gender dynamics and the acceptability of female sexual desire are changing (Waldron, 1997; Swarr, 2012).

In general, however, attitudes and norms as described in the TPB have been consistently found to be related to sexual activity, and such norms are often most closely developed within the family, peer and religious-spiritual settings (Carvajal, et al., 1999). The development and enactment of such norms appears to intersect intrapersonal, interpersonal, community and social levels of interaction. However, research within the field still needs to be further supported, especially within young adult populations, and using multidimensional measures (Williams & Sternthal, 2007). Others feel that Western scholars have yet to provide a satisfactory explanation for the role of specific religious-spiritual

beliefs, values and practices in determining sexual behaviour (Sadgrove, 2007; Lee & Newberg, 2005).

Perceived control.

Critics of the TRA suggested that one of the assumptions of the theory, which assumes that the behaviour being performed is under one's volitional control, limited the theory's applicability, because few behaviours are believed to be completely under one's volitional control (Maddux & DuCharme, 1997; Madden, Scholder, & Ajzen, 1992). As a result, revision was made to the TRA, and control beliefs were included in the TPB, which acknowledged the "person's belief as to how easy or difficult performance of the behaviour is likely to be" (Ajzen & Madden, 1986, p. 457). Generally, evidence supports the notion that belief in one's ability to perform certain behaviours significantly influences one's motivation to perform that behaviour, and is otherwise known as 'self-efficacy beliefs' (Madden, et al., 1992). The theory has now been updated to include perceived control, which is constituted by perceived power and control beliefs (Montano & Kasprzyk, 2008).

Control beliefs account for an individual's beliefs about their intrinsic resources available to perform specific behaviours, and perceived power constitutes a subjective analysis of any outside influences that hinder or promote the performance of a specific behaviour, such as the opportunity to do so, or the probability of interruption of the behaviour by an unexpected outsider (Montano & Kasprzyk, 2008; Madden, et al., 1992).

Control beliefs, and beliefs about an individual's ability to successfully avoid or mitigate sexual risk-taking behaviours (for example, unprotected sex), have been found to significantly correlate with decreased occurrence of sexual risk-taking (Malcolm, et al., 2012; Buhi & Goodson, 2007; Albarracin, et al., 2001; Goggin, Malcarne, Murray, Metcalf, & Wallston, 2007). Beliefs associated with the Universal Creator's ability to guide and direct one's behaviour seem to also be significant to religious-spiritual decision-making and the enactment of sexual risk-taking behaviour (Goggin, et al., 2007). The evidence appears to largely support the validity of control beliefs in predicting sexual risk-taking behaviours. Furthermore, the strength of such beliefs are believed to increase as the individual knows more about their behaviour, gains experience, and possesses the sufficient self-esteem necessary to enact the behaviour (Charles & Blum, 2008). However, few studies seem to

have fully operationalised the concept of perceived control as constituted by control beliefs *and* perceived power, rather choosing to measure perceived control as representative of control beliefs alone (Ajzen, 2002). Therefore, there is limited evidence available for supporting the significance of perceived power in the intention and enactment of sexual risk-taking behaviours (Montano & Kasprzyk, 2008).

Despite the seemingly straightforward nature of control beliefs, there have been some difficulties measuring it, as sometimes behaviours might be better described as goals; for instance, believed control over 'staying a virgin' might be better understood as *control over goal attainment* instead of *control over behaviour*, because 'staying a virgin' is actually an outcome constituted by many behaviours that need to be performed effectively rather than a behaviour in itself (Ajzen & Madden, 1986). Regardless of these operational difficulties, many studies have shown that the addition of control beliefs to the model increase the predictability of behaviours over and above normative beliefs and behavioural beliefs (Ajzen, 2002; Goggin, et al., 2007).

TPB accepts that not every action is reasoned and consciously intentional, but rather, that frequently, behaviour over time occurs according to an internal logic based on experienced outcomes and their desirability. The theory can thus account for unconscious habitual behaviours and human spontaneity. In any case, whether a behaviour has been performed or not, an individual is hypothesised to choose one action over the other, and Fishbein and Ajzen (1975) purport to explain the predictability of certain behaviours on the basis of these conscious or unconscious decision-making processes.

The TPB has been widely cited in research on sexual behaviour (Villaruel, Jemmott, Jemmott, & Ronis, 2004; Charles & Blum, 2008), and has largely supported the theory's claim that an individual's behaviours are greatly influenced by their intention to perform that behaviour (Madden, et al., 1992; McCabe & Killackey, 2004). The TPB accounts for an individual's intention or motivation to perform a particular behaviour by virtue of their attitude, subjective norms and perceived control. Sexual risk-taking behaviour will, therefore, according to this theory be influenced by one's beliefs about one's behaviour and the imagined consequences of such behaviour, one's social norms and the significance of

adherence to these norms, the belief in one's ability to successfully carry out one's behaviour, and one's perceived control over environmental factors.

Together these beliefs form part of a decision-making process that results in an intention to perform a sexually risky act. Such beliefs are often believed to vary depending according to demographics variables, such as age, sex, religion, culture and historical period (Hultsch & Deutsch, 1981), personality and other individual factors (Montano & Kasprzyk, 2008). Some such factors constitute biological pre-dispositions (Mutanski, Viken, Kaprio, Winter, & Rose, 2007); self-identity (Rise, Sheeran, & Hukkelberg, 2010); and other external prohibiting factors which are not within one's control, whether social or situational (McCabe & Killackey, 2004). An Ecological Model of Sexual Risk-Taking Behaviour has attempted to account for a number of factors, whilst recognising that an account of all contributing factors to sexual risk-taking is almost impossible.

Many have criticised ecological models for a variety of reasons. Hogben and Byrne (1998) state that however pleasing conceptually, ecological models have difficulty generating testable hypotheses and are generally quite difficult to manipulate experimentally. This seems to be linked to a lack of specificity about the most important hypothesised influences related to a certain problem (Sallis, et al., 2008). There also seems to be a lack of information about how broader levels of influence work and how variables interact between levels (Sallis, et al., 2008).

By attempting to create more sophisticated operational models additional pressures seem to be placed on investigators and programme evaluators (Sallis, et al., 2008). In spite of these additional demands, many argue that multi-level studies are the only way to generate knowledge and multi-level interventions sophisticated enough to map the complexity of human interaction and behavioural change (Sallis, et al., 2008). Doing so enables investigators and programme developers to move beyond traditional views of health behaviour that tend to not recognise behaviour as embedded in social structures, thus making individuals alone accountable for their behaviour (Sallis, et al., 2008). Therefore, by integrating the TPB and the Ecological Model of Health Behaviour it may make it easier to analyse the multi-level influences that affect sexual risk-taking, thereby making the development of effective programmes possibly easier.

Religious-Spiritual Doctrine and Sex

Religiousness-spirituality is closely interlinked with sexual behaviour and decision-making, as many religious-spiritual traditions bear on issues related to sexual activity, sexual abstinence, sexual orientation, birth control and abortion (Lefkowitz, et al., 2004; Scarlett & Warren, 2010). Almost every religion seeks to, in some way, regulate sexual behaviour as an expression of particular moralities and values, which can either serve as liberatory or oppressive forces (Scarlett & Warren, 2010). Furthermore, women are often the most affected by religious orthodoxy, as they are frequently expected to be the 'keepers of faith' and be responsible for maintaining the sexual and moral righteousness of themselves, their families and their communities (Brasher, 1998). In particular, doctrines prohibiting pre- and extra-marital sex are often more strictly enforced and expected of women than men (Jones, et al., 2005).

The following discussion explores some of the possible religious implications of sexual behaviour, as some of these matters may inform a religious or spiritual individual's perceptions of sexual relations, and what is considered appropriate and inappropriate sexual conduct. Religious-spiritual perceptions of sexual relations are, furthermore, altered by gendered meanings of such behaviour, as these two constructs seem to be difficult to separate (Runzo & Martin, 2000). The globalisation of religions together with women's apparently growing power within the economic and political spheres, seems to be challenging the gendered construction of love and sex within religious and family institutions (Runzo & Martin, 2000), a phenomenon which does not appear to have escaped South Africa (Swarr, 2012).

It should be kept in mind that no religious sect can or should be spoken of as a homogenous whole, because many religions have split into divergent groups whenever members have failed to agree on how to interpret scripture or conduct its organisational practices (Dailey, 2004). As a result of the extensiveness of varying religious beliefs and traditions and the unlikelihood of being able to convey this complexity within this literature review, the researcher will tend to speak of religious groupings broadly, whilst simultaneously acknowledging the inaccuracy of this approach.

The role of sex, and how sexual relations between individuals should be conducted, from the viewpoint of religious texts, beliefs, and teachings, has been argued for centuries (Dailey, 2004). In Christian doctrine, even in times preceding the Middle Ages, some rabbinical teachings considered the temptation of the snake in the Garden of Eden to be sexual in nature (Dailey, 2004). Sex for the sake of pleasure alone, has traditionally within Christian religious teachings often been considered sinful (Hunt & Jung, 2009). Moreover, many Christian and Jewish religious 'laws' have seemed to portray sexuality as something which should occur 'properly', that is, between a man and his wife in order to produce children and uphold such individuals' 'religious integrity' (Fonrobert, 2000, p. 114). Religious texts and teachings, therefore, serve to 'educate' and create awareness regarding the appropriateness of sexual behaviours. Sexual risk-taking behaviour, therefore, could represent a lack of moral education.

The framing of 'righteous' sexual behaviour in Judaism appears to be, unsurprisingly, relatively similar to Christian doctrine. Religious texts tend to portray the constitution of marriage between men and women as the foundation of civilisation, resulting in the legitimisation of sexuality as restricted to the confines of marriage (Fonrobert, 2000). One example of this is the Jewish obligation of '*onah*', which could be described as the husband's duty to give pleasure to and sexually satisfy his wife (Hunt & Jung, 2009). By viewing this practice as a religious duty, masculine and feminine sexual desire seems to be legitimised within the confines of 'righteous' marriage. As much as sexual desire between a man and his wife is portrayed in Jewish culture as vital and creative, untamed sexual desire such as that which is pre-marital, adulterous, incestuous, or homosexual is generally viewed as unacceptable (Fonrobert, 2000).

Ayesha M. Imam brings to the fore matters concerning the sexual rights of women practicing Islam (Hunt & Jung, 2009). Firstly, it is noted that a singular account of the sexual practices of Muslims is not possible, due to the historical stratification of Islamic practices over time due to culture-specific variables, as has happened with many other religious doctrines (Imam, 2001). This is evident in that in some parts of the world female genital cutting is prescribed, whereas in other areas it is unheard of; in some parts of the world sexual foreplay is a duty bestowed on Muslim men, whilst not so for men in other places; and lastly, in the Mediterranean, Muslim men exercising control and domination over their

wives is seen as a desirable practice, whilst in South-East Asia this idea is relatively unknown (Imam, 2001).

Adultery is a religious offense taken quite seriously in Islamic practice. In March 2002, Amina Lawal was sentenced to death by stoning in Nigeria for alleged adultery, because she had a child following a divorce without remarrying (Imam, 2006). The alleged father denied sexual relations with her and was speedily released without charge. Eighteen months later she won her appeal and was acquitted following immense international pressure, as well as fierce public protests by a group of Nigerian non-governmental organisations (Imam, 2006). The landmark case amalgamated opposition against the new Sharia (Muslim laws) Penal Code adopted in 2000 in several Nigerian states. Many Muslims feel that the Sharia Penal Code is unjust and un-Islamic, but have felt helpless to fight their commencement without having studied the Arabic texts, which outline what constitutes acceptable Islamic conduct (Imam, 2006). The tension is uneasy where state politics intertwines with religious conduct, because citizens who oppose state legislation are faced with the difficult decision of whether it is then also necessary to renounce their religious identity (Imam, 2006). Clearly then, religious and sexual matters cannot be understood simply, without considering in what contexts these matters reside.

The requirements necessary for labelling of followers as moral or immoral differs depending on the religious grouping; however, it has been found that Protestants are more likely than Jews to consider mental states and behaviours immoral, indicating perhaps harsher moral judgement in this religious grouping (Cohen & Rozin, 2001). The contravention of indoctrinated religious beliefs, values and practices cannot be underestimated in terms of the great deal of shame and guilt it can induce in the individual, particularly for women, who generally possess higher levels of intrinsic religiousness (Lee & Newberg, 2005). Immorality is often thought of as a depiction of poor judgement and character, making religious morality something of significant value when judged in the context of one's religious community (Cohen & Rozin, 2001). Sexual risk-taking behaviour could possibly be interpreted as resulting from a lack of religious-spiritual knowledge about safer or more moral sex practices, and could by this virtue depict women as sometimes less knowledgeable regarding appropriate sexual behaviour in religious groupings who punish women more harshly for their sexual transgressions (Hunt & Jung, 2009).

Sexual purity is often stressed in different religious traditions that depict sexual acts as fulfilling divine purpose through reproduction and a deep spiritual connection sanctified within the boundaries of marriage and loyalty to one's partner (Edger, 2012). Thus, acts of adultery are generally frowned upon. Virginity and the ability to save sexual intercourse for marriage are also held as some of the ideals of sexual purity. Additionally, lust is frequently seen as the primary cause of sexual immorality, frequently felt to be met with negative consequences from the Creator and one's religious community (Edger, 2012).

Pre-marital, extra-marital, adulterous, non-consensual, and non-traditional sex acts (such as the use of sex toys, anal and oral sex) related to sexual risk-taking behaviours, as defined in this study, are viewed as less religious-spiritual to the extent that they constitute sex acts that place the individual at risk for contracting STIs, HIV and AIDS, or resulting in an unwanted pregnancy. In some sense, the doctrines espoused by many religious affiliations seem to protect individuals from a number of sexual risk-taking behaviours by limiting unprotected sex outside of marriage and promoting the unacceptability of multiple concurrent relationships (Buss, 2002).

Traditionally, the sexual shame and guilt that results in the individual who contravenes his/her religious institution's doctrines on sexual behaviour has been used to deter such behaviour and control it, which in its extreme, can lead to sexual secrecy and social isolation, or even the rejection of religion as a whole (Nelson, 2003). This can further result in the maladaptive development of sexual and religious identity, integration and expression in the religious person (Edger, 2012). This can be even more so for an individual who identifies as homosexual, as homosexuality is depicted as sinful in many religious followings (Grenz, 1998). However, recent re-evaluations of Christian scripture in contemporary society have allowed for the accommodation of homosexually-identified individuals in some religious institutions (Edger, 2012).

These more recent changes in religious practice stand in stark contrast to the traditionally restrictive ranges of sexual expression in heterosexual marriage (Edger, 2012). In the past, women were frequently expected to fulfil their husband's sexual desires by their submission to their husband's power and domination. These traditional gender roles have been thought to perpetuate GBV, because they portray men as inherently sexual and not in

control of their sexual needs, leaving women responsible to 'help' their partners stay sexually moral by virtue of regular intercourse (Edger, 2012). This can decrease the women's ability to refuse sex, request the use of barrier protection, and to refuse more children, sometimes constituting marital rape (Ndinda, et al., 2007).

Commonalities amongst the religions discussed above tend to stress the importance of sexual purity before (and after) marriage, and the commitment to maintaining sexual behaviour within the confines of the religiously sanctified marriage. In general, lust for others outside of the marriage and homosexuality are frowned upon. However, how strictly various traditional practices and sanctions are enforced within religious communities generally differ. Normative beliefs within the religious-spiritual context that limit multiple concurrent sexual relationships, promote abstinence before marriage, and safer sex of any kind, such as condom usage, would be interpreted as contributing towards lowered sexual risk for HIV, STIs and unplanned or unwanted pregnancies, should the individual give significance to the negative consequences that might follow should they choose to not conform, or the positive consequences of belonging to such a community should they conform. Motivation to comply to religious-spiritual norms and beliefs is likely to differ according to the individual and their social context.

Conclusion

This chapter has outlined an Ecological Model of Sexual Risk-Taking Behaviour. Intrapersonal, interpersonal, community and social factors related to sexual risk-taking and religiousness-spirituality were covered by integrating the TPB with the Ecological Model of Health Behaviour. Parental relationships, peers and religious-spiritual communities were related to degree of sexual risk-taking behaviour through understanding attitude, subjective norm and perceived control. In religious-spiritual communities, social capital and sense of belonging, was hypothesised to increase motivation to comply and greater knowledge of social norms regarding sexual risk-taking behaviour (Sadgrove, 2007; Cockerham, 1997; Heaney & Israel, 2008). However, this may be changing in modern times, and males generally seem to be less affected by normative influences apart from their direct peer groups (Ahrold, et al., 2011). The effect of religiousness-spirituality often appears mixed for males (Lee & Newberg, 2005; Rogan, et al., 2010; Rostosky, et al., 2010), and could be explained by understanding broader macrosystemic factors such as gender socialisation and

religious-spiritual ideologies. These factors can in turn directly influence the development of normative, behavioural and control beliefs in the individual decision-making process related to sexual risk-taking behaviour (Viswanath, 2008).

Chapter 3: Methods

Introduction

Having reviewed this study's chosen theoretical framework, this chapter addresses the more practical aspects of this quantitative study regarding procedural implementation. Details related to the study's research questions and hypotheses, chosen research design, sample characteristics and demographics, sampling methods, data collection procedures, instruments used and their validity and reliability data, data analysis techniques used, and finally, how ethical principles were implemented, are outlined.

Research Questions and Hypotheses

i. **Research Questions**

   a. Is there an inverse correlation between specific religiousness-spiritual beliefs, values and practices and the degrees of sexual risk-taking behaviour and sexual risk-taking intercourse in young adults?

   b. Is there a difference in the specific religiousness-spiritual beliefs, values and practices and degrees of sexual risk-taking behaviour and sexual risk-taking intercourse of young men and women?

ii. **Research Hypotheses**

   a. Specific religious-spiritual beliefs, values and practices will be significantly related to the degrees of sexual risk-taking behaviour and sexual risk-taking intercourse in young adults.

   b. There will be a difference in the specific religiousness-spiritual beliefs, values and practices and degrees of sexual risk-taking behaviour and sexual risk-taking intercourse of young men and women.

Research Design

The conducted study has chosen a quantitative methodology, as this was considered to be the best fit in accordance with the research questions chosen. Certain paradigms, epistemological and ontological positions fit best with certain research designs, which together determine the degree of design coherence a researcher attains (Durrheim, 2008). Quantitative research usually imbeds itself in the positivist paradigm (Terre Blanche &

Durrheim, 2008). The positivist paradigm makes certain assumptions about the nature of reality (ontology) and about what is knowable (epistemology). As this research has aligned itself with the positivist paradigm, it assumes that reality is stable and law-like, and that it can thus be known through the use of objective measures and neutral observation (Terre Blanche & Durrheim, 2008). Therefore, an objectivist ontological and epistemological position has been adopted, in keeping with the understanding that reality is knowable through measurement, and that a law-like reality exists according to universal truths.

The research design was designed in alignment with the paradigms of this research. The research design is non-experimental, ex-post facto, and cross-sectional, because the nature of the variables (such as religiousness, sexual risk-taking, and gender) cannot be ethically or practically manipulated, and are therefore not suitable for an experimental study (Haslam & McGarty, 2007). Additionally, a cross-sectional design was chosen due to the time limitations associated with the research, which only allows for the participants to be measured within a single time-frame, as opposed to a more longitudinal study (Lee & Newberg, 2005). Further supporting the cross-sectional nature of the design is that religiousness-spirituality and sexual risk-taking behaviour are variables that contain the possibility for change over time, so a single measurement is likely to be more appropriate (Lee & Newberg, 2005).

The design is also relational as it is seeking to determine the relationship between two or more variables (Tredoux & Smith, 2008), namely aspects of religiousness-spirituality and sexual risk-taking behaviour. This requires measuring the variables under study so that observations can be made so as to inform more complex research processes (Haslam & McGarty, 2007). The researcher's aim was to measure each variable of interest, and to then analyse and explore the data for relationships. This design was chosen for its amenability for completion in a short period of time, its relative ease of use, the availability of the dataset, and its ability to add some value to the current field of research on these matters, especially in South Africa.

Sample and Sampling

A university student population was chosen as an appropriate source of data, since university students are typically in the young adult age range. This age group was targeted

for recruitment due to the tendency to examine aging populations in relation to health and religiousness-spirituality (Sloan, et al., 1999). According to Castora (2005), a third of university students have had sexual intercourse with at least two new partners since arriving at university, making this sample useful for studying sexual behaviours. Moreover, university settings tend to consist of a diverse blend of individuals, with different and varying degrees of religiousness-spirituality, which can have implications for attitudes and behaviours regarding sex and sexuality (Castora, 2005).

Psychological research often informs the development of public health interventions and social and educational programmes, which meet the needs of susceptible societal sectors. The youth, as indicated earlier by the statistics on HIV and unwanted pregnancy prevalence, appear to be one such susceptible societal sector. In the university setting, young adults have been shown to be more likely to engage sexual risk-taking behaviour (Turchik & Garske, 2008; Baldwin & Baldwin, 1988; Beckwith & Morrow, 2005), as this environment seems to promote the exploration of identity and sexuality within an environment that generally allows freer sexual expression and risk-taking behaviour as opposed to the home and secondary schooling environments (Castora, 2005).

Moreover, younger populations tend to engage more frequently in multiple concurrent partnerships, transactional sex (sex in exchange for goods, money or other services), and have a higher alcohol consumption, which are all related to higher risk for unwanted pregnancies, STIs and HIV; findings which are discussed in more detail in a comprehensive report done by the Centre for AIDS Development, Research and Evaluation (CADRE) by (Kelly, et al., 2012). Therefore, this study seeks to sample the sexual behaviour and the religiousness-spirituality of young adults in the university setting so as to possibly assist in the development of programmes for this particularly vulnerable population.

Students from the University of the Witwatersrand, who were registered within the faculty of Health Sciences (for the degrees of physiotherapy, medicine and surgery, occupational therapy, nursing, pharmacy and general Health Sciences), were invited to participate in this study. Health Sciences students were selected as their curriculum, which includes Sociology and Psychology courses, exposes them to various bio-psychosocial matters regarding sex and sexuality, such as HIV infection and matters concerning safer sex,

protection against STIs, and so forth, making this population one of interest for studies regarding young adults' sexual behaviours and beliefs (Bankole, Singh, Hussain, & Oestreich, 2009). Some studies have indicated that university students, who attended modules on safer-sex practices, later indicated no difference in their actual safer-sex practices (Baldwin & Baldwin, 1988; Kirby, et al., 2007). However, a review of the impact of sex education programmes on sexual behaviour suggests that such programmes can delay or decrease sexual behaviour, and have never been found to increase sexual behaviour (Kirby, et al., 2007).

Additionally, a university sample was chosen because it assumes proficiency in English. Due to the participants attending an English-orientated university, it was expected that all questions on the instruments were understood and answered correctly with relative ease. The selection of a university group was included for a number of other reasons also, including the change, in general, of levels of independence and social freedoms, as opposed to the restrictions imposed during high school years, that the young adult is able to enjoy (legally drive, purchase and use alcohol as well as greater exposure to different types of people); factors which are likely to lead to an increased risk of engaging in sexual behaviours (Byno, 2006).

The sampling method utilised was purposive, as a specific population, Health Sciences students, were approached for participation (Haslam & McGarty, 2007). Volunteer sampling also occurred as participants were free to choose whether to participate in the study or not. Volunteer samples can also be classified as convenience samples because the probability of recruiting any individual from the university population is not known due to lack of random selection from the population (Haslam & McGarty, 2007). It is for this reason that both purposive and convenience sampling are classified as non-probability sampling (Haslam & McGarty, 2007).

Furthermore, during recruitment, the researcher highlighted the sexual nature of the study and asked students to carefully consider their participation if they were sensitive to this topic (for example, if they had any previous exposure to sexual violence or coercion, and/or a personal aversion to sexually explicit material). However, participants needed to decide whether or not to participate despite perhaps being sensitive to the ASRBQ.

The demographic characteristics of the sample are depicted in **Table 1** below.

Table 1: Demographic Characteristics of the Sample (N=199)

Variable		Frequency	Percent
Age	Missing data	2	1.0
	17-20	193	97.0
	>21	4	2.0
Sex	Male	76	38.0
	Female	123	61.5
	Intersex*	1	0.5
Race	Black	91	45.7
	White	54	27.1
	Coloured	6	3.0
	Indian	45	22.6
	Other	3	1.5
Sexual Orientation	Homosexual	8	4.0
	Heterosexual	183	92.0
	Bisexual	4	2.0
	Unsure	4	2.0

*intersexed participant's data excluded from analysis

Procedures

After obtaining ethical clearance from the Ethics Committee at the University of the Witwatersrand (see **Appendix A**), participants were approached by the researcher during the last ten minutes of their psychology lecture and were invited to participate in the study. Their lecturers' and course coordinators' written permission to address the students during their lecture time was obtained via e-mail, and a convenient date and time (for the researcher and the academic staff) for data collection was arranged one month prior to the researcher visiting the various classes. During these visits the researcher addressed the students to inform them about what their participation entailed. The students were subsequently invited to take a participant information sheet (**Appendix B**), as well as the questionnaires (**Appendix C, D and E**), which if they chose to participate in this study, could be anonymously completed and returned within three weeks, to a box that was left in the administration office in the Department of Psychology. Completion and return of the questionnaires by the participant was regarded as informed consent and agreement to participate in the study.

After the questionnaires were returned, the researcher's coded all of the responses and entered the data into a Word Excel spreadsheet so that the data could be statistically analysed. Questionnaires were kept at the researcher's home under lock and key during the coding and data analysis phase of the study. The raw data will be kept until such time as the researcher has graduated from the degree, to which this study is conducted in partial fulfilment of the degree's requirements, and for five years after any successful publications that might arise from this study.

Instruments

Three measures were used in this study, one to obtain demographic statistical information regarding the composition of the sample, another to measure religiousness-spirituality (independent variable) as a multidimensional construct, and one for measuring sexual risk-taking behaviours (dependent variable). Gender (secondary independent variable) was assessed via self-report on the demographic questionnaire.

Demographic Questionnaire

The demographic questionnaire was designed to gather as much information as possible about the sample participating in this study. As is common practice in research, the researcher often checks to see whether any demographic variables correlate with any of the other measured variables, and their relationships (Haslam & McGarty, 2007). Some of the demographic variables asked for from the sample were; age, gender, race, and sexual orientation (see **Appendix C**). Participants simply needed to tick the appropriate box to respond to each of these variables. As the research was concerned with whether or not gender is related to any of the variables, gender was an important source of information from the demographic questionnaire, and was used in order to analyse its relationship to religiousness-spirituality and sexual risk-taking behaviour.

The Brief Multidimensional Measure for Religiousness-Spirituality (BMMRS)

The BMMRS seems to be quickly emerging as one of the most preferred measures for religiousness-spirituality in health research (Koenig, 2008). The Fetzer Institute together with the National Institute on Aging undertook to design a multidimensional measure for religiousness-spirituality in 1999, as research at the time was suggesting that the two

concepts could not be entirely separated (Fetzer Institute/ NIA, 2003). Furthermore, most of the past research associating religiousness to improved health outcomes failed to measure religiousness as more than an affiliation with a certain religion and/or regular attendance at religious services (Fetzer Institute/ NIA, 2003). Additionally, most research investigating the links between religiousness-spirituality and sexuality does not consider how specific aspects of religiousness-spirituality might be linked to specific sexual behaviours (Rostosky, et al., 2004). The inclusion of survey questions that recognise more complex understandings of religiousness and spirituality were hypothesised to more likely lead to a richer understanding of the sexual health implications of such beliefs and behaviours.

The BMMRS is free to use, is self-administered, and extensively covers 12 varying dimensions of religiousness-spirituality, which can generally be divided up to measure religiousness; Private Religious Practices, Organisational Religiousness, Religious Support; spirituality; Daily Spiritual Experiences, Forgiveness and Values/Beliefs; and those that combine religiousness-spirituality; Religious-Spiritual History, Religious-Spiritual Coping, Commitment, and Overall Self-ranking. Scores are ranked along a likert-type scale. The likert-type scales differ depending on what the subscale is measuring.

At times when degree of agreement with certain statements are being measured, the likert-type scales range from 'strongly agree' to 'strongly disagree', or 'very' to 'not', whereas when amount of times a certain practice is performed is being measured, various likert-type scales are used from 'many times a day' to 'never', 'very often' to 'never', 'more than once a week' to 'never', or a 'great deal' to 'not at all'. On the subscale of Religious-Spiritual History, only yes/no questions were asked. Likert-type scales range from 2 points to 8 points long. Scores range from 39 for a non-religious or non-spiritual person to 185 for a highly religious-spiritual person.

In previous studies where the BMMRS was used, subscale questions which failed to fall along a likert-type scale were eliminated to improve data handling and scoring (Johnstone, et al., 2012; Anderson, Smith, Yoon, & Johnstone, 2012). This was also done to make data scoring and analysis easier by excluding questions 32 and 33 which required monetary values and hours committed to religious activities. The researcher removed these

items, which greatly improved the internal consistency of the measure, which was found to significantly increase from .021 to .92.

This falls in line with the test's psychometric properties as reported in other studies, which fall within an acceptable range, with test-retest reliability being 0.74, and internal consistency reliability ranging from 0.71- 0.93 for the individual subscales (Fetzer Institute/ NIA, 2003; Yoon & Lee, 2007). The BMMRS has been used in numerous studies within the United States of America, but has not been found to have been previously used within South Africa.

In a study that performed a factor analysis on the BMMRS, it was found that six as opposed to the expected eight factors were found, which the researchers labelled as (1) Positive Spiritual Experience, (2) Negative Spiritual Experience, (3) Forgiveness, (4) Religious Practices, (5) Positive Congregational Support, and (6) Negative Congregational Support (Johnstone, Yoon, Franklin, Schopp, & Hinkebein, 2009). Johnstone et al. (2009) intimate that this seems to suggest that the BMMRS measures multiple positive and negative aspects of religiousness-spirituality, and that essentially these factors could be collapsed to encompass Spiritual Experience, Forgiveness, Religious Practices, and Congregational Support. The Commitment subscale was included originally by the test developers, but has not been linked per se as a religious or spiritual construct, and has thus far shown limited psychometric evidence confirming it as a valid component of the BMMRS's factor structure, along with Religious-Spiritual History and participants' religious preference (Johnstone, et al., 2009). Most factor analyses performed on the scale suggest that it validly measures religious and spiritual constructs (Piedmont, Mapa, & Williams, 2007; Neff, 2006; Idler, et al., 2003).

Subscales concerned with 'positive' dimensions (Forgiveness, Commitment, and Positive Congregational Support) were inversely correlated with depressive symptoms, whilst 'negative' dimensions (loss of faith, Negative Congregational Support, and Negative Religious-Spiritual Coping) were directly correlated with depressive symptoms, demonstrating the measure's construct validity (Harris, et al., 2008). Improved family functioning, adaptive personality traits and transcendence also correlated with the 'positive' dimensions of the BMMRS (Piedmont, et al., 2007).

It was decided that each subscale would thus be used in the data analysis to ascertain whether any specific religious-spiritual characteristics related to any specific sexual risk behaviours, as this was thought to yield more valuable information in comparison to simply correlating religiousness-spirituality to sexual risk-taking behaviour as a whole (Rostosky, et al., 2004). Most of the research conducted linking religiousness-spirituality to sexual risk-taking has provided limited findings due to measures and data analysis methods that have not acknowledged the multi-dimensional nature of both concepts and the multi-dimensional relationships between them (Rostosky, et al., 2004). Furthermore, religiousness-spirituality is a complex phenomenon, with participants frequently scoring high on one aspect but not another; for example, scoring high on Private Religious Practices whilst scoring low on Organisational Religiousness, making overall measurements of religiousness-spirituality construct somewhat less meaningful (Lee & Newberg, 2005). Specifically analysing component subscales is also more likely to lead to further research, which could assist in identifying the most appropriate interventions to improve sexual health outcomes (Johnstone, et al., 2009).

The Adult Sexual Risk Behaviour Questionnaire (ASRBQ)

The Adolescent Sexual Risk Behaviour Questionnaire was developed for the purposes of a study conducted in 2012 by a Masters in Community-Based Counselling Psychology student at the University of the Witwatersrand (Westcott & Payne, 2012). The measure was adapted/ developed using common items used in other sexual risk measures, and takes into account age of sexual debut, amount of lifetime partners and whether the participant has ever engaged in sexual intercourse or not. Westcott and Payne's (2012) measure for adolescents places emphasis on frequency of use of barrier methods (condoms) to prevent sexually transmitted infections, and unwanted pregnancies, and it was thus believed that the content area of the measure needed to be broadened to encompass a greater range of sexual behaviour more fitting of adult sexual experiences.

The relatively generic content and formatting of this instrument made it appropriate for adolescents as well as young adults, however; the language of some of the items was revised to accommodate a more mature target sample. In order to accomplish this, it was decided to merge the measure with aspects of the Sexual Risk Survey (SRS), which was

developed by Turchik and Garske (2008) for college students. The redesigned measure now structures all questions along a 7-point likert scale, following a list of screening questions. Responses to 29 questions range from 0 for never and 6 for always. Therefore, the lowest sexual risk-taking score would be 0, whilst the highest score would be 168. Questions were streamlined and logically clarified to eliminate overlapping, double-barrelled and loaded questions, whilst ensuring that the content area covers a much broader range of sexual risk-taking behaviour when compared to the Adolescent SRBQ and the SRS.

At the beginning of the questionnaire the participants are screened as to whether or not they are currently sexually active, whether or not they have ever been sexually active, age of sexual debut and number of previous sexual partners. Participants who have ever been sexually active are required to complete Section A and Section B, whereas participants who have never engaged in sexual intercourse, but have engaged in sexual behaviour (fondling, kissing, oral sex etcetera.) are required to only complete Section A.

The amended measure was renamed the Adult Sexual Risk Behaviour Questionnaire (ASRBQ) (see **Appendix E**). The new ASRBQ was analysed for internal consistency reliability and scored $\alpha = 0.925$, $p < .05$. This suggests that the measure demonstrated satisfactory internal consistency reliability using the current sample, but likely needs more detailed piloting, reliability and validity data to confirm its validity, reliability and applicability.

Preliminary Data Analyses

Table 2: Tests of Normality for Subscales of BMMRS (N=199)

Subscales	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	degrees of freedom (df)	Significance (Sig.)	Statistic	degrees of freedom (df)	Significance (Sig.)
Daily Spiritual Experiences	.119	199	.000	.945	199	.000
Values/Beliefs	.195	199	.000	.917	199	.000
Private Religious Practices	.089	199	.001	.969	199	.000
Religious and Spiritual Coping	.112	199	.000	.963	199	.000
Religious Support Positive	.215	199	.000	.846	199	.000

Religious Support Negative	.169	199	.000	.902	199	.000
Religious/Spiritual History	.223	199	.000	.847	199	.000
Commitment	.413	199	.000	.206	199	.000
Organisational Religiousness	.123	199	.000	.946	199	.000
Self-Ranking	.175	199	.000	.936	199	.000
a. Lilliefors Significance Correction						

Table 3: Tests of Normality for Subscales of ASRBQ (N=199)

Subscales	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	degrees of freedom (df)	Significance (Sig.)	Statistic	degrees of freedom (df)	Significance (Sig.)
Sexual behaviour risk	.261	199	.000	.687	199	.000
Sexual intercourse risk	.407	199	.000	.391	199	.000

Tests for normality were performed on each individual subscale in order to help the researcher decide whether parametric or non-parametric tests should be used (see **Table 2 and 3** above). The Kolmogorov-Smirnov test and the Shapiro-Wilk test, commonly used tests for normality in large samples, demonstrate that the data is negatively skewed, and does not follow a pattern of normal distribution ($p < .05$). It would, therefore, be most appropriate to use non-parametric tests to further statistically analyse the data, although the sample size suggests that it may be robust enough to use parametric tests as well, which can be used for an initial analysis or confirmation (Tabachnick & Fidell, 2001).

After running descriptive and summary statistics, a multiple regression (Spearman's Rank Correlation Coefficient Analysis) was applied to assess for relationships between the subscales of the BMMRS and the ASRBQ. Thereafter, a Mann-Whitney U independent samples test was run in order to ascertain whether there is a difference between males and females in their aspects of religiousness-spirituality and sexual risk-taking behaviour.

Ethical Considerations

Ethical considerations form an often underestimated role within research involving human subjects. Research and its outcomes form part of a social context, and psychological

research in particular forms part of a mental health community which professes a fundamental concern for human well-being. It is for this reason that research and its outcomes need to be carried out with care for human welfare at each stage of implementation.

The conducted research fully has abided by fundamental ethical values such as informed consent, anonymity, and confidentiality. Unfortunately, a participant could not utilise their right to withdraw, because once the questionnaires have been submitted there would be no way of tracing a particular participant with their questionnaires, because none of the questionnaires will contain any identifying information, not even a signature for informed consent, as hand-in at the Department of Psychology will be considered as informed consent.

Ensuring informed consent, anonymity and confidentiality meant that before questionnaires were handed out, all participants were informed as to what the study intended to investigate (see **Appendix B: Information Sheet**). It was made clear that participant participation and honesty were greatly appreciated, but that anyone may have chosen to not participate without any foreseeable benefits or negative consequences. No names or identifying information was required to complete the questionnaires, thus ensuring anonymity. Raw data was only available to the researcher and the researcher's supervisor, and during data processing questionnaires were kept under lock and key, thus ensuring confidentiality. Data will be destroyed after graduation from the degree, to which the research is a requirement for completion, or five years subsequent to any successful publications of the research. These practices are implemented so as to respect the rights to dignity of the participants.

Research findings will be made available to participants on request via email, in the form of a short summary of the major findings. Participants were informed that a Research Report will be compiled once the information has been processed. Once this Report has been approved, the Report will be available on the University of the Witwatersrand Library System, and a hard copy will be held within the William Cullen Theses section.

Although these processes are important they are not the only ethical matters to consider. Religious-spiritual and sexual behaviour information will be required from

participants, which could be considered sensitive information to some. Participants who have in any way been involved in any form of sexual violence or coercion, or who are highly sensitive to content of a particularly sexual nature were discouraged from participating in the research on the information sheet. Access to free counselling resources was stipulated on the information sheet should participants choose to complete the questionnaires and subsequently become distressed. The researcher and supervisor's contact details were also outlined should any participants have queries related to the research.

A further issue that was considered was what the possible implications of the research outcomes might be. The researcher would need to be continuously cognisant of the possible negative outcomes of the research, and be careful about how the results are worded, and offset any claims of truth or causality by explicitly stating the limitations of the research design.

Conclusion

This chapter has addressed the most pertinent methodological issues related to the implementation of this research. It has outlined the study's research hypotheses, research design, sample demographics, instrument characteristics, and ethical principles in detail. The results obtained from data collection will now be discussed in the following chapter.

Chapter 4: Results and Discussion

Introduction

The preceding chapters of this research report have described the conceptual foundations of the project and its theoretical framework relative to the existing literature in the field of SRH, contextualised this study within the landscape of sexual risk-taking in South Africa, and detailed the research methodology that guided sampling, data collection and analysis. This chapter firstly presents the results of the factor analyses conducted on the newly formed ASRBQ, and the descriptive statistics obtained on all of the subscales of the BMMRS and the ASRBQ. Thereafter, the results from the data analysis are carefully outlined and these are discussed in order to unpack the complexity of religiousness-spirituality, sexual risk-taking, and gender using An Ecological Model of Sexual Risk-Taking Behaviour.

Factor Analysis on the ASRBQ

Exploratory principal component factor analysis on the ASRBQ was carried out to establish the amount of variance shared, and ascertain whether any clear factors were apparent in the measure (Tabachnick & Fidell, 2001). In order to establish the factorability of the measure, Bartlett's Test of Sphericity (Bartlett, 1954) and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Kaiser, 1970; 1974) were applied to the data. The table below suggests that the measure's data is appropriate for factors analysis as the Bartlett's test of sphericity is significant ($p < .05$) and the KMO index exceeds 0.6 (Tabachnick & Fidell, 2001).

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.871
Bartlett's Test of Sphericity	Approx. Chi-Square	5562.633
	degrees of freedom (df)	378
	Significance (Sig.)	.000

The factor analysis (see **Table 5** below) revealed that six factors were found to be present in the measure, which account for 74.82% of the total variance; however the first two factors accounted for the most variance (a total of 54.82% of the variance) in addition

to having Eigen-values of 2.7 and 12.6 respectively, suggesting that these two factors could be considered to be the most significant of the six factors. The Component Matrix seems to suggest that the two most prominent factors separate out roughly into Section A (Component 1) and Section B (Component 2) of the ASRBQ.

Although some cross-correlation between the two sections seems apparent, this is to be expected as many of the risk behaviours have been included for both sexual intercourse and sexual behaviour; e.g. in Section A, Q3: 'I engage in sexual behaviour with someone I have just met', and in Section B, Q19: 'I have sex with people I have just met'. It is likely that the other factors represent these thematic relations between the two sections. The results further seem to suggest that Component 2 becomes more significant from Question 15 and Question 16 (see **Appendix E**), which is concerned with sexual behaviour of a more intimate nature. The measure, therefore, might expect to ascertain higher degrees of responses to these items from individuals who have previously engaged in sexual intercourse.

Overall, factor analysis revealed two main factors in keeping with the design of the measure as measuring sexual risk behaviours in Section A, and sexually risky intercourse in Section B.

Table 5: Component Matrix[a]

	Component	
	1	**2**
ASRBQ1	.711	-.082
ASRBQ2	.681	.061
ASRBQ3	.776	-.331
ASRBQ4	.786	-.149
ASRBQ5	.664	-.251
ASRBQ6	.742	-.339
ASRBQ7	.700	-.312
ASRBQ8	.773	-.013
ASRBQ9	.613	-.219
ASRBQ10	.125	-.099
ASRBQ11	.573	-.236
ASRBQ12	.742	-.331
ASRBQ13	.640	-.420
ASRBQ14	.594	-.485

ASRBQ15	.494	.017
ASRBQ16	.526	.448
ASRBQ17	.593	.456
ASRBQ18	.808	.230
ASRBQ19	.890	.148
ASRBQ20	.880	.186
ASRBQ21	.838	.014
ASRBQ22	.762	.049
ASRBQ23	.638	.065
ASRBQ24	.271	.271
ASRBQ25	.857	.115
ASRBQ26	.426	.663
ASRBQ27	.533	.615
ASRBQ28	.516	.493
Extraction Method: Principal Component Analysis.		
a. 2 components extracted.		

Descriptive Statistics

Table 6: Descriptive Statistics for Subscales of BMMRS (N=199)

Variable	Variance	Mean	Standard Deviation	Range	Inter-quartile Range	Skewness	Kurtosis
Daily Spiritual Experiences	58.288	18.93	7.635	0-30	11	-.591 .172 (error)	-.535 .343 (error)
Values/Beliefs	5.809	13.28	2.410	6-17	3	-.877 .172 (error)	.185 .343 (error)
Private Religious Practices	66.929	15.70	8.181	0-32	13	-.144 .172 (error)	-.924 .343 (error)
Religious and Spiritual Coping	15.877	14.49	3.985	6-21	6	-.270 .172 (error)	-.864 .343 (error)
Positive Religious Support	3.979	3.97	1.995	0-6	3	-.791 .172 (error)	-.525 .343 (error)
Negative Religious Support	3.038	3.95	1.743	0-6	2	-.633 .172 (error)	-.478 .343 (error)
Religious-Spiritual History	.882	2.080	.9394	0-5	1	-.531 .172	-.124 .343

						(error)	(error)
Commitment	12.032	3.28	3.469	0-50	1	12.428 .172 (error)	168.306 .343 (error)
Organisational Religiousness	8.444	4.36	2.906	0-10	5	.218 .172 (error)	-.966 .343 (error)
Self-Ranking	2.153	3.58	1.467	0-6	2	-.412 .172 (error)	-.037 .343 (error)

Table 7: Descriptive Statistics for Subscales of ASRBQ (N=199)

Variable	Variance	Mean	Standard Deviation	Range	Inter-quartile Range	Skewness	Kurtosis
Sexual Behaviour Risk	178.540	8.57 .947 (error)	13.362	0-79	12	2.376 .172 (error)	6.938 .343 (error)
Sexual Intercourse Risk	41.640	2.19 .457 (error)	6.453	0-48	0	4.411 .172 (error)	22.877 .343 (error)

Descriptive statistics were also computed for all of the subscales. Although there were many kurtosis values indicating clusterings of extreme responses ($p < 0$), or greater variance for certain subscales, samples of 200 (this sample is almost 200), or more, are generally less affected by kurtosis in their later analyses (Tabachnick & Fidell, 2001). This means that the data may be robust enough to be subjected to parametric testing. In some cases, both parametric and non-parametric tests were applied to the data to confirm outcomes. All participants responded to all the items of the BMMRS and Section A: Sexual Behaviour Risk of the ASRBQ, however, only 45 (approximately 23%) responded to Section B: Sexual Intercourse Risk of the ASRBQ, which specifically measures responses from those who have ever engaged in sexual intercourse. The effect of this seems apparent in the mean, skewness and kurtosis values for the Sexual Behaviour Risk subscale in **Table 7** above.

Inferential analysis

Now that the initial results have been outlined as related to the measures, the inferential analysis as related to answering the research hypotheses can be delineated and discussed.

Hypothesis 1: Specific religious-spiritual beliefs, values and practices and sexual risk-taking.

Hypothesis	Outcome
H_0: there will be no significant indirect relationship between specific religious-spiritual beliefs, values and practices and degrees of sexual risk-taking behaviour and sexual risk-taking intercourse in young adults	Rejected
H_A: there will be a significant indirect relationship between specific religious-spiritual beliefs, values and practices and degrees of sexual risk-taking behaviour and sexual risk-taking intercourse in young adults	Accepted

Table 8: Spearman's Rank Order Correlation of Religiousness-Spirituality and Sexual Risk-Taking Behaviour

		Sexual behaviour risk	Sexual intercourse risk
Daily Spiritual Experiences	Correlation Coefficient	-.180*	-.184**
	Significance (2-tailed)	.011	.009
	N	199	199
Values/Beliefs	Correlation Coefficient	-.246**	-.250**
	Significance (2-tailed)	.000	.000
	N	199	199
Private Religious Practices	Correlation Coefficient	-.147*	-.168*
	Significance (2-tailed)	.038	.018
	N	199	199
Religious and Spiritual Coping	Correlation Coefficient	-.206**	-.222**
	Significance (2-tailed)	.004	.002
	N	199	199
Religious Support Positive	Correlation Coefficient	-.091	-.119

	Significance (2-tailed)	.201	.094
	N	199	199
Religious Support Negative	Correlation Coefficient	-.113	-.126
	Significance (2-tailed)	.111	.076
	N	199	199
Religious/Spiritual History	Correlation Coefficient	-.084	-.124
	Significance (2-tailed)	.238	.082
	N	199	199
Commitment	Correlation Coefficient	-.255**	-.266**
	Significance (2-tailed)	.000	.000
	N	199	199
Organisational Religiousness	Correlation Coefficient	-.124	-.114
	Significance (2-tailed)	.082	.108
	N	199	199
Self-Ranking	Correlation Coefficient	-.170*	-.168*
	Significance (2-tailed)	.017	.018
	N	199	199

**Correlation significant at the 0.01 level (2-tailed)

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

Using Spearman's Rank Order Correlation, the subscales of the BMMRS were correlated with the two subscales of the ASRBQ to test for relationships between specific religious-spiritual beliefs, values practices and specific components of sexual risk-taking (sexual behaviour and sexual intercourse). The test indicated a number of significant negative correlations between the scores of the measures, with the BMMRS subscales for Daily Spiritual Experiences, Values/Beliefs, Private Religious Practices, Religious-Spiritual Coping, Commitment and the participant's Self-Ranking scores being negatively correlated to their risky sexual intercourse practices and behaviours (see **Table 8** above). Thus, this suggests that there is an indirect relationship between religiousness-spirituality and sexual

risk-taking. The greater one's religiousness-spirituality, then generally the lower one's degree of sexual risk-taking will be.

Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. The strength of these relationships, however, appears to be weak, as the rho value did not exceed 0.3 (Tabachnick & Fidell, 2001). This is a possible indication that there are many other contributing factors to sexual risk-taking behaviour other than religiousness-spirituality. Gender, politics, health systems, age, socio-economic status, race, culture, self-identity, personality and biological factors can also strongly influence sexual behaviour (Rogan et al., 2010).

The Commitment subscale on the BMMRS appeared to have the strongest indirect correlation to sexual risk-taking. This is interesting, as this subscale was considered, in previous studies, to have not demonstrated much evidence as a religious-spiritual construct during statistical analyses of the BMMRS measure (Johnstone et al., 2009). The findings in this study seem to suggest that perhaps commitment to religious-spiritual beliefs, values and practices may, however, be an important religious-spiritual factor linked to engagement in sexual risk-taking. This specific subscale is concerned with personal investment in religious-spiritual practice and to what extent an individual carries over this investment into other contexts of their life. Perhaps then, this subscale may more closely link religiousness-spirituality with sexual risk-taking based on the individual's commitment to their faith and the extent to which they can apply it to their other life experiences, such as their sexual activity.

The TPB posits motivation to comply with normative beliefs as a key factor for intention to perform a behaviour. Perhaps commitment to religious-spiritual beliefs as measured on the BMMRS serves as a measure for motivation to comply with religious-spiritual normative beliefs. A high degree of motivation to comply with one's religious-spiritual doctrine may make it more difficult for such individuals to engage in sexual risk-taking behaviours contrary to their religious-spiritual doctrine. The relationship between commitment to religiousness-spirituality and lowered sexual risk-taking behaviours and intercourse suggests that commitment to one's religious-spiritual beliefs, values and

practices is significant to the decision-making process involved in deciding whether to engage in sexual risk-taking or not.

The BMMRS subscales of Positive and Negative Religious Support, Religious-Spiritual History and Organisational Religiousness were not related to sexual risk-taking behaviour and intercourse. As mentioned in the Methods chapter, factor analyses conducted on the BMMRS showed limited evidence for Religious-Spiritual History as a valid religious-spiritual construct (Johnstone, et al., 2009). This study has found it as equally insignificant in its relation to sexual risk-taking.

The subscales of Positive and Negative Religious Support and Organisational Religiousness could provide insight into the strength of religious-spiritual community ties experienced by the participants of this study. This may be because, as discussed in Chapter 2, strong links to communities can facilitate a sense of belonging through the attainment of the social capital the particular group represents, and thus a stronger internalisation of that community's beliefs, practices and values (Kusenbach, 2011; Garner, 2000; Heaney & Israel, 2008). In comparison to high income countries where the majority of previous research concerning religiousness-spirituality has been conducted, the participants in this study generally scored quite high on the BMMRS scale. However, on the scales mentioned above, lower scores on these subscales and an insignificant correlation to sexual risk-taking might suggest relatively weak religious-spiritual community ties for the participants of this study.

This could suggest the existence of more modern religious-spiritual community structures for the study's young adult university participants. A young adult university sample might reflect more modern community structures representative of increasing social diversity and social mobility. More modern community structures generally exert less normative influence, suggesting that perhaps individual factors and other social factors (peer group ties, self-identity, other religious-spiritual beliefs, values and practices, etcetera) may be more significant to the performance of sexual risk-taking behaviours in this population. This could weaken the influence of cultural values and social norms to a certain extent (Geertsen, 1997). Individuals might be increasingly participating in multiple group associations facilitated by individualistic lifestyles (such as social networking), thereby

lessening the need to meet one particular group's approval in order to gain and maintain social capital and a sense of belonging (Arnett, 2000).

On the other hand, the Religious and Spiritual Coping subscale demonstrated a significant indirect relationship to sexual risk-taking. This subscale measured the individual's faith and reliance on their religious-spiritual beliefs during times of hardship. This could perhaps further evidence the notion that participants in this study derived their religious-spiritual support from their faith in their Creator directly, rather than from their religious-spiritual community. Ahrold et al. (2011) believe that as contemporary forms of religious identity change, intrinsic religiousness-spirituality will emerge more greatly as a moderator between religiousness and sexual behaviour. Their study found that individual differences in religiousness were mediated by spirituality as related to sexual behaviour (Ahrold, et al., 2011). This further supports the significance of utilising multidimensional measures of religiousness-spirituality in sexual health behaviour research as a means for trying to capture the widest and possibly the most meaningful data on religiousness and spirituality.

The BMMRS subscale Private Religious Practices was also related to sexual risk-taking, although relatively weaker than the other subscales. This subscale generally measured aspects of religiousness commonly measured and linked to health outcomes (like church attendance, frequency of prayer, frequency of reading of religious texts etcetera.) when studies of religiousness first emerged (Fetzer Institute/ NIA, 2003; Rostosky, et al., 2004; Lee & Newberg, 2005). In this study it was interesting to note that these factors seemed less linked to sexual behaviour than previously reported, and that other aspects of religiousness-spirituality captured in a multidimensional measure such as the BMMRS, revealed possibly other significant factors and seemed to provide richer data.

According to other significant correlations to sexual risk-taking, like BMMRS subscales Daily Spiritual Experiences, Values/Beliefs and participants' Self-Ranking of their religiousness-spirituality, personally meaningful experiences with God, strong faith, forgiveness of self and others, and self-identified religiousness-spirituality appear to be significant to the decision-making process and performance of sexual risk-taking behaviours, including risky intercourse. The TPB could possibly assist in understanding these results.

The results discussed above possibly suggest that someone who possesses a strong sense of religiousness-spirituality, along with important religious-spiritual beliefs and values, might be more informed about the risks and consequences of sexual risk-taking and predict negative religious-spiritual consequences to their sexual behaviour (behavioural beliefs). The may also be more likely to apply normative beliefs according to their faith and spirituality and be strongly motivated to comply with such beliefs based on the strength of their faith. However, this not appear to be linked so much to the maintenance of community structures from which social capital and a sense of belonging is attained, but rather as a result of personal devotion and a more personally meaningful relationship with God, as predicted by Ahrold et al. (2011).

Finally, such an individual may feel confident about their ability to enact their choice (to engage in safer sexual behaviour and maintain their religiousness-spirituality) and manage situational consequences, such as averting sexual advances, refraining from sexual intercourse or choosing to use barrier protection.

The majority of research generally supports the assertion that highly religious-spiritual individuals engage in less risky sexual behaviour and intercourse (Lee & Newberg, 2005; Koenig, et al., 2001), and avoid such behaviour or lessen its extent due to its perceived negative consequences, and the imagined negative reaction of one's religious-spiritual community, family or friends (Buhi & Goodson, 2007; Rostosky, et al., 2010; Carvajal, et al., 1999). Confidence about one's ability to manage a situation or perform a behaviour (like refusing sex or asking for the use of a condom etcetera.) has also been found to improve the likelihood that that behaviour will be performed (McCree, Wingood, DiClemente, Davies, & Harrington, 2003; Ajzen & Madden, 1986).

It is important, however, to remember that the study only found a weak indirect relationship between religiousness-spirituality and sexual risk-taking, and so other factors related to the performance of sexual risk-taking behaviours should also be considered important to the understanding and prevention of such behaviours. Broader influences such as gender, socio-economic context, socio-historical context, and culture can also affect decision-making (Rostosky, et al., 2010; Rogan, et al., 2010). Factors of an intrapersonal nature, not accounted for in An Ecological Model of Sexual Risk-Taking Behaviour, such as

personality, self-identity, genetic pre-disposition and other biological factors, could also be significant (Rise, et al., 2010).

Lastly, correlations of the subscales of the BMMRS to the subscales of the ASRBQ did also not seem to differ significantly when comparing sexual risk-taking behaviour to sexual risk-taking intercourse. This seems to suggest that the religious-spiritual links between sexual behaviour and actual intercourse do not seem to vary significantly. The role of religiousness-spirituality in lessening the likelihood of engaging in sexual risk-taking behaviour, therefore, act equally to lessen more benign sexual behaviour as well as engagement in risky sexual intercourse.

Hypothesis 2: Gender, specific aspects of religiousness-spirituality and sexual risk-taking.

Hypothesis	Outcome
H_0: there will be no significant difference in the specific religiousness-spiritual beliefs, values and practices and sexual risk-taking behaviour and sexual risk-taking intercourse of young men and women	Rejected
H_A: there will be a significant difference in the specific religiousness-spiritual beliefs, values and practices and sexual risk-taking behaviour and sexual risk-taking intercourse of young men and women	Accepted

Table 9: Gender, Religiousness-Spirituality and Sexual Risk-Taking

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Significance	t	df	Significance (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Daily Spiritual Experiences	Equal variances assumed	1.459	.229	.617	196	.538	.687	1.114	-1.509	2.883
	Equal variances not assumed			.597	140.332	.552	.687	1.151	-1.589	2.962
Values/Beliefs	Equal variances assumed	1.331	.250	-1.392	196	.165	-.488	.350	-1.179	.203
	Equal variances not assumed			-1.358	144.263	.176	-.488	.359	-1.198	.222
Private Religious Practices	Equal variances assumed	.004	.950	-1.346	196	.180	-1.606	1.193	-3.958	.747
	Equal variances not assumed			-1.359	161.194	.176	-1.606	1.182	-3.939	.728
Religious and Spiritual Coping	Equal variances assumed	.009	.924	-1.910	196	.058	-1.103	.577	-2.242	.036
	Equal variances not assumed			-1.901	153.885	.059	-1.103	.580	-2.250	.044
Religious Support Positive	Equal variances assumed	.070	.792	.721	196	.472	.209	.290	-.363	.782
	Equal variances not assumed			.719	154.716	.473	.209	.291	-.366	.785

Religious Support Negative	Equal variances assumed	.040	.842	1.056	196	.292	.269	.255	-.234	.772
	Equal variances not assumed			1.061	158.700	.290	.269	.254	-.232	.771
Religious/Spiritual History	Equal variances assumed	3.562	.061	-2.048	196	.042*	-.2803	.1369	-.5502	-.0104
	Equal variances not assumed			-1.968	137.021	.051	-.2803	.1425	-.5620	.0014
Commitment	Equal variances assumed	.579	.448	-1.011	196	.313	-.514	.509	-1.518	.489
	Equal variances not assumed			-1.259	145.121	.210	-.514	.409	-1.322	.293
Self-Ranking	Equal variances assumed	1.573	.211	-1.121	196	.264	-.238	.212	-.656	.181
	Equal variances not assumed			-1.086	141.204	.279	-.238	.219	-.670	.195
Organisational Religiousness	Equal variances assumed	3.309	.070	-.343	196	.732	-.146	.425	-.984	.693
	Equal variances not assumed			-.331	139.610	.741	-.146	.440	-1.016	.725
Sexual intercourse risk	Equal variances assumed	15.751	.000	2.375	196	.019	2.221	.935	.377	4.066
	Equal variances not assumed			2.136	110.200	.035*	2.221	1.040	.161	4.282
Sexual behaviour risk	Equal variances assumed	7.081	.008	2.353	196	.020	4.566	1.940	.740	8.391
	Equal variances not assumed			2.178	120.949	.031*	4.566	2.096	.416	8.715

* indicates significant differences between the means of males and females

Table 10: Kruskal-Wallis Test for Gender, Religiousness-Spirituality and Sexual Risk-Taking

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Totalsexbehaviourrisk is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.043	Reject the null hypothesis.
2	The distribution of Totalsexintercourserisk is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.017	Reject the null hypothesis.
3	The distribution of Dailyspiritualexperiences is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.229	Retain the null hypothesis.
4	The distribution of ValuesBeliefs is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.165	Retain the null hypothesis.
5	The distribution of Privatereligiouspractices is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.163	Retain the null hypothesis.
6	The distribution of Religiousandspiritualcoping is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.063	Retain the null hypothesis.
7	The distribution of Religioussupport is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.194	Retain the null hypothesis.
8	The distribution of Religioussupportve is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.220	Retain the null hypothesis.
9	The distribution of Religiousspiritualhistory is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.245	Retain the null hypothesis.
10	The distribution of Commitment is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.200	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
11	The distribution of Organisationalreligiousness is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.238	Retain the null hypothesis.
12	The distribution of SelfRanking is the same across categories of Sex.	Independent-Samples Kruskal-Wallis Test	.133	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

One of the objectives of this study was also to determine there would be differences between men and women in their religiousness-spirituality and sexual risk-taking. One participant identified as being neither male nor female. Due to this being only one case, this individual's responses were not used in the statistical analyses for gender. A T-test was chosen in order to statistically analyse whether the means of the tests for each gender group were significantly different for any of the subscales on the BMMRS and the ASRBQ. As per Pallant's (2005) suggestion, if the Levene's test for equality of variances shows a significant value larger than .05 then the variances for males and females is the same and the first t-test value in the table under 'equal variances assumed' can be used. This was the case for all the BMMRS subscales, but not for the ASRBQ subscales; therefore, the second value under 'equal variances not assumed' was consulted for analysis of significant differences between the means for the ASRBQ subscales (see **Table 9**).

Contrary to expectation, none of the BMMRS subscales apart from Religious-Spiritual History demonstrated a significant difference in the responses between the genders ($p <$ .05). Therefore, for the majority of the BMMRS subscales the null hypothesis was retained, and only accepted for Religious-Spiritual History. However, significant differences were noted between males and females for sexual risk-taking, for both sexual risk-taking regarding sexual behaviours (.031, $p < .05$) and sexual intercourse (.035, $p < .05$) (see **Table 9** above). This indicates that for the subscales of the ASRBQ the null hypothesis was rejected and the alternative hypothesis was accepted. Therefore, males and females differ in their degree of sexual risk-taking.

The finding that most of the subscales measuring religiousness-spirituality indicated no significant difference between males and females stands in contrast to the general findings in the literature that females generally score more highly on religious and spiritual measures (Koenig, et al., 2001; Lee & Newberg, 2005; Williams & Sternthal, 2007). This could indicate a movement towards greater gender equality in religiousness-spirituality in young adult university populations (Dailey, 2004; Day, 2010; Hunt & Jung, 2009).

Furthermore, the findings seem to suggest that generally, in this sample, males and females have somewhat equal degrees of religiousness-spirituality, but that this is not equally considered between the genders in relation to sexual risk-taking behaviour. This

seems to be supported by other studies that have found similar gendered differences in sexual risk-taking, religiousness-spirituality and the relationship between them (Buhi & Goodson, 2007; Rostosky, et al., 2010; Turchik & Garske, 2008; Baldwin & Baldwin, 1988; Luquis, Breisford, & Rojas-Guyler, 2012). In accordance with An Ecological Model of Sexual Risk-Taking Behaviour, this could be because males seem to experience less normative influence apart from their peer group, as it has been suggested that males generally place more importance on the approval of their peers, whereas females tend to consider a number of influences simultaneously (Oliver & Hyde, 1993; Rogan, et al., 2010).

Social factors might also be significant here. Males also tend to receive varying messages about the acceptability of sexual behaviour, which generally construct sexuality as a vital and acceptable part of being masculine, even by some religious-spiritual institutions and groups (Hunt & Jung, 2009; Hunter, 2010). Should males possess less strict normative beliefs concerning sexual risk-taking and their religious-spiritual beliefs, values and practices associated with the enactment of sexual acts, this may make the intention to perform sexual risk-taking behaviours higher.

Therefore, although males and females may be relatively equal in their degree of religiousness-spirituality, this may not translate into equal significance regarding applicability due to perhaps differing socialisation processes present within broader societal levels. This may affect males' decision-making processes according to the TPB, where motivation to comply with normative beliefs is a significant contributing factor to intention to perform a specific behaviour, like sexual risk-taking (Ajzen, 1988; Goggin, et al., 2007).

However, the sample appeared to have somewhat weak ties to religious-spiritual communities, therefore this factor may not meaningfully contribute to decision-making regarding sexual risk-taking behaviour. Alternatively, the difference between males and females' sexual risk-taking in the context of seemingly equal degrees of religiousness-spirituality might also suggest that males perhaps possess lowered intrinsic religiousness, also known as spirituality (a more personally meaningful connection to the Creator). Although, no significant differences between men and women were discovered on any of the other subscales of the BMMRS to support this hypothesis.

Although males and females might differ significantly in relation to Religious-Spiritual History, this was not one of the subscales in this study found to correlate significantly with sexual behaviour and intercourse practices and intentions, therefore, this religious-spiritual factor is unlikely to contribute to the gender differences found in the ASRBQ scales. This seems to suggest that other psychosocial factors are creating gendered differences in sexual risk-taking. Other factors influencing differences in sexual behaviours between males and females are aspects of gender socialisation, advertising, biases in public health promotion, biological pre-disposing factors which place women at greater health risk (more complex reproductive systems), differing motivations for health, and even economic factors, such as trends in employment; in short, multiple bio-psychosocial influences affect the gendered differences in sexual risk-taking (Waldron, 1997). These relationships were found to be confirmed by an Independent Samples Kruskal-Wallis Test (**Table 10**), as shown above.

Serendipitous findings: Examining correlations between other demographic variables, religiousness-spirituality and sexual risk-taking behaviour

All demographics variables were correlated with the BMMRS and ASRBQ subscales as a matter of interest, as is common practice in quantitative research (Haslam & McGarty, 2007). Age and race did not significantly relate to any of the subscales of the BMMRS and the ASRBQ. Sexual orientation, however, was found to correlate with specific religious-spiritual subscales on the BMMRS; a One-way ANOVA was run with Multiple Comparisons and Post-Hoc tests (see **Table 11** below).

Religiousness-spirituality and sexual orientation.

Table 11: Sexual Orientation and Religiousness-Spirituality

Dependent Variable		(I) SexOri	(J) SexOri	Mean Difference (I-J)	Std. Error	Significance	95% Confidence Interval	
							Lower Bound	Upper Bound
Negative Religious Support	LSD	1	2	1.316*	.619	.035	.09	2.54
			3	3.250*	1.049	.002	1.18	5.32
			6	1.250	1.049	.235	-.82	3.32
		2	1	-1.316*	.619	.035	-2.54	-.09
			3	1.934*	.866	.027	.23	3.64
			6	-.066	.866	.940	-1.77	1.64
		3	1	-3.250*	1.049	.002	-5.32	-1.18
			2	-1.934*	.866	.027	-3.64	-.23
			6	-2.000	1.212	.100	-4.39	.39
		6	1	-1.250	1.049	.235	-3.32	.82
			2	.066	.866	.940	-1.64	1.77
			3	2.000	1.212	.100	-.39	4.39
	Bonferroni	1	2	1.316	.619	.209	-.33	2.97
			3	3.250*	1.049	.013	.45	6.05
			6	1.250	1.049	1.000	-1.55	4.05
		2	1	-1.316	.619	.209	-2.97	.33
			3	1.934	.866	.160	-.37	4.24
			6	-.066	.866	1.000	-2.37	2.24
		3	1	-3.250*	1.049	.013	-6.05	-.45
			2	-1.934	.866	.160	-4.24	.37
			6	-2.000	1.212	.603	-5.23	1.23
		6	1	-1.250	1.049	1.000	-4.05	1.55
			2	.066	.866	1.000	-2.24	2.37

			3	2.000	1.212	.603	-1.23	5.23
Organisational Religiousness	LSD	1	2	-1.518	1.039	.145	-3.57	.53
			3	-4.375*	1.761	.014	-7.85	-.90
			6	-.125	1.761	.943	-3.60	3.35
		2	1	1.518	1.039	.145	-.53	3.57
			3	-2.857	1.454	.051	-5.72	.01
			6	1.393	1.454	.339	-1.47	4.26
		3	1	4.375*	1.761	.014	.90	7.85
			2	2.857	1.454	.051	-.01	5.72
			6	4.250*	2.034	.038	.24	8.26
		6	1	.125	1.761	.943	-3.35	3.60
			2	-1.393	1.454	.339	-4.26	1.47
			3	-4.250*	2.034	.038	-8.26	-.24
	Bonferroni	1	2	-1.518	1.039	.873	-4.29	1.25
			3	-4.375	1.761	.083	-9.07	.32
			6	-.125	1.761	1.000	-4.82	4.57
		2	1	1.518	1.039	.873	-1.25	4.29
			3	-2.857	1.454	.305	-6.73	1.02
			6	1.393	1.454	1.000	-2.48	5.27
		3	1	4.375	1.761	.083	-.32	9.07
			2	2.857	1.454	.305	-1.02	6.73
			6	4.250	2.034	.228	-1.17	9.67
		6	1	.125	1.761	1.000	-4.57	4.82
			2	-1.393	1.454	1.000	-5.27	2.48
			3	-4.250	2.034	.228	-9.67	1.17
Self-Ranking	LSD	1	2	-1.623*	.518	.002	-2.64	-.60
			3	-2.750*	.878	.002	-4.48	-1.02

			6	-1.750*	.878	.048	-3.48	-.02
		2	1	1.623*	.518	.002	.60	2.64
			3	-1.127	.724	.121	-2.56	.30
			6	-.127	.724	.861	-1.56	1.30
		3	1	2.750*	.878	.002	1.02	4.48
			2	1.127	.724	.121	-.30	2.56
			6	1.000	1.013	.325	-1.00	3.00
		6	1	1.750*	.878	.048	.02	3.48
			2	.127	.724	.861	-1.30	1.56
			3	-1.000	1.013	.325	-3.00	1.00
	Bonferroni	1	2	-1.623*	.518	.012	-3.00	-.24
			3	-2.750*	.878	.012	-5.09	-.41
			6	-1.750	.878	.285	-4.09	.59
		2	1	1.623*	.518	.012	.24	3.00
			3	-1.127	.724	.728	-3.06	.80
			6	-.127	.724	1.000	-2.06	1.80
		3	1	2.750*	.878	.012	.41	5.09
			2	1.127	.724	.728	-.80	3.06
			6	1.000	1.013	1.000	-1.70	3.70
		6	1	1.750	.878	.285	-.59	4.09
			2	.127	.724	1.000	-1.80	2.06
			3	-1.000	1.013	1.000	-3.70	1.70

*. The mean difference is significant at the 0.05 level.

In **Table 11** above, 1= homosexual, 2= heterosexual, 3= bisexual, and 6= unsure (there were no responses for option four (asexual) or five (Other), therefore it was excluded from analysis). Highlighted sections and asterisks (*) show significant results. A One-way ANOVA (with Multiple Comparisons) was conducted with Post-Hoc tests in order to test for differences in religiousness-spirituality amongst the varying sexual orientations. The results of the ANOVA revealed statistically significant differences between the sexual orientation

groups for the BMMRS subscales Negative Religious Support, Organisational Religiousness and Self-Ranking. The Post-hoc comparisons using the Tukey HSD test would enable an analysis of between which groups the differences were most significant.

Results indicated that for the subscale Negative Religious Support, those identifying as homosexual differed significantly from those identifying as heterosexual and bisexual, and heterosexuals seemed to differ significantly from bisexuals. In keeping with the literature, this these results might suggest that homosexuals and bisexuals generally experience greater negative religious support than heterosexuals, such as greater demands and experiences of being criticised for who one is and what one does (Tan & Yarhouse, 2010).

Homosexuality, one type of sexual identity development, has been one of the most studied in an attempt to understand the interface between religious and sexual identities, as homosexuality commonly creates dissonance with traditional religious values, views and practices, and thus provides a magnified lens to an extent (Scarlett & Warren, 2010). Studies have frequently shown that increased conflict between these identities is facilitated by religious homonegativity in one's religious community, which has been associated with internalised homophobia and poorer psychological health (Shidlo, 1994; Lease, Horne, & Noffsinger-Frazier, 2005; Scarlett & Warren, 2010; Tan & Yarhouse, 2010).

However, where a loving and accepting religious environment is experienced, homosexually identified individuals tend to use their faith as a source of support, making identity integration and reconciliation notably smoother (Love, Bock, Jannarone, & Richardson, 2005; Scarlett & Warren, 2010). Identity integration is also made easier for the homosexual individual if they did not simply accept traditional religious interpretations of homosexual behaviour, but if they were able to formulate their own interpretations of scripture by fashioning their own version of their faith, demonstrating the dynamic interaction that can occur between religious and sexual identities (Love, et al., 2005; Scarlett & Warren, 2010).

The Organisational Religiousness subscale evaluates frequency of religious service attendance and participation in religious activities outside of services. Organisational Religiousness also seemed to differ between sexual orientations. Differences were greatest

between self-identified homosexuals and bisexuals, and between bisexuals and those unsure of their sexual orientation (see **Table 11** above). Contrary to expectation, no significant difference was found between heterosexuals and other sexual orientations in this regard. The exact reason for these differences is uncertain, although heterosexuals generally exhibit higher attendance rates at services in comparison to other sexual orientations who may feel less accepted by their religious-spiritual communities (Finlay & Walther, 2003). No literature could found that could explain or has examined differing religiousness-spirituality between homosexuals, bisexuals, and those uncertain of their sexual orientation.

Finally, on the Self-Ranking subscale of the BMMRS, on which participants were required to rank themselves as to how religious and spiritual they perceived themselves to be, significant differences were discovered between homosexuals and heterosexuals, homosexuals and bisexuals, and homosexuals and those unsure of their sexual orientation. As with all the Tukey HSD Post-hoc test results, the degree and nature of the reported differences could not be calculated. Existing literature tends to suggest that because of the general conflict between religious and sexual identities for homosexuals, bisexuals and those unsure of their orientations, heterosexuals generally find it easier to identify as highly religious and/or spiritual as it is more congruent with their existing sexual identity (Love, et al., 2005; Finlay & Walther, 2003; Scarlett & Warren, 2010).

Conclusion

This chapter has presented the results of the statistical analyses conducted on the dataset obtained from a young adult university population studying various fields in the Health Sciences at the University of the Witwatersrand. Findings have confirmed expectations about an indirect relationship between increased specific religious-spiritual beliefs, values and practices (namely commitment to one's faith, a deeply meaningful relationship to one's perceived God, forgiveness of oneself and others, private religious-spiritual practices, turning to the Creator in times of distress and self-identification as spiritual and religious) and lowered sexual risk-taking as pertaining to more benign sexual risk-taking behaviours as well as risky sexual intercourse practices. Furthermore, expectations about discovering a difference between men and women's specific religious-

spiritual beliefs, values and practices, as well as their sexual risk-taking were largely confirmed. Serendipitous findings were discovered regarding the relationship of different sexual orientations to specific religious-spiritual beliefs, values and practices. Significant differences were discovered between heterosexuals, homosexuals, bisexuals and those unsure of their sexual orientation for Negative Religious Support, Organisational Religiousness, and Self-Ranking, suggesting possibly greater degrees of criticism and lack of support, lowered organisational participation, and lowered self-identification as religious or spiritual for homosexual and bisexual participants, and those unsure of their sexual orientation.

Chapter 5: Conclusions

Introduction

This chapter summarises the main findings of the study in relation to its overall aims. The methodological approach used in this study is then evaluated to provide a high-level overview of its strengths, utility and limitations. The chapter concludes with a discussion of the implications of the project and several recommendations for future studies that take seriously the significance of religiousness-spirituality and gender in sexual risk-taking in the design, implementation and evaluation of SRH programmes specifically, and public health interventions more generally.

A Synopsis

Given the SRH conditions of the South African population (relatively high rates of STIs, HIV and AIDS, and unwanted pregnancies, especially in the young female population) in conjunction with their reportedly high percentage (83%) of self-identified affiliation to some religious following, this study wished to more closely examine the link between religiousness-spirituality and sexual risk-taking for young persons in the South African context. Furthermore, as gender has previously in research shown mixed outcomes as related to differences between men and women's religiousness-spirituality and sexual risk-taking, this was also a key area of interest.

Theoretically, this study aimed to explore the usefulness and validity of multidimensional measures of religiousness-spirituality, as well as situate sexual risk-taking as a complex psychosocial phenomenon with many contributing factors. These aims were, moreover, hoped to lead to a more holistic approach to the development of more effective sexual health prevention and intervention programmes designed to address some of the psychosocial contributors of sexual risk-taking.

A quantitative, non-experimental, ex-post facto and cross-sectional research design was chosen given the time constraints and research interests of this study. The aim was to measure each variable of interest and explore the data for relationships. A young adult university convenience sample was used. Participants provided data on their religious-spiritual beliefs, values and practices, as well as their sexual risk-taking behaviours pertaining to sexual behaviour and sexual intercourse practices. The BMMRS was used as a

multidimensional measure of religiousness-spirituality and the ASRBQ was designed to measure a broader range of sexual risk-taking behaviours in a young adult population, and was adapted from the Adolescent Sexual Risk Behaviour Questionnaire and the Sexual Risk Survey.

The dataset was found to be negatively skewed and therefore did follow a normal pattern of distribution. However, the sample size (199) generally suggested that the dataset may be robust enough to be subjected to parametric as well as non-parametric data analyses. Therefore, all of the hypotheses were tested using both non-parametric and parametric tests. The results were similar in all cases, serving to confirm the robustness of the data.

The results revealed significant indirect relationships between specific religious-spiritual beliefs, values and practices and sexual risk-taking. Commitment to one's faith, a deeply meaningful relationship to one's perceived God, forgiveness of oneself and others, private religious-spiritual practices, turning to the Creator in times of distress and self-identification as spiritual and religious appeared to be linked to lowered sexual risk-taking. In addition, men and women were found to differ significantly in their Religious-Spiritual Histories, as well as in their sexual risk-taking.

Interestingly, subscales on the BMMRS measuring Religious Support (Positive and Negative) and Organisational Religiousness, estimating degree of religious-spiritual community ties, was not related to sexual risk-taking. Private Religious Practices, a common measure of religiousness in previous studies linking religiousness to health, demonstrated a fairly weaker relationship to sexual risk-taking than the other scales, suggesting the importance of multidimensional measures of religiousness-spirituality in gathering richer results. This also seemed more significant in this study, where it appears that this young university sample seems to be less involved in their religious-spiritual institutions, but still seemed highly spiritual in terms of their special and meaningful connection to their Creator.

Religious-Spiritual History was not found to link to sexual risk-taking, although it was found to be the only subscale that elicited significantly different responses between men and women. This seems to suggest that religiousness-spirituality might not be a factor linked to the differences in men and women's sexual risk-taking. Other factors, such as

gender socialisation, the ways in which men and women internalise norms, culture, and biological differences can affect gendered differences in sexual risk-taking (Hunter, 2010).

Application of An Ecological Model of Sexual Risk-Taking Behaviour and previous research outcomes yielded interesting suggestions about the hypothesised meanings of the results. Attitude, constituted by behavioural beliefs and a behavioural outcome evaluation, suggests that in this sample, the more religious-spiritual one is, the more informed one is about the risks of sexual risk-taking, both practically and how that might affect one's identity as a religious-spiritual person. Subjective norm (normative beliefs + motivation to comply) appeared in this sample to be less as a result of strong community ties and the guilt associated with disappointing that group, and more mediated by strong personal faith and commitment to carrying over that faith into all areas of one's life. This may be a reflection of a more modern young adult population. Perhaps the indirect relationship between religiousness-spirituality and sexual risk-taking might also be explained by the sample feeling better empowered about managing to ward off pressures to engage in sexual risk-taking (control beliefs).

Gendered differences in sexual risk-taking were largely understood as being related to differing behavioural, normative and control beliefs between men and women, as there may be differing socialisation processes and motivations to comply with social norms related to being religious-spiritual or engaging in sexual risk-taking. Other demographic variables, such as race, age, and sexual orientation were also explored for relationships to religiousness-spirituality and sexual risk-taking. Age and race did not demonstrate any significant relationships, although sexual orientation was found to correlate significantly with aspects of religiousness-spirituality. Although no research was found investigating these factors, theoretically, homosexuals, heterosexuals, bisexuals, and those unsure of their sexual orientation are understood as sometimes experiencing Negative Religious Support, Private Religious Practices and self-identified religiousness-spirituality differently.

However, given the often multiple and complex contributors to sexual risk-taking it can be understood that the significant relationships found fell in the weak range (<0.3), and therefore other factors such as personality, identity, culture, socioeconomic status, other personal and individual factors, biological pre-disposition, age, and geographic location can

also possibly contribute to increased or decreased sexual risk-taking. Not only has the study appeared to provide richer and more varied data due to its measurement of religiousness-spirituality as a multidimensional construct, but it has also shown that the psychosocial constructs of religiousness-spirituality and gender are related to sexual risk-taking, and that sexual risk-taking is likely a result of multiple and complex bio-psychosocial factors that possibly need to be considered when designing and implementing SRH prevention and intervention programmes.

Strengths of the Study

This study possesses a number of strengths and has resulted in some important contributions. This study adopted a positivistic paradigm considering that matters concerning sexuality, religion and spirituality often produce strong personal reactions. By doing so, the possibility of bias directing the study's results were generally reduced due to the quantitative methods adopted during measurement selection and design, data collection, scoring, analysis and interpretation.

Furthermore, the majority of research conducted in the field of religiousness-spirituality and sexual health has largely demonstrated a relationship between these variables, but with some mixed or non-significant outcomes (Miller & Thoresen, 2003; Agadjanian & Menjivar, 2008; Lee & Newberg, 2005). Very little research in this field has been conducted in South Africa, even more so using multidimensional measures of religiousness-spirituality or measures of spirituality. This study took this one step further, by also looking at the relationships between specific religious-spiritual beliefs, values and practices and sexual risk-taking, an area of investigation suggested by other researchers in the field (Lee & Newberg, 2005; Rostosky, et al., 2004). By conducting such research in South Africa, the results could provide precedent or inform researchers of whether further investigation might have utility. Correlational research can be used to quantitatively explore an area of interest and if enough positive results are discovered, then the question of causality can be theoretically and experimentally explored (Durrheim & Painter, 2008).

Given that the variables of interest (religiousness-spirituality, gender and sexual risk-taking) are quite difficult or impossible to manipulate ethically and experimentally, experimental research may not be suitable or appropriate and therefore, correlational

research may be one of the most suitable avenues of quantitative investigation in this field. Therefore, this study's research design was adopted to best contribute quantitative and theoretical knowledge according to the norms and limitations of study in this field, within the South African psychosocial context.

Limitations of the Study

There are a few limitations to the present study that warrant consideration. A non-random convenience sample from an undergraduate population was used, which may limit generalisability (Ahrold, et al., 2011). Therefore, the results of this study may reveal unique characteristics of this particular group of Health Science students, rather than of all young adult populations. For example, Health Sciences students may be particularly religious-spiritual or generally have lower sexual risk-taking than the general population. The lack of random sampling therefore limits the external validity and generalisability of this study's findings (Tredoux & Smith, 2008). In addition, given the predominance of Christian participants and the use of the BMMRS, which generally uses Judeo-Christian phraseology, the analysis of sexual risk-taking amongst non-religious or non-spiritual individuals was limited. Perhaps this study could be replicated with other populations to assess the generalisability of the findings.

In addition, with self-report questions, and especially with those eliciting information about sexual behaviours or religious-spiritual views, there may have been sampling biases in that participants who were uncomfortable with the sexual and/or religious-spiritual nature of the study may have chosen not to answer certain questions or have answered conservatively (Ahrold, et al., 2011). Due to aspects related to participants' perceived social desirability, participants may have wished to 'fake good' on the BMMRS and the ASRBQ, therefore giving higher degree responses for religious-spiritual scales and lower degree responses on the sexual risk-taking scales (Murphy & Davidshofer, 2005).

For example, 77% of participants did not answer Section B on the ASRBQ. Participants of course have the right to choose whether or not to answer questions that make them uncomfortable, despite being encouraged to answer honestly and assured of confidentiality and anonymity. It is possible that participants did not answer Section B because they had not previously engaged in sexual intercourse. However, it is not

uncommon to experience lower response rates for questionnaires examining matters related to sexuality (Ahrold, et al., 2011; Turchik & Garske, 2008). Questionnaires can be altered to word questions in a more sensitive or conservative manner (Ahrold, et al., 2011), or statistically analysed and adjusted to lessen the effects of social desirability, although this method has not proven to be particularly successful (Murphy & Davidshofer, 2005). Alternatively, qualitative research can be conducted to gain more in-depth data regarding sexual behaviours and religious-spiritual beliefs, values and practices in a perhaps less threatening and more open environment.

Additionally, there were some limitations with regard to the measurement instruments used. The ASRBQ was developed and used for the first time in this study, making its exact known validity and reliability limited. In turn, the BMMRS had never before been used in South Africa, making its applicability to this population uncertain to some degree. Despite these concerns, the ASRBQ and the BMMRS evidenced very good internal consistency reliabilities ($\alpha = 0.93$ and 0.92 respectively). Nevertheless, the ASRBQ is likely to need further testing to establish test-retest reliability, construct validity, and criterion-related validity. Furthermore, this study measured gender on the Demographic Questionnaire as reference to physical sex, rather than as a complex and multidimensional construct as defined by some authors (Swarr, 2012).

In the data analysis phase of this research, the Spearman's Rank Order Correlation test, T-tests for Equality of Means were run for each subscale, the Mann-Whitney U Independent Samples test and an ANOVA (with Multiple Comparisons and Post-Hoc tests) were used to explore the data for relationships. Although the data did not follow a normal distribution, it was deemed robust enough to use parametric and non-parametric tests. For each hypothesis tested, parametric and non-parametric results did not differ. However, some limitations do exist regarding the tests used. For example, although the multiple T-tests for Equality of Means, the Mann-Whitney U Independent Samples test and ANOVA (with Multiple Comparisons and Post-Hoc tests) revealed significant differences between men and women, and the various sexual orientations regarding specific subscales, the exact effect size is unknown.

The weak indirect relationship between religious-spiritual beliefs, values and practices and sexual risk-taking also suggested that there may be many other bio-psychosocial contributors to sexual risk-taking. Politics, health systems, age, socio-economic status, race, culture, identity, personality and biological factors can also strongly influence sexual risk-taking (Rogan, et al., 2010). These covariates were not measured and therefore their validity as contributors to sexual risk-taking could not actually be estimated.

Moreover, the results on the subscales of the BMMRS were interpreted using An Ecological Model of Sexual Risk-Taking Behaviour, by combining social and community factors found relevant to sexual risk-taking as part of the Ecological Model of Health Behaviour, and the Theory of Planned Behaviour as applicable for interpreting intrapersonal factors like intention and decision-making as part of a broader system of higher level social variables. However, specific components of the model, like social capital, belonging, community structures, peer and family relationships, behavioural, normative and control beliefs were not measured as such, but rather inferred from the degree of relationship to sexual risk-taking from the specific subscales. Perhaps in future studies these concepts could be better operationalised to ensure of higher degree of fit between the theoretical framework and the measurements used in the study.

Proposed Future Research

Although replication of this research is required to establish the generalisability of its findings to other young adult populations, it has shown the potential utility of multidimensional measures of religiousness-spirituality. Other aspects of the religious-spiritual continuum that measured personal connection to the Creator, forgiveness, commitment and self-identity as a religious-spiritual person extended the traditional view of religiousness as religious affiliation, church attendance and frequency of prayer. These factors seemed pertinent to participants' sexual risk-taking behaviour. It is suggested that researchers investigating health and religiousness-spirituality consider the richness of the data they can elicit by using a multidimensional measure of religiousness-spirituality. Perhaps, as some researchers have predicted, spirituality, specifically within younger populations, will become more significant in their decision-making, as opposed to the more extrinsically traditional religiousness (Ahrold, et al., 2011; Rostosky, et al., 2004; Koenig,

2008; Lee & Newberg, 2005). This might make the use of multidimensional measures even more pertinent and useful.

Other important psychosocial factors such as SES, geographic location, culture, relationship status, religious affiliation, community structures, social networking, personality, and self-identity could also be valuable areas of further investigation as related to sexual risk-taking. Sexual orientation emerged as a serendipitous finding as related to Negative Religious Support, Self-Ranking (as a spiritual or religious person) and Organisational Religiousness. No theoretical framework or previous studies in this area could be identified, making this finding a potential area of further investigation.

In addition, given the possibility of participants being senstive to religious-spiritual and sexual risk measures because of social desirability, and the difficulty with trying to manage this in quantitative research, future researchers could also consider conducting qualitative research in order to gains perhaps more in-depth data on sexual risk-taking behaviour. Religiousness-spirituality and sexual risk-taking also do not appear to exist along a normal distribution and change over time, making it difficult to establish universality in terms of these behaviours and their relationships to one another, making qualitative research perhaps an interesting method of investigation in terms of discovering idiosyncrasies in these phenomena.

Recommendations for SRH Prevention and Intervention Programmes

Some authors have noted some of the inadequacies of past attempts to address SRH and sexual risk-taking concerns by the GSA and other international organisations. The United Nations Children's Fund (UNICEF) and the World Health Organisation (WHO) report that nearly half of new infections worldwide occur in the 15-24 year old age bracket, yet most responses to the HIV and AIDS epidemic do not adequately consider younger populations and capitalise on their greater capacity for change and adopting new and safer behaviours (2002). Even in South Africa, young people have often been said to be marginalised in the development of programmes and policies affecting their SRH, and few studies have been conducted to assess the effectiveness of such programmes (Panday, et al., 2009).

Furthermore, even when public health prevention and intervention programmes are developed and implemented, such programmes are often aimed at the individual or their bio-medical treatment rather than also considering the multifaceted nature of sexual risk-taking behaviour that occurs within the context of peer, family and community relationships, in specific geographic locations and socio-economic conditions, where there are also often particular normative expectations about sexual engagement and appropriate gendered behaviour (Panday, et al., 2009). It is oftentimes difficult to address of all these factors, however, prevention programmes based on the education and engagement of young people can assist in targeting some of the most proximal and evidence-based factors affecting sexual risk-taking decision making, being attitudes, norms and confidence in one's ability to implement safer sex practices (Panday, et al., 2009). Such programmes can also adjust their approaches to engage with young men and women differently, considering their variable behavioural, normative and control beliefs due to differing socialisation processes (Shnyderman & Schwartz, 2012).

This study found that religiousness-spirituality is related to lowered rates of sexual risk-taking, and that men and women differ in their religiousness-spirituality and degree of sexual risk-taking. Theoretically, the TPB might posit that higher degrees of specific religious-spiritual beliefs, values and practices, such as a personal and meaningful connection to one's perceived Creator, strong faith and commitment to carrying over one's religious-spiritual beliefs and values in other areas of one's life, practicing forgiveness of self and others, private religious-spiritual practices, and using one's personal relationship with God as a source of support during difficult times are related to the decision-making processes of young people considering engaging in sexual risk-taking behaviour.

Such individuals may be more informed about sexual behaviour, and the consequences of such behaviour both practically and religious-spiritually. They may also possess more protective normative beliefs about sexual risk-taking, although males and females were found to possess significantly different degress of sexual risk-taking, suggesting more favourable normative beliefs for males about engaging in such behaviour. Being more informed about the sexual risk-taking and it consequences, together with strong personal devotion to one's religiousness-spirituality will possibly lead to greater confidence about one's ability to engage in safer sexual practices. Many studies have confirmed these

hypotheses as outlined in previous sections. Therefore, these considerations can be actively and creatively adopted in the development and implementation of SRH prevention and intervention programmes.

Another significant finding in this study seems to point to the unique nature of young populations attending university. It appears that the participants evidenced weaker links to their religious-spiritual communities as sources of normative influence and education. The participants appeared to conduct their religiousness-spirituality in a way that was more personal. There is possibly also greater normative power associated with their young adults' peer groups and more modern social networks as suggested in other research (Ahrold, et al., 2011; Kusenbach, 2011; Heaney & Israel, 2008), due to the increased individuality and social mobility of this generation. This may not reflect all young populations in South Africa, however, university structures can take cognisance of these changes in social structure and religiousness-sprituality as pertaining to sexual risk-taking in their psychosocial health promotion programmes (Dooris, 2001). Sex education and safer sex promotion programmes will need to adapt their mediums of engagement to consider the more complex and dynamic avenues of socialisation that young people experience. Universities may also consider shifting their perspective away from trying to convince and persuade students to engage in safer sex behaviours, but rather focus on providing them with the supportive structures needed to help students gain knowledge, undertanding and support when needed (Dooris, 2001).

This may practically mean encouraging and providing space for individuals to join social religious-spiritual groups and meet and practice their beliefs and values on campus, providing basic health and psychosocial support services on campus, and providing social media forums for students to engage in debates and make suggestions for better student support or report complaints experienced. Awareness days like World AIDS Day and World Mental Health Day can also be used to create engagement and high visibility of important health and well-being issues (Dooris, 2001). Only by fully understanding the existing psycho-social-cultural mindset of the target community for sexual health programme development can inteventions be more effective.

Conclusion

This chapter highlighted the theoretical and practice implications of the findings from this study. The multidimensional measurement of religiousness-spirituality was found to be significant to the understanding of sexual risk-taking as a personal and intrinsically located phenomenon in the decision-making processes of young people. It is recommended that researchers continue to research religiousness-spirituality keeping in mind its innate complexities, as well as continue to situate sexual risk-taking as a multi-level psychosocial phenomenon. In keeping with this argument, the chapter demonstrated that without a comprehensive understanding of the psychosocial dimensions of SRH interventions, the feasibility of such public health interventions will remain limited in their ability to adequately address the consequences of sexual risk-taking among the young adult university population in South Africa, and the youth within South Africa more generally.

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Appendix A: Ethics Clearance Certificate

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

HUMAN RESEARCH ETHICS COMMITTEE (SCHOOL OF HUMAN & COMMUNITY DEVELOPMENT

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: MACC/13/008 IH**
PROJECT TITLE:	Religiousness-Spirituality and its Relationship to the Sexual Risk-Taking Behaviours of University Students
INVESTIGATORS	Carver Ronel
DEPARTMENT	Psychology
DATE CONSIDERED	08/04/13
DECISION OF COMMITTEE*	Approved

This ethical clearance is valid for 2 years and may be renewed upon application

DATE: 11 April 2013

CHAIRPERSON
(Professor Andrew Thatcher)

cc Supervisor: Ms. L Howard-Payne
Psychology

DECLARATION OF INVESTIGATOR (S)

To be completed in duplicate and **one copy** returned to the Secretary, Room 100015, 10th floor, Senate House, University.

I/we fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure be contemplated from the research procedure, as approved, I/we undertake to submit a revised protocol to the Committee.

This ethical clearance will expire on 31 December 2015

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Appendix B: Information Sheet

Psychology Department
School of Human and Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011)717 4500 Fax: (011) 717 4559

Hello!

Dear student, my name is Ronel Carver, and I am doing a research project to obtain my Master's degree in Community-Based Counselling Psychology at the University of the Witwatersrand. I am researching how religiousness and spirituality are related to sexual risk-taking. I would like to invite you to participate in this study.

If you choose to participate in the study, you will need to complete the **Demographics Questionnaire**, the **Brief Multidimensional Measure of Religiousness/ Spirituality**, and **the Adult Sexual Risk Behaviour Questionnaire**. The questionnaires will take approximately 1 hour in total to complete. *The questionnaire can be completed at your convenience, and returned to the main administration office at the Department of Psychology (U211 in the Umthombo building) as soon as possible or by the* ***28TH OF MAY***. There will be a box with my name on it (Ronel Carver) in the office for returning your questionnaires.

No-one, apart from me and my research supervisor will have access to your information. Also, all information will be kept under lock and key whilst it is being processed, and is thus entirely confidential. The questionnaire doesn't ask for your name, surname, ID number or student number, therefore your answers are completely anonymous.

Your participation is voluntary, and no person will be advantaged or disadvantaged in any way for choosing to complete or not complete the questionnaire. You *cannot*, however, withdraw your questionnaires once you hand it in, because we will not be able to trace your questionnaires to you, because none of your personal information will be on it.

Some of the items of the questionnaire are of a particularly personal nature because they ask about your religious-spiritual beliefs, and sexual behaviours. They are not included to offend you, but if you feel uncomfortable answering them, you may choose **not** to answer them. ***Due to the sexual nature of the topic, I would ask that you do not volunteer your participation if you have been involved in any form of sexual violence or coercion, or are sensitive to information of an explicit sexual nature*****.**

Should you experience any distress as a result of any of the questions asked, and feel that you would benefit by talking to a counsellor, please feel free to contact these organisations for free counselling

1. Lifeline on (011) 728 1331 or
2. FAMSA on (011) 788 4781 or
3. SADAG (The South African Depression and Anxiety Group) on 0800 567 567

Keep in mind that the Careers Counselling and Development Unit on the East Campus provide counselling at greatly reduced rates. These organisations will be able to answer any mental health related queries, and refer you to any other appropriate resources should that be necessary.

Participation in this study would be greatly appreciated. This research will contribute both to a larger body of knowledge on religiousness and spirituality, as well as on specific processes which may aid in the reduction of sexual risk-taking. A Research Report will be compiled once the information has been processed. Once this report has been approved, the report will be available on the University of the Witwatersrand Library System, and a hard copy will be held within the William Cullen Theses section.

Thank you for taking the time to read this information. Please detach this sheet, and keep it for future reference.

Address any further queries, or requests for the research findings (summaries available by December 2013) to:

Researcher: Ronel Carver	Or	Supervisor: Lynlee Howard-Payne
Email: ronelcarver@gmail.com		Email: lynlee.howard-payne@wits.ac.za

Appendix C: Demographics Questionnaire

Please fill out some personal details. These questions will be used for statistical purposes and are not meant to offend you. Your details will be kept strictly confidential.

How old are you? _____

Please tick the gender you identify with:	M	F

Please tick the race you identify with:	African/ Black	White	Coloured	Indian	Other

If you ticked other, please specify which: _____

Please tick your preferred sexual orientation:

Homosexual	Heterosexual	Bisexual	Asexual	Other	Unsure

If you ticked other, please specify which: _____

Appendix D: Brief Multidimensional Measure of Religiousness-Spirituality

Instructions: *Please TICK (☑) the phrase that best corresponds with how you feel about the corresponding question or statement.*

Daily Spiritual Experiences

The following questions deal with possible spiritual experiences. To what extent can you say you experience the following:

Statement	Many times a day	Every day	Most days	Some days	Once in a while	Never
1. I feel God's presence						
2. I find strength and comfort in my religion						
3. I feel deep inner peace or harmony						
4. I desire to be closer to or in union with God						
5. I feel God's love for me, directly or through others						
6. I am spiritually touched by the beauty of creation						

Values/Beliefs

The following questions deal with personal values and beliefs. To what extent can you say you believe the following:

Statement	Strongly agree	Agree	Disagree	Strongly disagree
7. I believe in a God who watches over me				
8. I feel a deep sense of responsibility for reducing pain and suffering in the world				

Forgiveness

Because of my religious or spiritual beliefs:

Statement	Always	Often	Seldom	Never
9. I forgive myself for things that I have done wrong				
10. I forgive those who hurt me				
11. I know that God forgives me				

Private Religious Practices

How often do you:

Statement	More than once a day	Once a day	A few times a week	Once a week	A few times a month	Once a month	Less than once a month	Never

12. Pray privately in places other than at an official place of worship?								
13. Meditate (within your religious or spiritual tradition)?								
14. Watch or listen to religious programs on TV or radio?								
15. Read the Bible or other religious or spiritual literature?								

How often:

	At all meals	**Once a day**	**At least once a week**	**Only on special occasions**	**Never**
16. Are prayers said before or after meals in your home?					

Religious-Spiritual Coping

Think about how you try to understand and deal with major problems in your life. To what extent is each of the following involved in the way you cope?

Statement	**A great deal**	**Quite a bit**	**Somewhat**	**Not at all**
17. I think about how my life is part of a larger spiritual force				
18. I work together with God as partners				
19. I look to God for strength, support, and guidance				
20. I feel God is punishing me for my sins or lack of spirituality				
21. I wonder whether God has abandoned me				
22. I try to make sense of the situation and decide what to do without relying on God				

To what extent is:				
	Very involved	**Somewhat involved**	**Not very involved**	**Not involved at all**
23. Your religion involved in understanding or dealing with stressful situations in any way?				
Religious Support These questions are designed to find out how much help the people in your congregation would provide if you needed it in the future.				
Statement	**A great deal**	**Some**	**A little**	**None**
24. If you were ill, how much would the people in your congregation help you out?				
25. If you had a problem or were faced with a difficult situation, how much comfort would the people in your congregation be willing to give you?				
Sometimes the contact we have with others is not always pleasant. How often:				
	Very often	**Fairly often**	**Once in a while**	**Never**
26. Do the people in your congregation make too many demands on you?				
27. Are the people in your congregation critical of you and the things you do?				
Religious-Spiritual History Have you ever had a:				
Statement	**Yes**		**No**	
28. Religious or spiritual experience that changed your life?				
29. Significant gain in your faith?				
30. Significant loss in your faith?				
Commitment To what extent can you say you agree with the following:				
Statement	**Strongly agree**	**Agree**	**Disagree**	**Strongly disagree**
31. I try hard to carry my religious beliefs over into all				

my other dealings in life				

32. If applicable, during the last year about how much was your average monthly contribution to your religious institution, or to religious causes?	R_____
33. In an average week, how many hours do you spend in activities on behalf of your church or activities that you do for religious or spiritual reasons?	_____

Organisational Religiousness
How often do you:

Statement	More than once a week	Once a week	Few times a month	Once a month	A few times a year	Never
34. Go to religious services?						
35. Take part in other activities (besides religious services) at a religious institution?						

Overall Self-Ranking
To what extent do you consider yourself to be a:

Statement	Very	Moderately	Slightly	Not
36. Religious person?				
37. Spiritual person?				

Appendix E: The Adult Sexual Risk Behaviour Questionnaire

Please remember that there is no obligation to complete these items - you do not have to answer any questions that make you feel uncomfortable in any way.

NOTE: The term 'sexually active' refers to having engaged in sexual intercourse.

The term 'sexual behaviour' refers to having engaged in sexual activities *other than* sexual intercourse.

The term 'sexual partner' includes partners with which you engage in sexual behaviour and/or sexual intercourse.

The term 'sexual encounter' refers to sexual behaviour and/ or sexual intercourse.

a) Are you *currently* sexually active? (please circle)

YES / NO

b) Have you *ever been* sexually active? (please circle)

YES / NO

c) How many partners (up until now) have you had sexual intercourse with?

_____

d) How old were you when you first had sexual intercourse?

_____

e) Have you *ever* engaged in sexual behaviour (*other than sexual intercourse*)? (please circle)

YES / NO

f) How many partners (up until now) have you engaged in sexual behaviour with, but *not* had sexual intercourse with?

_____

IF YOU ANSWERED 'YES' TO ANY OF THE ABOVE QUESTIONS, PLEASE ANSWER ALL THE FOLLOWING QUESTIONS TO THE EXTENT THAT THEY ARE APPLICABLE TO YOU.

If you have ever engaged in sexual behaviour, but never engaged in sexual intercourse please fill in SECTION A <u>only</u>.

If you have ever engaged in sexual intercourse please fill in SECTION A and SECTION B.

Please TICK (☑) the option that you feel best corresponds to how you feel. The options range from NEVER to ALWAYS.

SECTION A

To what extent do you agree with the following?							
Statement	Never	Seldom	Sometimes	Fairly often	Frequently	Almost always	Always
1. I have more than one sexual partner at a time (whether simultaneously/ concurrently)							
2. My partner has more than one sexual partner at a time (whether simultaneously/ concurrently)							
3. I engage in sexual behaviour with someone I have just met							
4. I engage in sexual behaviour with friends in order to satisfy my sexual desires							
5. I engage in sexual behaviour with someone I just met and never see them again							
6. I go to social events with the intent of engaging in sexual behaviour with other people, without actually having sexual intercourse							
7. I use drugs and/or alcohol before or whilst engaging in sexual behaviour							
8. I have							

unanticipated sexual encounters with people other than my committed partner							
9. I engage in sexual behaviour with people that I later regret							
10. I (or my partner) use other contraceptives that prevent me/her from falling pregnant accidentally							
12. I have sexual encounters with people of whose sexual history I am unaware of							
13. I have sexual encounters with people of who I am unaware of their current sexual partners							
14. I have sexual encounters with people of who I am unaware of their previous drug IV use							
15. I have sexual encounters with people of who I am unaware of their STI/STD status							
16. I engage in oral sex (on a man or woman) without a 'dental dam' or a condom for protection							
17. I engage in oral stimulation of the anus without using a 'dental dam'							
18. I engage in sexual							

intercourse/ sexual behaviour whilst interchangeably using sex toys without adequately protecting them with a condom or washing them in between uses							

SECTION B

To what extent do you agree with the following statements?							
Statement	Never	Seldom	Sometimes	Fairly often	Frequently	Almost always	Always
19. I have sex with friends in order to satisfy my sexual needs							
20. I have sex with people I have just met							
21. I have 'one night stands'							
22. I go to social events with the intent of meeting someone for the purposes of having sexual intercourse							
23. I use drugs and/or alcohol before or whilst engaging in sexual intercourse							
24. I have sexual intercourse with people that I later regret							
25. I use a condom when I engage in vaginal intercourse							
26. I have sex with people I don't know well							
27. I engage in anal							

sex without using a condom							
28. I engage in 'fisting' after which I do not use a condom whilst engaging in anal sex							
29. I have sexually-transmitted infections/diseases (STI/STD)							

Sexual questionnaires are not easy to fill out, so we thank you for your participation in the study. Your contribution is greatly appreciated.