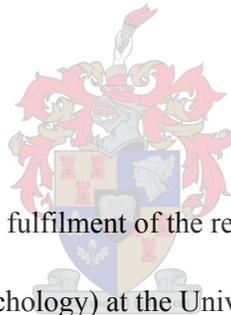


**PARENT-ADOLESCENT COMMUNICATION AND SEXUAL
RISK-TAKING BEHAVIOURS OF ADOLESCENTS**

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Thesis presented in partial fulfilment of the requirements for the degree of
Master of Arts (Psychology) at the University of Stellenbosch

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AUTHOR'S DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the owner of the copyright thereof (unless to the extent explicitly otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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SUMMARY

With the growing HIV/AIDS epidemic in South Africa, it is important to understand the sexual behaviours that place youth at risk of HIV/AIDS, other sexually transmitted diseases (STDs) and unwanted pregnancies in order to develop and implement appropriate health-promoting interventions. Parents are in a unique position to help adolescents to have responsible attitudes and behaviour towards sex, and to educate adolescents into healthy sexual adults.

The study aimed to investigate parent-adolescent communication and adolescents' sexual risk-taking behaviour, and the relationship between them. An exploratory, descriptive research design and a quantitative methodological approach were used. One biographical questionnaire, three measuring scales of parent-adolescent communication and one questionnaire about adolescent sexual risk-taking behaviour were used as measuring instruments. Data from 95 female adolescents who were attending the family planning facilities of two clinics in the Metropole Region of the Western Cape were employed for the study. The collected data were analysed using descriptive statistics, Spearman's correlations, analyses of variance and multiple regression analysis. The findings revealed a high prevalence of sexual risk-taking behaviours among adolescents in the Western Cape. Family environment characteristics, especially the parents' marital status, play a significant role in both parent-adolescent communication and sexual risk-taking behaviour. Unexpected findings were some significant correlations that were found between different factors of both general and sexual parent-adolescent communication. Spearman's correlations and best subsets multiple regression analysis were performed on the data to ascertain which factors are significantly correlated or associated with adolescent sexual risk-taking behaviour. In both statistical

analyses, the amount of parent-adolescent communication about sexual issues was the most important. A significant negative correlation between adolescents' sexual risk-taking behaviours and the amount of parent-adolescent communication about sexual issues illustrates the positive influence of amount of parent-adolescent sexual communication on adolescents' sexual risk-taking behaviour.

OPSOMMING

Met die groeiende MIV/VIGS epidemie in Suid-Afrika is dit belangrik om te verstaan watter gedrag jong mense in gevaar stel om MIV of ander seksueel oordraagbare siektes op te doen of om ongewens swanger te word om daardeur programme wat hierdie gedrag verminder, te kan ontwikkel en implementeer. Ouers is in 'n unieke posisie om te verseker dat hulle adolessente kinders verantwoordelike houdings en optrede teenoor seks ontwikkel en om hulle op te voed tot volwassenes wat 'n gesonde houding tot seks het.

Die doel van hierdie studie was om die verhouding tussen ouer-adolessente kommunikasie en die seksuele waaggedrag van jong mense te ondersoek en die verhouding tussen hulle te bepaal. 'n Ondersoekende, beskrywende navorsingsontwerp en 'n kwantitatiewe metodologiese benadering is gebruik. 'n Biografiese vraelys, drie vraelyste oor ouer-adolessente kommunikasie en een vraelys oor die seksuele waaggedrag van jong mense is deur 95 adolessente meisies voltooi wat die gesinsbeplanningsfasiliteite by twee klinieke in die Wes-Kaapse metropool besoek het. Die data is ontleed deur die berekening van Spearman (Rho)-korrelasies, variansieontleding, meervoudige regressie-analise en beskrywende statistiek. Die bevindings dui op 'n hoë voorkoms van seksuele waaggedrag onder adolessente in die Wes-Kaap. Gesinsomstandighede, veral die ouers se huwelikstatus, speel 'n belangrike rol in ouer-adolessente kommunikasie en seksuele waaggedrag. Onvoorsiene bevindings was die beduidende korrelasies tussen verskillende faktore van beide algemene en seksuele ouer-adolessente kommunikasie. Spearman-korrelasies en *best subsets* meervoudige regressie-analise is op die data uitgevoer om te bepaal watter faktore betekenisvol met adolessente waaggedrag korreleer of daarmee geassosieer is. In beide statistiese analyses is

gevind dat die hoeveelheid ouer-adolessente kommunikasie oor seksuele kwessies die belangrikste was. Daar was 'n statisties beduidende negatiewe korrelasie tussen die adolessent se seksuele waaggedrag en die hoeveelheid kommunikasie tussen die ouer en adolessent oor seks, wat beteken dat adolessente minder seksuele waaggedrag sal vertoon indien hulle ouers meer met hulle oor seksuele sake sal praat.

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CHAPTER 1

INTRODUCTION AND MOTIVATION FOR THE STUDY

1.1 Introduction

Previous research has indicated that sexual health problems like HIV/AIDS and unplanned or unwanted pregnancies are prevalent among South African adolescents, and this warrants urgent attention (Anne & Neo, 2002; Lesch & Kruger, 2005; Phillips & Malcom, 2006; Shisana *et al.*, 2005). To improve the effectiveness of preventative programmes for adolescents, it is important that adolescents acquire adequate knowledge and well-informed perceptions about sex, aspects in which the parent-adolescent relationship and the family context play indispensable roles. However, the impact of parental communication on adolescents' sexual behaviour is unclear. In some studies it was found that early parent-child communication about sex was associated with the delay of sexual activity and less risky behaviour. In other studies a relationship was found with early onset of sexual activity and more risky behaviour and, in yet others, no relationship was found (Rosenthal & Feldman, 1999). The present study aims to investigate parent-adolescent communication and adolescents' sexual risk-taking behaviour, and the relationship between these two aspects.

In this chapter, literature regarding the background and context of the research problem is presented, followed by the research question and objectives of the present study. Finally, a presentation of the research as it is presented in this thesis is given.

1.2 Background and context of the study

Followed by most other UN organisations, the World Health Organization's (WHO) definition

of adolescents is those between the ages of 10 and 19 years. This was adopted at the South Asia conference on adolescents in 1998 (WHO, n.d.). Adolescents experience dramatic biological changes, related to puberty, that can significantly affect psychosocial development. An increased awareness of sexuality and a heightened preoccupation with body image are fundamental psychosocial developmental tasks during adolescence (Stang & Story, 2005).

According to Asia (2004), adolescence is a period of opportunities, as well as challenges, which may result in diverse experiences. These experiences can be very traumatic and often lead to participation in high-risk sexual behaviour. Adolescence is characterised by physical, psychological and social change and maturation. It is also called a period of stress and storm, a period when society sends mixed signals to its youngsters, resulting in confusion, frustration, despair and risk-taking behaviour (Bhan, Mahajan & Sondhi, 2004).

Adolescent premarital sexual activities are certainly becoming an issue of social and health concern (Falaye, 2004). This is mainly because sexually active adolescents engage in various practices that pose a risk to sexual health. An earlier age at the initiation of sexual activity has been associated with less frequent condom use, a greater number of sexual partners, and elevated rates of sexually transmitted diseases and unplanned pregnancies (Barone *et al.*, 1996). Risky sexual behaviours such as inconsistent condom use and sexual intercourse with multiple partners are relatively common among adolescents and youth in South Africa, and this behaviour increases the risk of unplanned pregnancies and the contraction of sexually transmitted diseases and particularly HIV/AIDS (Brook, Morojele, Zhang & Brook, 2006).

According to Phillips and Malcom (2006), the youth in sub-Saharan Africa are faced with a

changeover from adolescence to adulthood shadowed by the growing HIV/AIDS epidemic, which is sweeping through the African continent. With the growing HIV/AIDS epidemic in South Africa, it is important to understand the sexual behaviours that place youth at risk of HIV/AIDS, other STDs and unwanted pregnancies in order to develop and implement appropriate health-promoting interventions.

Many factors influence the early onset of and increase in sexual activities of adolescents in developing countries. These include the increasing early age of sexual maturation, the lack of knowledge about sex, declining cultural and religion influences, urbanisation and increasing numbers of early marriages (Falaye, 2004).

Bhan *et al.* (2004) state that sex education possibly helps in preparing young adolescents to have responsible attitudes and behaviour towards sex for a harmonious sexual life. Sex knowledge is the inculcation of a scientific attitude towards natural sexuality. It also dispels many myths and superstitions and clarifies the various aspects of sexuality (Bhan *et al.*, 2004). Parents and other family members are in a unique position to help socialise adolescents into healthy sexual adults, both by providing accurate information about sex and by fostering responsible sexual decision-making skills (Eisenberg, Sieving, Bearinger, Swain & Resnick, 2006; Fisher, 1989; Miller, Kotchick, Dorsey, Forehand & Ham, 1998; Miller, Norton, Fan & Christopherson, 1998; Pick & Palos, 1995). Furthermore, adolescents and children often cite their parents as their preferred source of education about sex, and organised prevention and education efforts continue to advocate active parental involvement in children's sexual socialisation (Alexander, 1984; Bowler, Sheon, D'Angelo & Vermund, 1992; Shtarkshall, Santelli & Hirsch, 2007; Somers & Surmann, 2004).

The negative consequences of sexually transmitted diseases and unplanned teen pregnancies on adolescents have been well documented (e.g. Hayes, as cited in Jaccard, Dittus & Gordon, 1998). The prevalence of problems like HIV/AIDS and unplanned or unwanted pregnancies among South African female adolescents warrants urgent attention (Lesch & Kruger, 2005). Identifying the determinants of STD/HIV-preventive behaviours in adolescents has become a public health priority (Sales *et al.*, 2008). If parents can be effective in reducing the sexual risk behaviours of their sons and daughters, family-based approaches to the prevention of unplanned pregnancies can complement existing strategies (e.g., sex education in schools and access to family planning clinics) aimed at alleviating this significant social problem (Jaccard *et al.*, 1998).

One parental influence that has received a great deal of attention regarding its relationship to adolescent sexual risk-taking is parent-adolescent communication (Wilson & Donenberg, 2004). Parent-adolescent communication is an appealing source for influencing adolescents' knowledge, attitudes and behaviour, because parents are an accessible and often willing source of information for their children. Conversations between parents and adolescents about their sexuality in particular are often difficult for both parents and adolescents (Lefkowitz, Sigman & Au, 2000).

Gagnon (1977) states that much of the information that children get from their parents is observational and indirect. Quite often, adolescents do not get comprehensive information from parental conversations about sex. According to Mahajan and Sharma (2005), those who seek guidance from parents are not satisfied because the latter try to evade discussion or are not able to give satisfactory answers. Gagnon (1977) argues that parents do not talk to their

children about sex, but they also do not want their children to do anything sexual. Parents seem afraid to confront their children about what they are or are not doing sexually. According to Olivier (as cited in Seydel, 1992), mothers do not want to admit that their daughters are growing up, feel threatened by a sexually developing teenager, and thus find it difficult to discuss sexual issues with their daughters.

Lesch and Kruger (2005) argue that, in communications about sex, mothers implicitly suggest that they could not tolerate hearing about sexual activity, but explicitly say that they do expect their daughters to talk to them about it. Daughters respond to these double messages by not disclosing any aspect of their sexuality to their mothers, even when mothers have found concrete evidence of their daughters' sexual lives (Lesch & Kruger, 2005).

Few adolescents try to gather information through books, films or from friends. However, one has to bear in mind that the majority do not have access to such information (Mahajan & Sharma, 2005).

A large percentage of South African adolescents are sexually active. The adolescent often receives wrong information, resulting in myths and misconceptions that are carried throughout their lifetime (Mahajan & Sharma, 2005). It is also evident that these teenagers have an urgent need for reliable and adequate information about sex (Mahajan & Sharma, 2005; Moore & Rosenthal, 2006; Seydel, 1992). Where should this information come from? An important answer would be family education, a matter that so far has only been addressed in a few studies in South Africa. Priority attention should be given to such studies due to the high prevalence of HIV/AIDS in South Africa.

In view of the above discussion, it is clear that more research is needed to generate information on sexual communication between parents and adolescents. Parent-adolescent communication about sexuality is very important in relation to how teenagers behave sexually, as well as in the sexual decisions that they make (Rider, as cited in Lesch & Kruger, 2005). Hence, this study will aim to provide more information on the association between parent-adolescent communication about sexual issues and adolescent sexual risk behaviour. This information, in turn, can be used to prevent sexual problems related to adolescence. It may also help to reduce the prevalence of HIV/AIDS in South Africa.

1.3 Research question

National and international literature, as well as recent research undertaken on adolescent sexuality and parent-adolescent communication, and more specifically on youth health problems resulting from sexual risky behaviours, suggests a lack of factual information and guidance regarding the relationship between parent-adolescent communication and the sexual risk-taking behaviour of adolescents. Because of the abovementioned, the following research question is posed:

What are the relationships between sexual risk-taking behaviour by adolescents and (1) the amount of parent-adolescent communication about sexual issues, (2) the quality of parent-adolescent sexual communication about sexual issues, and (3) the degree of openness and extent of problems in parent-adolescent communication?

1.4 Objectives of this study

The objectives of this research were to:

(1) determine the relationship between the amount of parent-adolescent communication about sexual issues and sexual risk-taking behaviour by adolescents;

- (2) determine the relationship between the quality of parent-adolescent communication about sexual issues and sexual risk-taking behaviour by adolescents;
- (3) determine the relationship between the openness of general parent-adolescent communication and sexual risk-taking behaviour by adolescents;
- (4) determine the relationship between the extent of problems in general parent-adolescent communication and sexual risk-taking behaviour by adolescents;
- (5) determine the relationships between different variables (amount, quality, openness, and problem) of both general and sexual parent-adolescent communication;
- (6) compare the relationships mentioned above, from (1) to (5), between different groups with regard to the biographical characteristics of participants.

1.5 Presentation of the research

In Chapter 2, some theoretical frameworks that are appropriate to the study are presented. Chapter 3 follows with a review of the literature on sexual attitudes, knowledge and behaviours among adolescents, as well as on sex education for adolescents and parent-adolescent communication. Chapter 4 focuses on the methodology employed in the execution of this study, including a discussion of the research design, the participants, the measuring instruments used, the research procedure, and the methods of data analysis. In Chapter 5, the results of the various statistical analyses are reported, while Chapter 6 contains a discussion of these results, as well as conclusions that can be drawn from and the limitations of this study. Finally, recommendations for future research are given.

1.6 Conclusion

It is clear that adolescents' sexual risk-taking behaviour causes various problems relating to sexual health issues that need urgent attention, both globally and in South Africa. It has been

shown that there is a need to investigate the relationship between parent-adolescent communication and adolescents' sexual risk-taking behaviour. The importance of family education and interventions aimed to reduce adolescents' sexual risk-taking behaviour has been outlined.

CHAPTER 2

THEORETICAL FRAMEWORKS

2.1 Introduction

This chapter presents the theoretical frameworks that guided the study. This study focused on parent-adolescent communication and adolescent sexual risk-taking behaviours. The Theory of Reproductive Development, the Problem Behaviour Theory, the Social Learning Theory and the Health Belief Model will be defined and there will be a discussion of how they apply to adolescent sexual risk-taking behaviours in this study. The Rommetveit and Blakar communication model, Social Cognitive Theory, Family Systems Theory and the Socialisation Theory will be defined, followed by a discussion of how they apply to parent-adolescent communication in this study.

2.2 Adolescent sexual risk-taking behaviours

2.2.1 Theory of Reproductive Development

The Theory of Reproductive Development (Belsky, Steinberg & Draper, 1991) postulates that involvement in sexual activity is a behaviour emerging from human development. It suggests that the family environmental context (e.g., socioeconomic status), parent-child relationships, physical development, and child psychosocial adjustment will predict reproductive behaviours. The main hypothesis is that stressful family living conditions will accelerate the onset of puberty in children and lower their age at first intercourse. According to Belsky *et al.* (1991), the Theory of Reproductive Development is presented in terms of two divergent development pathways considered to promote reproductive success in the contexts in which they have

arisen. One pathway is characterised, in childhood, by a stressful rearing environment and the development of insecure attachments to parents and subsequent behaviour problems; in adolescence by early pubertal development and precocious sexuality; and, in adulthood, by unstable pair bonds and limited investment in child rearing, whereas the other pathway is characterised by the opposite (Belsky *et al.*, 1991).

The Theory of Reproductive Development has been tested using different research designs and methods. Some previous findings support the hypothesis that there is an association between environmental factors, puberty development and sexual initiation behaviours. In the general population, age of onset of puberty is significantly correlated to age of first intercourse (Deardorff, Gonzales, Christopher, Roosa & Millsap, 2005). Girls with early menarche always engage in early intercourse and early childbearing (Udry, 1979). Also, a higher proportion of precocious sexual activity has been observed in populations living in poorer environments (Rwenge, 2000; Varghese, Maher, Peterman, Branson & Steketee, 2002). Different aspects of the shared social environment have an influence on age of first sexual intercourse (Dunne *et al.*, 2006).

2.2.2 Problem Behaviour Theory

According to Problem Behaviour Theory (Jessor, Donovan & Costa, 1991), behaviour performance results from the sum of two opposing sets of risk and protective factors, which determine proneness toward either deviant or normative conduct. These sets of variables are present in three individual systems, namely the personality system (e.g., values, self-perception), the behaviour system (e.g., problem behaviour, delinquency), and the perceived environment system (e.g., peer and parental influence). Thus, the dominance of

either positive or negative factors will predict whether the individual will engage in normative or deviant behaviours.

Problem Behaviour Theory, which postulates an organisation in adolescent behaviour, especially between reproductive behaviour and deviant behaviours, is also supported by research findings. Fortenberry, Costa, Jessor, and Donovan (1997) found that the regular use of contraception was negatively associated with a set of problem behaviours such as substance use, aggression and delinquency, whereas it was positively correlated with health-protective behaviour such as a good diet, exercise and seatbelt use.

2.2.3 Social Learning Theory

Rotter's Social Learning Theory (SLT) was used as the conceptual framework for this study (Rotter, 1954). SLT assumes that behaviour is socially learned. An individual learns through past experience that certain satisfactions are more likely in some situations than in others. In addition, learned behaviours may be modified or changed with new experiences or input. Behaviour is learned from other people, and individuals' needs are sometimes met with the assistance of other people (Rotter, 1954).

According to SLT, a person's behaviour is determined by her/his goals. With past experiences, a set of differentiated needs develop in each individual. The more specific the category of behaviours and goals included in the need, the greater the possibility of predicting the strength of one from the other. In SLT a need may be viewed as having three essential components: need potentials, expectancies, and values. Need potential refers to the set of behaviours directed toward the same goal and their potential strength, which is the likelihood that they

will be used in a given situation (Rotter, 1971). For example, Benda and DiBlasio (as cited in Johnson, Rozmus & Edmisson, 1999) found that adolescents who perceived the rewards of sex as outweighing the costs had a higher frequency of sex than other adolescents. Sexual intercourse would be seen as the “set of behaviours” used to achieve the goal of the “rewards” of sex. The second major component is expectancies, or beliefs and knowledge, that certain behaviours will lead to satisfactions or goals that a person values. For example, the adolescent may know that past experiences of having sexual intercourse brought excitement and pleasure. The adolescent believes and expects that the same activity of sexual intercourse will bring excitement and pleasure again. Therefore he/she participates in the sexual activity again. Another adolescent may know that sexual intercourse can lead to the transmission of HIV and genital herpes, therefore does not participate in sexual activity because he/she values personal health. The third major component is the value attached to the goals themselves. Values differentiate the degree to which one set of satisfactions is preferred over another (Rotter, 1971). The value of an exciting life was found to correlate more highly with risky adolescent behaviours than were other values (Rozmus & Edgil, 1993). For adolescents who valued excitement, the satisfaction of sexual intercourse is preferred in comparison to abstinence, which could be considered unexciting (Johnson *et al.*, 1999).

2.2.4 Health Belief Model

The Health Belief Model (HBM) is a psychological model that attempts to explain and predict health behaviours by focusing on the attitudes and beliefs of individuals. It was developed initially by Rosenstock (1966) and further by Becker and colleagues throughout the 1970s and 1980s. Originally the model was designed to predict behavioural response to treatment in

acutely and chronically ill patients, but in more recent years the model has been used to predict more general health-related behaviours (Ogden, 1996). This model posits that “health beliefs shape individuals’ rational decision making about health actions” (Sana, 1998, p. 128). The HBM has been adapted to explore a variety of long- and short-term health behaviours, including sexual risk behaviours and the transmission of HIV/AIDS (Becker & Joseph, 1998; Burger, 2000; Lin, Simoni & Zemon, 2005; Reinecke, Schmidt & Ajzen, 1996). The HBM is based on the understanding that a person will take a health-related action (i.e., use condoms) if that person:

1. feels that a negative health condition (i.e., HIV) can be avoided,
2. has a positive expectation that, by taking a recommended action, he/she will avoid a negative health condition (i.e., using condoms will be effective in preventing HIV), and
3. believes that he/she can successfully take a recommended health action (i.e., he/she can use condoms comfortably and with confidence) (Rosenstock, Strecher & Becker, 1994).

2.3 Parent-adolescent communication

2.3.1 The Rommetveit and Blakar communication model

The Rommetveit and Blakar communication model addresses many relevant issues in the communication process and is thus adopted by this study. The model provides a dialogical perspective on communication (Blakar, 1984). The communication process is seen as an interaction between two parties, with each having the ability to influence the other.

In the Rommetveit and Blakar communication model, there are six processes that are named as follows: (1) Production of messages, (2) Encoding of messages, (3) Decoding of messages,

(4) Processing and memory of received messages, (5) Sender's anticipation of receiver's decoding, and (6) Receiver's listening to the premises of the sender (Blakar, 1984).

According to Botchway (2004), a number of important points can be made about this conceptualisation of the communication process. The participants must be willing and able to produce a message. For example, if parents and adolescents consider communication on sexuality as a taboo subject not to be talked about, interaction is unlikely to occur. It is also obvious that participants must have the ability to relay messages to each other. This requires knowledge of the subject. In some situations this knowledge may simply be absent, such as parents' inability to present facts on HIV/AIDS due to their lack of knowledge.

Furthermore, participants must have the mutual trust and confidence in each other for communication to be effective (Botchway, 2004). In the parent-adolescent sex communication process, adolescents may regard their parents as being judgmental, overly protective, and disrespectful of their privacy and autonomy. Such factors may undermine the perceived trustworthiness of the parent as an information source, and the communication will not be effective.

Communicants must also have a shared worldview. Intergenerational differences between parents and children can cause misunderstanding. For example, parents may talk to adolescents about the dangers of unprotected sexual intercourse. Adolescents may erroneously think of this communication as a signal that the parents think they are actually having unprotected sex (Botchway, 2004).

Nonverbal cues also affect the communication. For example, parents who speak in high or

low tones, their eye contact with the child, and their gestures could all affect the child when he/she answers the questions.

The social and situational context is also emphasised by this model. Parents may conceive of a message, but due to cultural taboos they may employ vague language to transmit their message. This may be due partly to the embarrassment associated with a parent and child communicating about sexuality (Botchway, 2004).

2.3.2 Social Cognitive Theory

Bandura's (1986) Social Cognitive Theory guides the aspect of parent-adolescent communication in this study. According to Bandura, self-efficacy and outcome expectations work together to determine behaviour. Self-efficacy is defined as an individual's judgment of his or her ability to accomplish a certain level of performance (Bandura, 1986). According to Lehr, Demi, DiIorio and Facticeau (2005), for example, in communicating about sexuality the parent may believe that he can explain to his child:

- (1) the reasons he/she should wait until he/she is older before having sexual intercourse,
- and
- (2) the importance of using condoms if he/she decides to engage in sexual intercourse.

In contrast, an outcome expectation is the perception of the consequence of an act, not the act itself (Bandura, 1986). With regard to sexual communication, a parent's outcome expectations could be that:

- (1) he/she would feel like a responsible parent, and
- (2) his/her child would be less likely to have sexual intercourse as a young teen (Lehr *et al.*,

2005).

Individuals may believe that certain actions will produce positive outcomes, but they may not act on the outcome beliefs because they question their ability to perform the necessary actions (Lehr *et al.*, 2005).

2.3.3 Bowen Family Systems Theory

Murray Bowen's Family Systems Theory was developed and formulated by using systems thinking while integrating knowledge from human species as a product of evolution and family research (Nichols & Schwartz, 1998). According to Goldenberg and Goldenberg (1991), Bowen Family Systems Theory is a theory of human behaviour that views the family as an emotional unit. Systems thinking is used to describe the complex interactions in the unit. The theory has its roots in sociology, biology, and cybernetics (Howell, 2001). Bowen originated this theory as an emotional-relationship system that integrates eight interlocking concepts, specifically: differentiation of self, triangles, nuclear family emotional system, family projection process, emotional cut-off, multigenerational transmission process, sibling position, and societal emotional process (Goldenberg & Goldenberg, 1991).

A core assumption is that an emotional system that evolved over several billion years governs human relationship systems (Guerin, 1976). Bowen emphasised the role of the family as an emotional unit in the aetiology of individual dysfunction and conceptualised interlocking relationships within the family as being governed by the same counterbalancing life forces that operate in all natural systems (Kerr & Bowen, 1988).

According to Bowen, "family members so profoundly affect each other's thoughts, feelings,

and actions that it often seems as if people are living under the same “emotional skin” (Bowen Theory, n.d.). A change in one person’s functioning (i.e., adolescent’s sexual risk-taking behaviour) is predictably followed by reciprocal changes in the functioning of others (i.e., parent-adolescent communication). Communication is a central component of the family system’s capability to change (Howell, 2001).

For the purpose of this study, Bowen’s Family Systems Theory guided the researcher to examine the influence of the behaviours of subsystems (i.e., the parents and their communication) on the behaviours of other separate, but conjoint parts (the adolescent’s sexual risk-taking behaviours) of the (family) system.

2.3.4 Socialisation Theory

Theoretically, Socialisation Theory also provides a basis for the current study of parent-adolescent sexual communication in relation to adolescent sexual behaviour. Socialisation Theory is based on the assumption that children and adolescents learn certain attitudes and behaviours early in life from adult role models, such as parents (Clawson & Reese-Weber, 2003). The attitudes and behaviours modelled by parents are learned by their children and portrayed in adolescence and adulthood (Philliber, 1980).

2.4 Conclusion

This chapter presented several theories and models as theoretical frameworks underlying this study. The Theory of Reproductive Development, the Problem Behaviour Theory, the Social Learning Theory and the Health Belief Model provide different approaches for understanding the various and complicated factors and predictors of adolescent sexual risk-taking behaviours.

The Rommetveit and Blakar communication model, Social Cognitive Theory, Bowen Family Systems Theory and the Socialisation Theory provide frameworks for understanding the initiation, process, effect and problems of parent-adolescent communication. They are thus in agreement with the goal of this study, and provide clear guidelines with regard to methodological practice.

Chapter 3, to follow, presents a review of the literature on sexual attitudes, knowledge and behaviours among adolescents, as well as on sex education for adolescents and on parent-adolescent communication.

CHAPTER 3

LITERATURE REVIEW

3.1 Introduction

The youth in sub-Saharan Africa are faced with a changeover from adolescence to adulthood shadowed by the growing HIV/AIDS epidemic (Phillips & Malcom, 2006). Many approaches exist to reduce adolescent pregnancies and sexually transmitted diseases (STDs) through educating adolescents directly about aspects of sexual risk taking, one of which is to teach parents how to communicate with their adolescents about sex (Jaccard, Dodge & Dittus, 2002). In the light of this, the current chapter will present the literature reviewed for this study. The review will begin with an overview of the prevalence and incidence of HIV in South Africa. It will then focus on previous research on sexual attitudes, knowledge and behaviours among adolescents, and also on sex education for adolescents. Finally, parent-adolescent communication, especially communication about sexual issues, will be reported.

3.2 Prevalence and incidence of HIV in South Africa

Shisana *et al.* (2005) investigated the national prevalence and incidence of HIV, and reported in the *South African National HIV Prevalence, HIV Incidence, Behaviour and Communication Survey* as follows:

HIV prevalence amongst persons aged two years and older is estimated to be 10.8%, with a higher prevalence in females (13.3%) than in males (8.2%). HIV prevalence increases with age from 3.3% in children 2–14 years of age to 16.2% in adults 15–49 years of age. In people 50 years and older, an often neglected age group in surveys, HIV prevalence is

estimated to be 5.7%. HIV prevalence by province shows that KwaZulu-Natal, Mpumalanga and Free State have the highest HIV prevalence in South Africa. The lowest HIV prevalence levels were recorded in the Western Cape and Northern Cape. (Shisana *et al.*, 2005, p. 25)

Shisana *et al.* (2005, p. 49) also reported the South African national HIV incidence to be as follows:

HIV incidence in the total study respondents 2 years and above is estimated at 2.7%. The incidence among females is more than twice that in males, 3.6% compared to 1.5%. In the African race group, an incidence of 3.4% was found. The incidence in the other race groups is below 1%. Persons living in urban informal areas have the highest incidence figures, 7.0% compared to rural informal areas (2.8%), rural formal areas (2.7%), and urban formal areas (1.8%). Mpumalanga (4.2%), KwaZulu-Natal (3.8%), and Free State (3.4%) recorded the highest incidence rates, while Western Cape (0.9%) and Northern Cape (0.5%) showed the lowest rates in the study population 2 years and above.

South African children have a high HIV prevalence (Anne & Neo, 2002; Shisana *et al.*, 2005). The rates are high in both males and females. Females are more likely to be living with HIV, and this proportion has increased over time. The largest increase in prevalence is found among females aged 15 to 24 (12.0% in 2002 compared to 16.9% in 2005). The female to male ratio for HIV infection in 2005 was also highest among youth aged 15 to 24 years, where the prevalence in females was almost four times that of males (16.9% vs. 4.4%) (Shisana *et al.*, 2005). HIV incidence among youth aged 15 to 24 years was 3.3%. However, an alarming finding was that females in this age group had an eight times higher HIV

incidence than males (6.5% compared to 0.8%) (Shisana *et al.*, 2005).

To measure HIV prevalence at health-district level in the Western Cape and to compare these findings with those of the National HIV Antenatal Surveys (NHASs), Shaikh *et al.* (2006) conducted a study that revealed a significant increase in HIV prevalence in the Western Cape (from 8.6% in 2001 to 15.4% in 2004). The district-level HIV surveys showed wide variation in HIV prevalence across the health districts, which increased progressively during this period (a range of 0.6% to 22% for the year 2001, increased to 1% to 33% in 2004). Spatial analysis of HIV prevalence by health district for this period also revealed progressive spatial growth of the sub-epidemics, with the highest prevalence observed in districts located in the Cape metropole region.

3.3 Sexual attitudes and knowledge among adolescents

Many high school adolescents are engaging in sexual risk behaviours despite knowledge of the risks (Phillips & Malcom, 2006). Bhan *et al.* (2004) conducted a study that included 75 adolescent girls in the age group of 16 to 20 years from three different educational institutes in Pathankot city (Punjab). The results revealed that the girls had a poor level of sex knowledge, and although they knew about certain topics, they were hesitant to talk about them.

In 2002, Mohammadi *et al.* (2006) collected data from 1 385 males aged 15 to 18 who lived in Tehran. They found that the relatively high prevalence of sexual activity and the lack of knowledge regarding STIs and contraceptives posed a significant threat to the sexual and reproductive health of adolescent males. In that study, the respondents' attitudes toward

premarital sex were moderate in the Iranian context. Between 15% and 27% disagreed with prohibitions against premarital sex and 13% were tolerant of homosexual behaviour. However, gender-based double standards persist. For example, although two-thirds of the respondents agreed that females should not engage in sex before marriage, only half held the same view with regard to males (Mohammadi *et al.*, 2006).

A positive association was found between knowledge and attitudes toward sexuality, contraception and STD among adolescents (Huerta-Franco, Diaz de Leon & Malacara, 1996). The study included 918 students and 312 adolescents working in factories. They were all between 15 and 20 years old, living in the city of León, Mexico. According to Huerta-Franco *et al.*, although schooling provides appropriate information on sexuality, contraception and STDs in the short term, attitudes do not change to a great extent. Contrarily, adolescents' attitudes are more strongly related to values learned at home and to the attitudes of their peers. The factors associated with adolescents' sexual knowledge and attitudes were age, schooling of the parents, mother working out of home, position of the adolescent in the family, and diverse aspects of family functioning (Huerta-Franco *et al.*, 1996).

3.4 Sexual behaviour among adolescents

The period of adolescence is a transitional stage of development between childhood and adulthood. During this biologically and developmentally vulnerable period, many adolescents engage in risky sexual behaviour, which makes them more susceptible than adults to unwanted health outcomes (Kourtis *et al.*, 2006).

First sexual experiences are common among adolescents and, according to previous studies,

the age of first sexual experience is declining among adolescents (Onyeonoru & Adebeyejo, 2007). There is also a higher prevalence of adolescents experiencing early sexual activity. In Pettifor *et al.*'s (2004) national survey about sexual behaviour among young South Africans, the median age of first sex among those who reported being sexually experienced was 17 years. Eight percent of sexually experienced youth reported having sex at age 14 or younger. Sexually experienced men were significantly more likely to report sex at 14 years or younger compared to sexually experienced women (12% vs. 5%). The earlier adolescents experience sexual activity, the higher the rate of childbearing and risky sexual behaviour (Dangal, 2005; Smith, 1997). According to Barone *et al.* (1996), these risks are magnified in the young adolescents who engaging in sexual intercourse. Furthermore, once established, high-risk sexual behaviours are difficult to modify (Barone *et al.*, 1996).

3.4.1 Factors associated with sexual activity among adolescents

According to Varghese *et al.* (2002), the probability that an adolescent will become sexually active is increased by community risk factors (e.g., low rates of educational attainment, high unemployment rates, community poverty, high crime rate), family risk factors (e.g., having a single parent, changes in parental marital status, low level of parental education and income, poor parental support, lack of parental supervision, mother's early age at first sex and first birth, single mother's dating and cohabitation behaviours, permissive parental attitudes about premarital sex or teen sex, older sibling's early sexual behaviour and age of first birth), and risk factors related to peer attitudes and behaviour (e.g., low grades among friends, sexually active peers). Individual risk factors related to the adolescents themselves include biological factors (e.g., older age and greater physical maturity, hormone levels), attachment to and

success in school (e.g., poor school performance, lack of plans for the future), lack of attachment to religious institutions, alcohol or drug use, emotional distress (e.g., depression, suicide ideation), characteristics of relationship with partners (e.g., early and frequent dating), sexual abuse (e.g., history of being sexually abused), sexual beliefs and attitudes (more permissive attitudes toward premarital sex) (Varghese *et al.*, 2002).

Laksmana (2003) conducted a study that addressed several factors affecting the sexual behaviours and attitudes of students. A total of 461 students from the undergraduate psychology research pool of a large American north-eastern university were included in this study. The ages of the participants ranged from 18 to 23. The findings showed that alcohol use, attractiveness, income, religiosity, social adjustment, parents' closeness, parents' religiosity, and parents' socioeconomic status (SES) are all possible predictive variables of sexual behaviour and morals. Alcohol use was the greatest predictor of both non-intercourse and intercourse sexual contact, age of first intercourse, sexual morals, and socio-sexual attitudes. Attractiveness was a strong predictor of sexual behaviours, but not of sexual morals and attitudes. Religiosity was a significant predictor of sexual morals and attitudes, and age of first intercourse (Laksmana, 2003).

Falaye (2004) investigated predictive factors that can influence the sexual behaviour of Nigerian adolescents. A survey using 599 male and female in-school adolescents (290 males and 309 females), whose mean age was 17.3, established the significance of predictive factors that can influence the sexual behaviour of participants. Multiple regression analysis showed that the four independent variables investigated by the researcher adequately predict adolescent sexual behaviour. These variables are perception and attitude toward pubertal

changes and reproductive biology, source of sexuality information, adolescent sexual experiences - coitus and contraception, and attitude towards reproductive health matters.

3.4.2 Adolescent sexual behaviour in South Africa

In Pettifor *et al.*'s (2004) national survey about sexual behaviours among young South Africans, 67% of young people aged 15 to 24 reported having had sexual intercourse. Among 15- to 19-year-olds, 48% reported being sexually experienced, compared to 89% of 20- to 24-year-olds. Sexually experienced women were more likely than men to report having had sex in the past 12 months, particularly among 15- to 19-year-olds. Among those who reported having had sexual intercourse in the past 12 months, 27% indicated that they had had more than one sexual partner in this time. Sexually experienced males were significantly more likely than females to report more than one sexual partner in the past 12 months. One-third (33%) of the youths who reported having sex in the past 12 months reported always using condoms with their most recent partner, and 31% indicated that they never used condoms with their most recent partner. Overall, among youth who reported having sex in the past 12 months, females were significantly less likely than males to report always using a condom with their most recent partner (28% vs. 39% respectively) (Pettifor *et al.*, 2004).

Phillips and Malcom (2006) investigated the prevalence of self-reported sexual risk behaviours of high school girls at three high schools in the Strand, Western Cape. The study sample consisted of 801 female high school learners aged 13 to 19 years. Twenty-seven percent of the learners reported being sexually active, with 3.6% reporting sexual intercourse onset before 14 years of age. Forty-five percent reported having had more than one sexual partner and 50% of the sample reported no condom use. More than 5% of the learners had

already been pregnant. Most learners (78.9%) indicated that they had been informed about HIV/AIDS at school, and 82.5% indicated that they were aware of the consequences of unprotected sex. The results of the study confirmed that many female high school learners are engaging in sexual risk behaviours despite risk knowledge. The need for providing learners with targeted information and skills at an early age was emphasised by the findings (Phillips & Malcom, 2006).

Lesch (2000) conducted a combined quantitative and qualitative study, which focused on coloured female adolescents in the Stellenbosch district. Data from 558 adolescent girls who attended one secondary school in the Stellenbosch area were employed in the study. This school was situated in a coloured community. The ages of the samples ranged from 13 to 17 years. The quantitative results indicated that the participants did not represent a sexually high-risk community. Sexual intercourse was limited to a relatively small number of respondents. The sexual behaviour of these respondents did not differ meaningfully from the sexual behaviour reported in other adolescent communities. The qualitative data indicated that the respondents had limited sexual agency, and Lesch argued that mothers and boyfriends, as agents of the community, were prominent contributors to sexual disempowerment.

The factors contributing to the high rates of sexual risk behaviours among South African adolescents are multiple and complicated. Brook *et al.* (2006) surveyed 633 adolescents, aged 12 to 17, recruited from households in Durban, South Africa, and found that family poverty was associated with difficulty in the parent-child relationship. This was related to a vulnerable personality and behavioural attributes and an association with deviant peers, which, in turn, were related to risky sexual behaviour. The findings suggest that poverty, parent-child relations,

personality and behavioural vulnerabilities, and peer influences should be among the factors addressed by prevention and intervention programmes to reduce sexual risk behaviours among South African adolescents (Brook *et al.*, 2006).

South African adolescents are at high risk of contracting sexually transmitted diseases, including HIV/AIDS, because of their risky sexual behaviours (Asia, 2004). Asia (2004) conducted a study with coloured and white adolescent girls who attended the four Youth Health Centres (clinics) in the metropole region of the Western Cape. The results showed that adolescents' initiation into early sexual relations contributed to possible multiple sexual partners. Failure to continuously use a reliable contraceptive method enhanced the risk of unintended pregnancies. This led to exposure to the risks involved in termination of pregnancy, or the psychological effects of raising the baby as a single parent, being forced to marry at a young age, or giving the baby up for adoption.

3.4.3 Adolescent sexual behaviour in other countries

According to the 2003 Youth Risk Behaviour Survey in the United States of America, 47% of high-school students reported having sexual intercourse at least once, 34% had sexual intercourse during the three months preceding the survey, 14% of students had four or more lifetime sexual partners, 25% used alcohol or drugs before their last sexual intercourse, and 37% of sexually active students did not use a condom during their last act of sexual intercourse (Grunbaum *et al.*, 2004).

Onyeonoru and Adeboyejo (2007) examined the spatial variation in adolescent sexual behaviour and the underlying socio-economic determinants in South-Western Nigeria. The

data for this analysis was obtained with the aid of a structured questionnaire administered to 1 670 adolescents in two cities - Ibadan and Ogbomoso. The results showed, among other things, that first sex experience is a near universal experience among the adolescents and that, compared with earlier studies, there is a declining age of first sex experience. Religion was observed to play a significant role in delaying the onset of sexual experience. An inverse relationship was observed between level of education and heterosexuality among adolescents, that is, the lower the education level, the more sexually active the adolescents. The level of non-use of any family planning method was similarly high among the respondents; it was highest among adherents of traditional religion and those engaged in civil service and business or petty trading. A high tendency was found for first sex experience to be with “strange bed fellows” - commercial sex hawkers, much older persons, particularly in the case of adolescent girls, and this was highest among adolescents with low or no formal education (Onyeonoru & Adeboyejo, 2007, p. 71).

Takakura, Wake and Kobayashi (2007) examined relationships between condom use and age at initiation of sex, the number of sexual partners, and alcohol or drug use before sex among Japanese adolescents. The results from a convenience sample of 2852 adolescents from grades 10 to 12 (ages 15 to 18 years) enrolled in 25 public high schools in Okinawa showed that non-use of condoms among these Japanese adolescents was related to early initiation of sex, having multiple sexual partners, and alcohol or drug use before sex (Takakura *et al.*, 2007).

3.4.4 Sexual behaviour among urban adolescents

Some previous studies focused specifically on sexual behaviour among urban adolescents, and the data indicated that, in high-poverty urban areas, a significant proportion of youths

engaged in risky sexual intercourse (Barone *et al.*, 1996; Lackey & Moberg, 1998; Smith, 1997). Barone *et al.* (1996) investigated high-risk sexual behaviour among 2248 young urban middle school and high school students in grades 6, 8 and 10 in a southern New England public school district. Their results showed that students in grades 8 and 10 were significantly more likely than sixth graders to be sexually experienced. Males, blacks and socio-economically disadvantaged students were significantly more likely than their female, white and better-off counterparts to be sexually active. The effects of gender and race interacted in some cases, and race and socioeconomic status had significant independent effects on rates of sexual intercourse. While males and black students reported high levels of sexual activity, they also were more likely than young women and Hispanics to have used condoms at their last intercourse.

Lackey and Moberg (1998) conducted 13 focus groups of six to ten participants per group in area community centres (n = 101), and a cross-sectional survey of 593 youth and 95 of their parents in the participants' homes, using a random, cluster sampling plan. Data analysis included development and testing of a path model on cultural transmission of sexual attitudes and behaviours. The findings from both the qualitative and quantitative data indicated that adolescent sexual meanings and practices were embedded in cultural processes. Teens are inundated by messages that glamorise and mystify sex, and these messages proceed through American popular culture (particularly music), and various sub-cultural environments (Lackey & Moberg, 1998).

Smith (1997) used a lifespan and ecological framework to investigate the factors associated with urban teenagers' sexual activities. The sample included 803 African-American and

Hispanic teenagers (566 boys and 237 girls) who were seventh and eighth graders attending public schools in an American eastern city during the 1987/1988 school year. The data addressed three different issues: the prevalence and pattern of sexual activity among boys and girls aged 15 and younger, the link between early sexual activity and high-risk sexual behaviour, and the life contexts linked with early sexual activity. The results suggested a high prevalence of early sexual activity, which is associated with higher rates of childbearing and risky sexual behaviour, than sexual activity initiated in later adolescence. Predictors of early sexual activity common to both boys and girls were not having both parents in the home, a lack of parent attachment, and substance use (Smith, 1997).

3.5 Sex education for adolescents

Sex education can help adolescents to accept the biological and psychological characteristics of their gender, which means to provide them with appropriate sexual identity (Ivchenkova, Efimova & Akkuzina, 2003). Not only does sex education play a vital role in the prevention of HIV and other STIs in adolescents, but it also has an important role to play in preventing unwanted, teenage pregnancies. It furthermore is a golden opportunity to offer teenagers effective methods of contraception (Kluge, 2006). Therefore, it is clear that adolescents have to be provided with knowledge regarding sex and related issues. Helping the growth of positive feelings among children about sex is the main aim of sex education (Mahajan & Sharma, 2005).

Furstenberg, Moore and Peterson (1985) examined the association between sex education and adolescent sexual behaviour. Data from the 1981 National Survey of Children showed that 15- and 16-year-olds who have been exposed to sex education are less likely to be sexually

experienced, and are neither more nor less likely to discuss sex with their parents at home. However, Seydel (1992) investigated whether sex education and other sources of sexual information influence the sexual knowledge and attitudes of sexually-active schoolgirls. Sixty-seven English-speaking sexually-active female adolescents, aged between 12 and 19, who attended a family planning clinic in the Cape Peninsula, were involved in the study. The results showed that sex education did not influence the sexual attitudes and knowledge of the participants in that study. The study succeeded in highlighting that sex education was not only lacking in some Cape Peninsula schools, but was also generally not taught appropriately. It also showed that sex education cannot be taught in isolation from the rest of the school curriculum, and that other social agents concerned with sex education must be considered (Seydel, 1992).

3.6 Parent-adolescent communication

3.6.1 Gender differences in parent-adolescent communication

According to Noller and Bagi (1985), with regard to communication in general adolescents of both sexes tend to communicate more with mothers than with fathers over a wide range of topics. In fact, politics was the only topic on which participants in their study talked about more with their fathers than with their mothers. Also, more self-disclosure occurred to mothers than to fathers, with daughters disclosing more to mothers than did sons. Mothers were also more accurate than fathers at predicting adolescents' responses (Noller & Bagi, 1985).

There is a significant difference between genders in the pattern of sex communication.

Previous research revealed that both male and female adolescents were more likely to discuss sexual topics with their mothers than with their fathers (DiIorio, Kelley & Hocckenberry-Eaton, 1999; Miller *et al.*, 1998; Raffaelli & Green, 2003). Zhang, Li, Shah, Baldwin and Stanton (2007) found that male adolescents were more likely to talk with fathers and female adolescents with mothers. At the same time, the gender of the adolescent also affects the gender of the parent with whom discussions take place, that is mothers are more likely to communicate with their daughters about sex than with their sons, whereas fathers are more likely to discuss sex with their sons than with their daughters (Miller *et al.*, 1998). However, Mahajan and Sharma (2005) found that mothers were reluctant to talk about sex education with their daughters, as they found it embarrassing to discuss these issues. Although these gender differences exist in parent-adolescent communication, both parents may influence adolescents' sexual risk-taking behaviours (Clawson & Reese-Weber, 2003).

With regard to gender differences, adolescents discuss different topics with different parents. In DiIorio *et al.*'s (1999) study, the content of the conversations of male adolescents with mothers and fathers was fairly consistent - sexually transmitted disease, acquired immune deficiency syndrome and condom use were popular topics of discussion. Female adolescents tended to talk about the menstrual cycle with their mothers, sexual abstinence with their fathers, and sexual intercourse with their friends. However, in Raffaelli and Green's (2003) study, young women discussed relationships, facts and values with their mothers more often than did young men, who in turn discussed protection (e.g., birth control, prevention of sexually transmitted infections) with their fathers more often than did young women.

3.6.2 General communication between parents and adolescents

The quality of parent-child relationships and parenting style in general, and communication about sex and sexuality more specifically, appear to be strong determinants of adolescent sexual behaviour (Blake, Simkin, Ledsky, Perkins & Calabrese, 2001). Relationships between these factors and adolescent sexual behaviour have been found in both cross-sectional and prospective studies, particularly when parent-child communication was characterised as being “open and receptive” (Blake *et al.*, 2001).

Miller *et al.* (1998) found that, for both males and females, the quality of parent-adolescent communication had no direct effect on adolescent sexual behaviour, but indirect effects were significant through sexual values (and intention for females only), while these sexual values and intentions had a significant positive effect on sexual behaviour.

3.6.3 Parent-adolescent communication about sexual issues

Because of the particularity of sex, parents’ attitudes towards imparting sex education to their adolescents are always noncommittal. According to Mahajan and Sharma (2005), parents avoid any mention of sex in their day-to-day relationships with their children. Another reason is that parents themselves lack scientific knowledge about it (Mahajan & Sharma, 2005). Sometimes, parents and adolescents may not even know about each other’s thoughts and attitudes about sex. In Jaccard *et al.*’s (1998) study, mothers tended to underestimate the sexual activity of their teens, while the teens tended to underestimate their mothers’ level of disapproval of them engaging in sexual activity. Fisher (2001) suggests that sometimes when parents report that they have discussed a topic with their children, what has really transpired is simply an admonition (i.e. “don’t get pregnant”), which is not interpreted by the children as a

discussion about sexuality or contraception, and cannot be seen as communication about a sexual issue.

There are many different factors that can affect different aspects of communication about sexuality between parents and adolescents (Miller *et al.*, 1998; Schouten, Putte, Pasmans & Meeuwesen, 2007; Zhang *et al.*, 2007). The gender of the adolescents is predictive of the level of sex communication between a mother and her adolescent children (Zhang *et al.*, 2007), and is also a significant predictor of the amount and frequency of parent-adolescent sex communication (Schouten *et al.*, 2007). The quality of communication on general topics between parents and their adolescent children is also one of the important factors related to sex communication between them (Zhang *et al.*, 2007). The likelihood of a topic being discussed could increase with an increasing degree of openness in the communication process (Miller *et al.*, 1998). Schouten *et al.* (2007) found that having positive beliefs about talking with parents about sexuality, for example an adolescent's perception of the mother being the main source of sex knowledge (Zhang *et al.*, 2007), was positively related to the amount and frequency of parent-adolescent communication. Adolescents' perceived behavioural control and subjective experiences of parent-adolescent communication about sexuality are also significant predictors of the frequency of parent-adolescent sex communication. In looking ahead, Schouten *et al.* (2007) suggest that interventions that aim to increase the amount of parent-adolescent communication should primarily target their efforts at changing adolescents' underlying beliefs about discussing sexuality with their parents. It is also important to take into consideration gender differences in these beliefs by designing separate interventions for different groups of adolescents.

Previous research on how sexual communication between parents and adolescents influences adolescents' sexual behaviour has been inconclusive. Some of the research indicates that parent-adolescent sexual communication has positive influences on several sexual risk-taking behaviours (Barnett, Papini & Gbur, 1991; DiIorio *et al.*, 1999; Hutchinson, Jemmott, Jemmott, Braverman & Fong, 2003; Lefkowitz *et al.*, 2000; Mueller & Powers, 1990; Pick & Palos, 1995).

DiIorio *et al.* (1999) found that if an adolescent talks more with the mother about sexual issues than with friends, he/she is less likely to have initiated sexual intercourse and more likely to have conservative values, whereas adolescents who reported a greater number of topics discussed with their friends were more likely to report the initiation of early intercourse and more "liberal" sexual values. Hutchinson *et al.* (2003) found that higher levels of mother-daughter sexual risk communication were associated with fewer episodes of sexual intercourse and unprotected intercourse at three-month follow-up.

Lefkowitz *et al.* (2000) designed a study to experimentally alter mothers' communication style when discussing sexuality and AIDS with their adolescent children. The observational data revealed that the intervention group of mothers reduced their amount of speaking, asked more open-ended questions, acted less judgmentally, and discussed dating and sexuality more than did the mothers in the control group. The intervention group adolescents reported increased discussions of birth control and increased daily comfort talking with their mothers. There was some evidence that the girls in the intervention group increased their knowledge about AIDS.

However, other studies have found contrasting results. Pistella and Bonati's (1998) examination of the amount of parent-adolescent sexual communication in a sexually active female adolescent population suggested that those female adolescents who had discussed sex-related topics of contraception and STDs with their parents were more likely to report a pregnancy. Somers and Paulson (2000) found that more sexual communication with mothers and fathers was related to a greater frequency of sexual behaviour in adolescents.

Clawson and Reese-Weber (2003) found that adolescents who reported more sexual communication with their parents reported a younger age of first intercourse and more lifetime sexual partners, and were more likely to have been tested for HIV/AIDS. They also found that the timing of sexual discussions made a significant contribution in predicting sexual risk-taking behaviours. On-time discussions (adolescents had experienced parent-adolescent sexual communication before the initiation of sexual activity) (Clawson & Reese-Weber, 2003, p. 257) with fathers and mothers predicted an older age at the time of first intercourse and fewer lifetime sexual partners, but also predicted a greater likelihood of having been or gotten someone pregnant. Mother-adolescent sexual discussions that were on-time also predicted more methods of birth control used (Clawson & Reese-Weber, 2003).

3.7 Conclusion

This chapter presented the literature that was reviewed for this study. With the growing HIV/AIDS epidemic in South Africa, it is important to understand the lack of sexual knowledge, inappropriate sexual attitudes, poor sex education, and various risky sexual behaviours that place youth at risk of HIV/AIDS, other sexually transmitted diseases (STDs) and unwanted pregnancies. As the primary source of sex education, parents should pay more

attention to their communication with their adolescent children. Miller *et al.* (1998) suggested that an open process of sexual communication involves parents' having adequate knowledge, being willing to listen, talking openly and freely, and understanding the feelings behind questions posed by adolescents.

The following chapter describes the research methodology employed in this study, which includes the research design, participants, various measuring instruments, procedures followed during data gathering, as well as the statistical techniques employed in order to analyse the data.

CHAPTER 4

METHOD

4.1 Introduction

The focus in this chapter is on the methods employed during the execution of this study. The chapter begins with the research design and approach employed and the research problem for the study. This is followed by a description of the participants who took part in this study, as well as descriptions of the measuring instruments, the procedures, the statistical analyses followed, and, lastly, the ethical considerations.

4.2 Research design and approach

An exploratory, descriptive research design was used where data was gathered once-off by means of self-report questionnaires. According to Polit and Hungler (1992), quantitative research involves the systematic collection of information under considerable control, and analysing that information using statistical techniques. The quantitative methodological approach was used in the present study because it enabled the researcher to systematically explore large amounts of information gathered with the questionnaires.

4.3 Research problem

National and international literature about adolescent sexuality and parent-adolescent communication, and more specifically about youth health problems resulting from risky sexual behaviours, suggests a lack of factual information and guidance regarding the relationship between parent-adolescent communication and the sexual risk-taking behaviour of adolescents. Because of the abovementioned, the following research questions were posed:

What are the relationships between sexual risk-taking behaviour by adolescents and

- (1) the amount of parent-adolescent communication about sexual issues?
- (2) the quality of parent-adolescent sexual communication about sexual issues?
- (3) the openness and problems in parent-adolescent communication?

4.4 Participants

The target population was identified as all sexually-active adolescents who attend two family planning facilities of two clinics, both in the Metropole Region of Cape Town in the Western Cape Province of South Africa. These two clinics were selected because of the adolescent family planning facilities that they make available to their communities.

Participants were recruited based upon the following set criteria for this study: (1) being an adolescent (14 to 20 years old), (2) being sexually active, and (3) being unmarried. Due to the fixed working time of family planning facilities in these two clinics, the researcher went to the one clinic in the morning every Monday to Friday from the 12th of January to the 11th of February 2009, and to the other clinic in the afternoon every Monday to Friday from the 26th of January to the 5th of February. All clients who visited these two clinics on the days that the researcher was present and who met the abovementioned criteria were approached as prospective participants. This convenience sampling technique was used because the researcher was at the clinic at that time determined by available resources, which are the working time of the family planning facilities of two clinics and the time set apart for data collection.

In total, 98 adolescents who met the inclusion criteria agreed to participate in this study.

However, three of them had to be excluded from the study after the collected data had been scrutinised. One of them was the one and only male adolescent among the participants. He approached the clinic for HIV testing, not for family planning. Two female adolescents were excluded because of incomplete questionnaires. Thus, data from 95 adolescents, all of them female, was employed for this study.

The participating adolescents ($n = 95$) were aged between 14 and 20, with a mean age of 17.6 ($SD = 1.35$, median = 18.0). Of the participants, 50 (54%) spoke isiXhosa as their home language, 37 (40%) spoke Afrikaans as their home language, while eight (5%) indicated their home language to be other than Afrikaans or isiXhosa. Ninety (96%) of the participants were Christian, three (3%) were Muslim, and one (1%) was other than Christian, Muslim, Hindu, Jewish and Atheist. The majority of the participating adolescents stayed with their parent(s) ($n = 93$; 98%), while two (2%) of them stayed with friend(s). Seven (7%) adolescents had no siblings, while 88 (93%) adolescents had siblings – 21 (22%) had one sibling, 22 (23%) had two siblings, 16 (17%) had three siblings, 17 (18%) had four siblings, and 12 (13%) had five or more siblings. Among the adolescents who stayed with their parent(s), 65 (68%) also stayed with their siblings, and 21 (22%) adolescents also stayed with their grandparent(s).

The marital status of the parents of the participating adolescents varied. The parents of four (4%) adolescents were not married. The majority of parents of the adolescents ($n = 45$; 47%) were married. Twenty-nine (31%) adolescents' parents were divorced and both parents were single. Eight (8%) adolescents' mothers had remarried, while only one (1%) adolescent's father had remarried. Eight (8%) adolescents' fathers were deceased. Regarding the frequency of seen/spoken to mother in the last year, the majority of adolescents ($n = 65$; 68%) reported

daily, 10 (11%) reported a few times a week, six (6%) reported weekly, three (3%) reported monthly, eight (8%) reported a few times a year and three (3%) reported never. Regarding the frequency of seen/spoken to father in the last year, 25 (26%) reported daily, 12 (13%) reported few times a week, seven (7%) reported weekly, 12 (13%) reported monthly, 19 (20%) reported few times a year and 20 (21%) reported never. Fifty (53%) adolescents reported that their mother was mainly responsible for their upbringing, while four (4%) reported that it was their father, and 41 (43%) reported both their father and mother. Sixty (63%) adolescents reported that they usually felt closer to their mother than their father, while four (4%) reported that they feel closer to their father and 31(33%) reported they felt close to both their father and mother.

4.5 Measuring instruments

Personal information (gender, race, age, religion, nationality and home language) was collected with a biographical questionnaire. Three well-researched questionnaires were used to measure the relevant variables, namely: (1) the Weighted Topics Measure of Family Sexual Communication Scale (Fisher, 1987); (2) the Parent-Adolescent Communication Scale (Barnes & Olson, 1982); and (3) the Parent/Adolescent Communication Scale (Jaccard, Dittus & Gordon, 2000). Lastly, a questionnaire consisting of five items about adolescent sexual risk-taking behaviours, taken from the HIV Risk-taking Behaviour Scale (HRBS) (Darke, Hall, Heather, Ward & Wodak, 1991) was used.

4.5.1 Biographical questionnaire

The participants completed a biographical questionnaire, which was designed to collect information on the adolescents' personal details (age, sex, home language, religion, living

arrangement), family status (parents' marital status, the number of siblings, live with siblings or not, live with grandparents or not), and their relationships with their parents (the frequency of having seen/spoken to their mother or father in the past year, main upbringing parent, and closer-feeling parent).

4.5.2 The Weighted Topics Measure of Family Sexual Communication Scale

Fisher (1987) developed the Weighted Topics Measure of Family Sexual Communication Scale to assess quickly and objectively the amount of communication about sexuality that has occurred between parents and their adolescent children. The scale, consisting of nine items, combines a relatively objective measure (the number of topics discussed) with a more subjective one (the extent of discussion). The instrument asks respondents to indicate on a Likert scale of 0 to 4, with 0 indicating none and 4 indicating a lot, the extent to which nine specific sexual topics have been discussed (pregnancy, fertilisation, intercourse, menstruation, sexually transmitted disease, birth control, abortion, prostitution, and homosexuality) with their parents. Scores are computed by summing all items, and can range from 0 to 36, with higher scores indicating greater amounts of sexual communication between parents and adolescent. The overall internal reliability for the scale is 0.87 (Cronbach's alpha) for late adolescents (Fisher, 1987). In this study, the participants' scores ranged from 0 to 36, with a mean score of 16.4 (SD = 9.67; median = 16.0). The overall reliability obtained in this study was 0.84 (Cronbach's alpha).

4.5.3 The Parent-Adolescent Communication Scale (Barnes & Olson, 1982)

Barnes and Olson (1982) developed the Parent-Adolescent Communication Scale, which consists of two subscales. One subscale measures the degree of openness in family

communication, and the other one assesses the extent of problems in family communication. Each subscale comprises 10 items. The Open Family Communication (OFC) subscale reflects feelings of free expression and understanding in parent-adolescent interactions (e.g., “When I ask questions, I get honest answers from my mother/father”). The Problems in Family Communication (PFC) subscale measures negative interaction patterns and hesitancy to disclose concerns (e.g., “My mother/father has a tendency to say things to me that would be better left unsaid”). Respondents use a five-point Likert scale (ranging from Strongly disagree = 1 to Strongly agree = 5) to indicate the extent of their agreement with the items. Scores can range from 10 to 50 for both subscales. For the OFC subscale, a higher score indicates a higher degree of openness in family communication. The scores for items on the PFC subscale are reversed, resulting in a high score that is indicative of communication problems, and a low score indicative of a lack of perceived problems in family communication. Alpha reliabilities for the subscales are 0.87 (OFC) and 0.78 (PFC). A separate study showed test-retest reliability to be 0.78 and 0.77 for the openness scale and the problems scale respectively (Barnes & Olson, 1982). In this study, the participants’ scores for the OFC subscale ranged from 21 to 50, with a mean score of 35.77 (SD = 7.28; median = 36.0); for the PFC subscale, the participants’ scores ranged from 10 to 43, with a mean score of 28.81 (SD = 6.54; median = 29.0). The overall Cronbach’s alpha reliabilities obtained in this study were 0.80 for the OFC and 0.67 for the PFC.

4.5.4 The Parent/Adolescent Communication Scale (Jaccard *et al.*, 2000)

The Parent/Adolescent Communication Scale was developed by Jaccard *et al.* (2000) to assess the quality of communication between an adolescent and his/her parent/s concerning

issues of sex. The scale has two subscales. One subscale is comprised of 16 items, which is for an adolescent, and the other one is comprised of 21 items, which is for a parent or caregiver. Only the subscale for the adolescent was used in this study. Respondents use a five-point Likert scale (ranging from Strongly disagree = 1 to Strongly agree = 5) to indicate the extent of their agreement with the items (e.g., “My parent/s would not want to answer my questions about sex”). Scores can range from 16 to 80. The scores for items on this scale are reversed in value, with a high score indicating a low quality of communication and a low score indicating a high quality of communication. The overall internal reliability obtained for the scale is 0.90 (Cronbach’s alpha) (Jaccard *et al.*, 2000). In this study, the participants’ scores ranged between 20 and 80, with a mean score of 45.01 (SD = 12.9; median = 44.0). The overall reliability obtained in this study was 0.89 (Cronbach’s alpha).

4.5.5 The HIV Risk-taking Behaviour Scale (HRBS)

Sexual risk-taking behaviours were assessed with questions from the HIV Risk-taking Behaviour Scale (HRBS) (Darke *et al.*, 1991). This scale consists of 11 items, with each item having been chosen to address a specific HIV risk-taking behaviour. Six items are about injecting behaviours and five items are about sexual behaviours. Only the sexual behaviour items were used in this study. The researcher added one item about the number of regular partners because it was considered as another important indicator of risky sexual behaviour. Consequently, six items were employed in total in this study for measuring sexual risk-taking behaviours. The scores of these six items are added together to provide a measure of sexual risk-taking behaviour. Questions 1, 4, 5 and 6 range from 1 to 6; Question 2 ranges from 1 to 4; and Question 3 ranges from 0 to 5. The total scores range between 5 and 33, with higher

scores indicating a greater degree of risk-taking behaviour. The overall internal reliability obtained for this scale (all 11 items) is 0.70 (Cronbach's alpha), and the test-retest reliability is 0.86 (Darke *et al.*, 1991). In this study, the participants' score ranged between 7 and 20 (six items), with a mean score of 10.74 (SD = 2.65; median = 10.0). The overall reliability obtained in this study was 0.25 (Cronbach's alpha). A possible explanation for this low reliability may be some participants' inauthentic responses to the personal questions about sexual risk-taking behaviours due to potential discomfort (Prof. Martin Kidd, personal communication, March 26, 2009).

4.6 Procedures

The managers of clinics were contacted by the researcher to explain the aim and purpose of this study and to gain permission and support for the research. In preparing the questionnaires, it was anticipated that both English and Afrikaans adolescents would be participants, so all the questionnaires, which were originally compiled in English, were translated into Afrikaans through translation and back translation. Consequently, the participants could complete the questionnaires in the language of their choice.

From the 12th of January to the 11th of February 2009, the researcher went to the one clinic from 10 am to 1 pm every Monday to Friday; and from the 26th of January to the 5th February to the other clinic from 2 pm to 4 pm every Monday to Friday. In both clinics the researcher was provided with a room and facilities where the participants could complete the questionnaires in private.

Adolescents who visited the clinic and met the inclusion criteria (see previous section) were

referred to the researcher by clinic sisters. The researcher explained the objectives and nature of the research to each of them. The participants were then given the questionnaires to fill out in the private room, with the researcher being present, after providing their signature voluntarily on the consent form. To protect the anonymity of the participants, the researcher told every participant that his/her name would not be recorded, which means that it would not be possible to identify any one that took part in the research. The researcher also told the participants that they had the right to refuse to answer any questions if they felt uncomfortable with them. The participants completed the questionnaires with ease in about 15 to 25 minutes. The questionnaires were returned to the researcher immediately after completion. The participants were thanked sincerely and given a voucher to the value of R20 as incentive for participation in the study.

Once the data collection had been completed, the process of checking the data (for completeness) and typing the responses into the Excel spreadsheet started. As previously indicated, two female adolescents were excluded because of incomplete questionnaires.

The responses to the Weighted Topics Measure of Family Sexual Communication Scale were entered into the data file by allocating a number between 0 and 4 to each response. Responses to the Parent-Adolescent Communication Scale (Barnes & Olson, 1982) and the Parent/Adolescent Communication Scale (Jaccard *et al.*, 2000) required the allocation of a score between 1 and 5 for each response, while the HIV Risk-taking Behaviour Scale required a number between 0 and 6. All the responses were entered into an Excel spreadsheet. Regarding the biographical data, the answers provided by the participants were converted into categories so as to facilitate the process of data capturing as well as the statistical analysis of

the data. Once all the data had been entered into the Excel spreadsheet, the statistical analyses were undertaken.

4.7 Data analysis

The responses were scored according to the scoring instructions built into the Excel spreadsheet. The analysis included the calculation of descriptive statistics, Spearman's correlation coefficients, analysis of variance, and multiple regression analysis.

A statistical software program, Statistica version 8.0 (StatSoft Inc., 2008), was used to calculate Spearman's correlations in order to determine "the extent to which variation in one continuous variable explains the variation in another continuous variable" (Struwig & Stead, 2001, p. 160). The Spearman's correlation also measures the strength of the relationship between two variables, as well as whether the relationship is positive or negative (Struwig & Stead, 2001). In the present study, Spearman's correlations were used to describe the relationship between the different independent variables. Those include the amount of parent-adolescent communication about sexual issues, the openness, and problems of parent-adolescent communication, and the quality of parent-adolescent communication about sexual issues, and the relationship between these independent variables and the dependent variable, namely adolescent sexual risk-taking behaviour. This enables the identification of a systematic relationship, but not necessarily a causal relationship.

An analysis of variance (ANOVA) was also performed on the data, using the Statistica software package. The purpose of an ANOVA is to compare the means of different participating groups in order to decide whether the observed difference between them

represents a chance occurrence or a systematic effect (Pretorius, 1995). These participating groups were identified according to the biographical information. The biographical variables included in the ANOVAs were the participants' home language, whether or not a participant lived with siblings, whether or not a participant lived with grandparents, the marital status of the participants' parents, which parent was mainly responsible for the participant's upbringing, and which parent the participant usually felt closer to.

Multiple regression analysis was also performed on the data using Statistica. Multiple regression analysis is used to analyse the relationships that exist between multiple independent variables and a single dependent variable, and to determine the weight of independent variables to predict the dependent variable (Stamatis, 2002). In the present study, multiple regression analysis was used to describe the relationship between the single dependent variable, namely adolescents' sexual risk-taking behaviour, and the other variables in the data set. Specifically, best subsets multiple regression analysis was used in the present study to determine which independent variables are best able to predict adolescents' sexual risk-taking behaviour.

4.8 Ethical considerations

An approval letter for ethical clearance from the Ethical Committee of the Faculty of Arts and Social Sciences at the University of Stellenbosch was obtained to conduct the research. An effort was made to respect the dignity of the participants and to protect them from psychological harm. Participation in the study was entirely voluntary. All the participants who agreed to participate in the research were asked to read and sign an informed consent form (see Appendix A). The consent form explained the purpose of the research, what was expected

of the participants, the procedures for completing the questionnaires, potential risks/discomfort and confidentiality issues. The participants were given the option to withdraw from the study at any stage if they experienced any stress or anxiety while participating. They were encouraged to ask questions or raise concerns they had about the research, and were given the contact details of the researcher and her supervisor.

The completed questionnaires were kept private and locked away and only the researcher had access to the records. As the completed questionnaires were returned, they were immediately allocated a code for each participant. All data and information were processed anonymously. The researcher ensured the confidentiality of both the participant's personal information and the questionnaire data gathered during the research. The researcher secured all the data in a document file and stored it on a private computer. During the entire research period, these data was not accessible to anyone except the researcher, the supervisor and the senior statistician of the Unit for Statistical Analysis, Stellenbosch University.

4.9 Conclusion

The present study aimed to examine the relationships between sexual risk-taking behaviour by adolescents and the amount of parent-adolescent communication about sexual issues, the quality of parent-adolescent communication about sexual issues, and the openness and problems in general parent-adolescent communication. One biographical questionnaire, three questionnaires about parent-adolescent communication and one questionnaire about adolescent sexual risk-taking behaviour were used to gather data from 98 participants. All the participants were attending the two clinics. Three of them were excluded, which means that data from 95 adolescents were employed for this study, and all the participants were female.

The collected data were analysed using descriptive statistics, Spearman's correlations, analyses of variance and multiple regression analysis. Throughout the entire research process, ethical considerations were adhered to strictly. Some limitations to the study emerged.

In the following chapter the results of this study will be presented. This will be followed by the discussion and conclusion of this research in the final chapter.

CHAPTER 5

RESULTS

5.1 Introduction

This chapter presents the results of this research. Firstly, the analysis of variance (ANOVA) with regard to the biographical information will be reported. A report of the four statistically significant relationships – found to have the greatest strength in this study – between the independent variables, and between the independent variables and adolescents' sexual risk-taking behaviours, will follow. Such relationships were determined by the calculation of Spearman's correlation coefficients. This chapter will conclude with the results of a multiple regression analysis, which attempted to determine which subset of variables is best able to predict the dependent variable (adolescents' sexual risk-taking behaviour).

5.2 Analyses of variance (ANOVA)

The results of various ANOVAs indicate differences between subgroups (based on biographical variables) with regard to the variables measured with the self-report questionnaires. Figure 5.1 illustrates the possible existing differences in the amount of parent-adolescent communication about sexual issues (the Weighted Topics Measure of Family Sexual Communication Scale (WTMFSCS) scores) if the adolescent lived with grandparent(s), or not. As mentioned previously (see the 4th paragraph of Section 4.4), 93 (98%) adolescents stayed with their parent(s), while the other two stayed with friend(s), which indicates that, in this result, adolescents who lived with their grandparent(s) also lived with their parent(s).

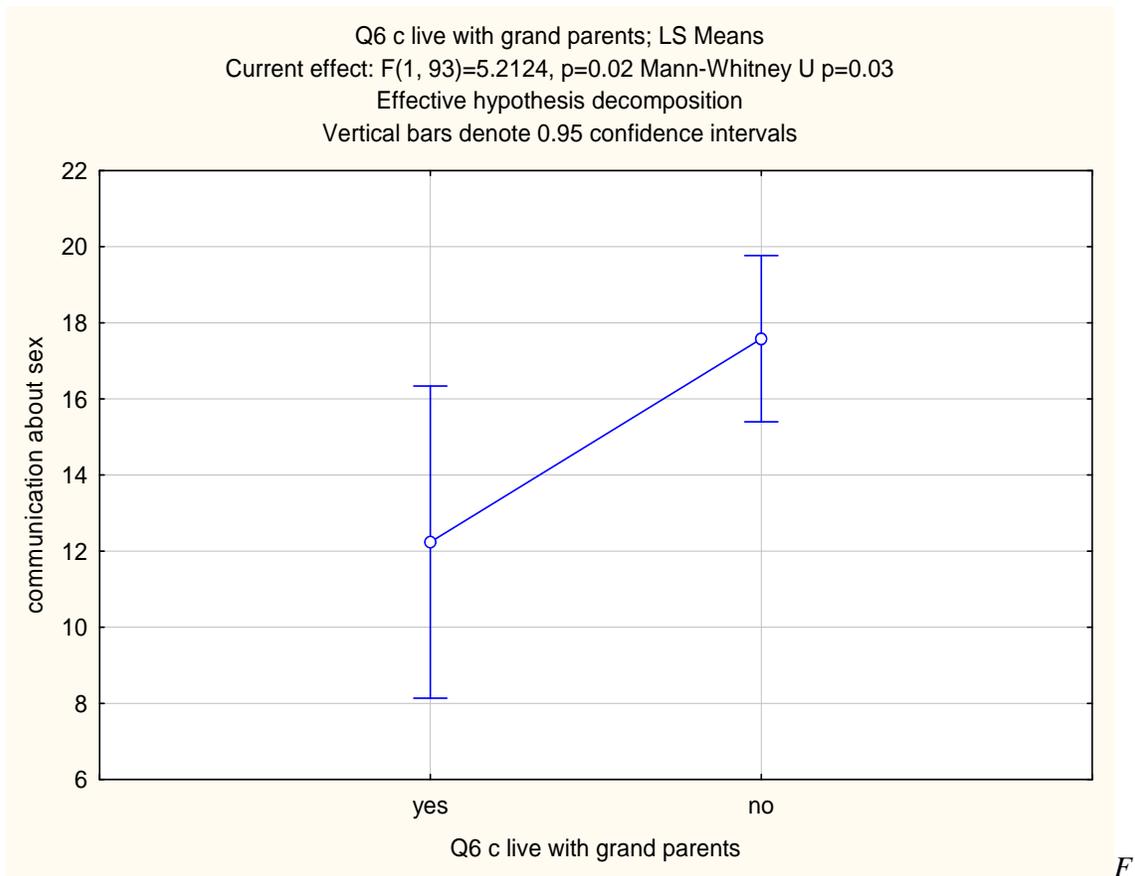


figure 5.1 A comparison of the amount of parent-adolescent communication about sexual issues (WTFMFC scores) in families in which adolescents live or do not live with grandparent(s).

As can be seen from Figure 5.1, adolescents who live with their grandparent(s) reported less communication about sexual issues, while those who do not live with their grandparent(s) reported more parent-adolescent sexual communication. This difference was found to be statistically significant ($p < 0.05$).

In the biographical questionnaire, a question was asked about the marital status of the participants' parents. The frequency and percentage of the responses are shown in Table 1.

Table 1

Summary of the Marital Status of the Participants' Parents (N = 95)

Parents' marital status	Frequency	%
Married	45	47
Divorced (both parents single)	29	31
Mother remarried	8	8
Father remarried	1	1
Mother deceased	0	0
Father deceased	8	8
Did not marry	4	4

It follows from Table 1 that there were seven different marital statuses of the participants' parents. The three with the lowest frequencies (Father remarried, Mother deceased, and Did not marry) were not included in further analyses regarding the marital status of the parents.

Figure 5.2 illustrates the differences between amount of parent-adolescent communication about sexual issues (WTMFSCS scores) and the parents' marital status.

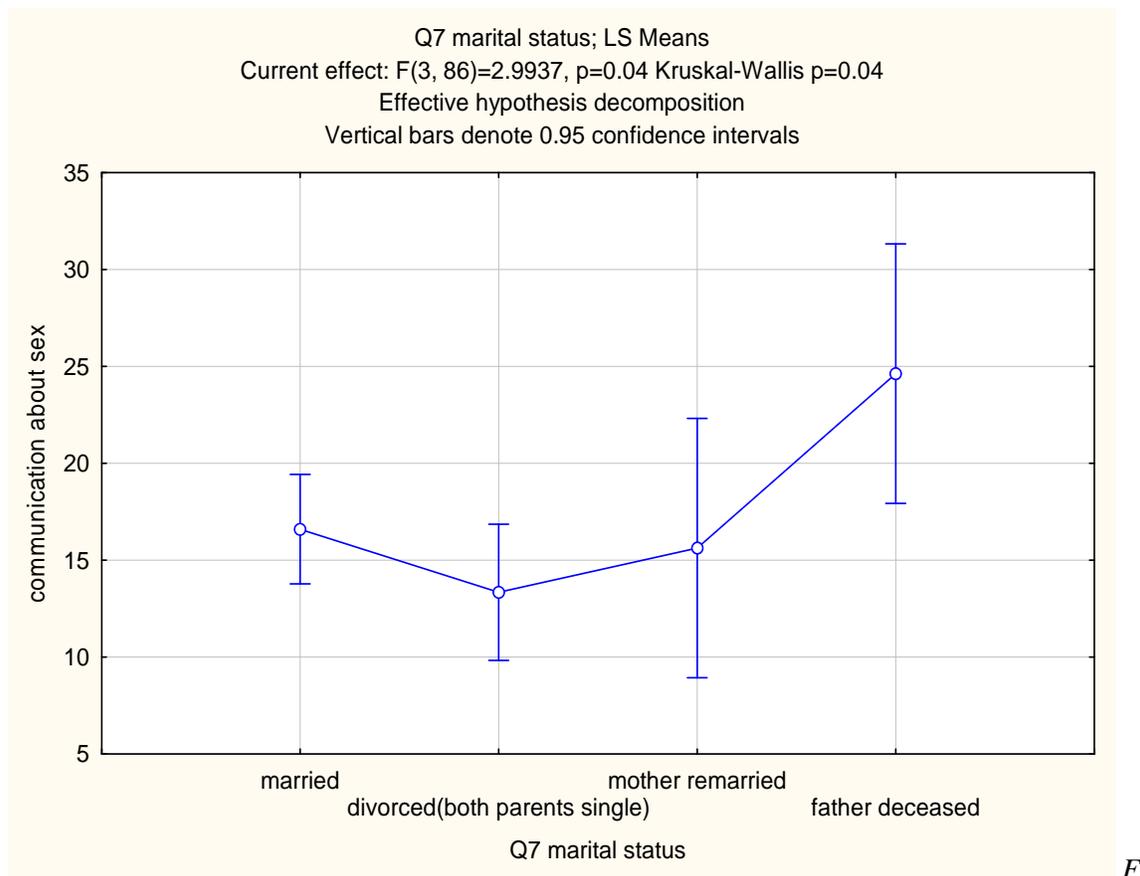


figure 5.2 A comparison of the amount of parent-adolescent communication about sexual issues (WTMFSCS scores) with the marital status of the parents.

As can be seen from Figure 5.2, it appears that adolescents whose father was deceased reported more parent-adolescent communication about sexual issues than those whose parents were married, divorced but both still single, or mothers who had remarried.

Table 2 shows the results by using the Bonferroni multiple testing corrections, where the marital status groups were compared pair wise. The significance values (p), are reported.

Table 2

Pair-wise Comparisons of Marital Status Groups in Parent-adolescent Communication about Sex

Parents' marital status	Married	Divorced (both parents single)	Mother remarried	Father deceased
Married		0.928	1.000	0.184
Divorced (both parents single)	0.928		1.000	0.023
Mother remarried	1.000	1.000		0.372
Father deceased	0.184	0.023	0.372	

From Table 2 it appears that the main differences in communication about sex in the family were found between adolescents whose father was deceased and those whose parents were divorced (both parents single) ($p < 0.05$).

Figure 5.3 illustrates differences in the degree of openness in parent-adolescent communication (OFC scores) when the adolescent lived with sibling(s), or not.

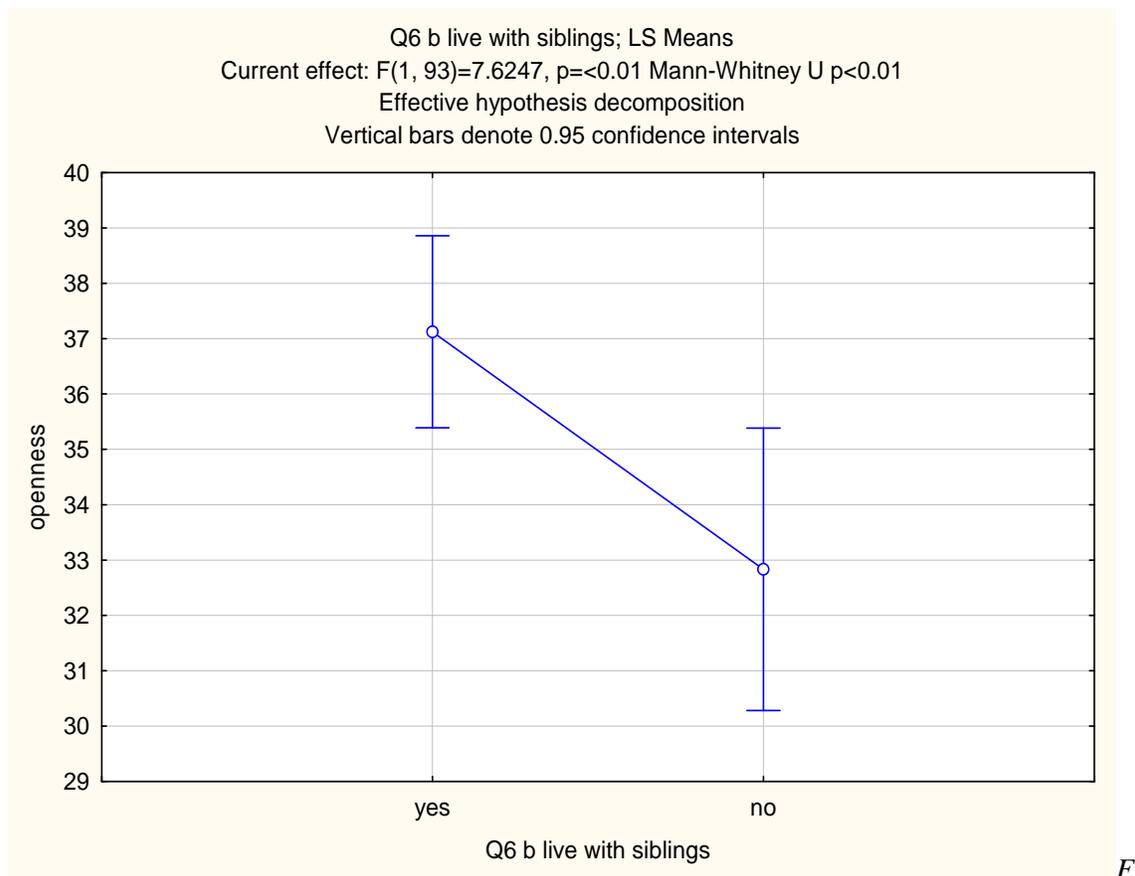


figure 5.3 A comparison of the degree of openness in parent-adolescent communication (OFC scores) of families in which adolescents live or do not live with sibling(s).

As can be seen in Figure 5.3, adolescents who lived with sibling(s) reported a higher degree of openness of their communication with their parent(s), while those who did not live with sibling(s) reported a lower degree of openness of parent-adolescent communication. This difference was found to be statistically significant ($p < 0.01$).

In the biographical questionnaire, the participants were requested to indicate their home language. The results are shown in Table 3.

Table 3

Summary of Participants' Home Language (N = 95)

Home language	Frequency	%
isiXhosa	50	54
English	4	4
Afrikaans	37	40
Zulu	1	1

From Table 3 it follows that isiXhosa and Afrikaans were the home language of the participants in most cases. The other two language groups (English and Zulu) were excluded from further analyses of variance.

Figure 5.4 illustrates differences in the extent of problems in family communication (PFC scores) according to the adolescents' home language. It should be noticed that Figure 5.4 may reflect differences existing between the extent of problems in family communication in different race groups.

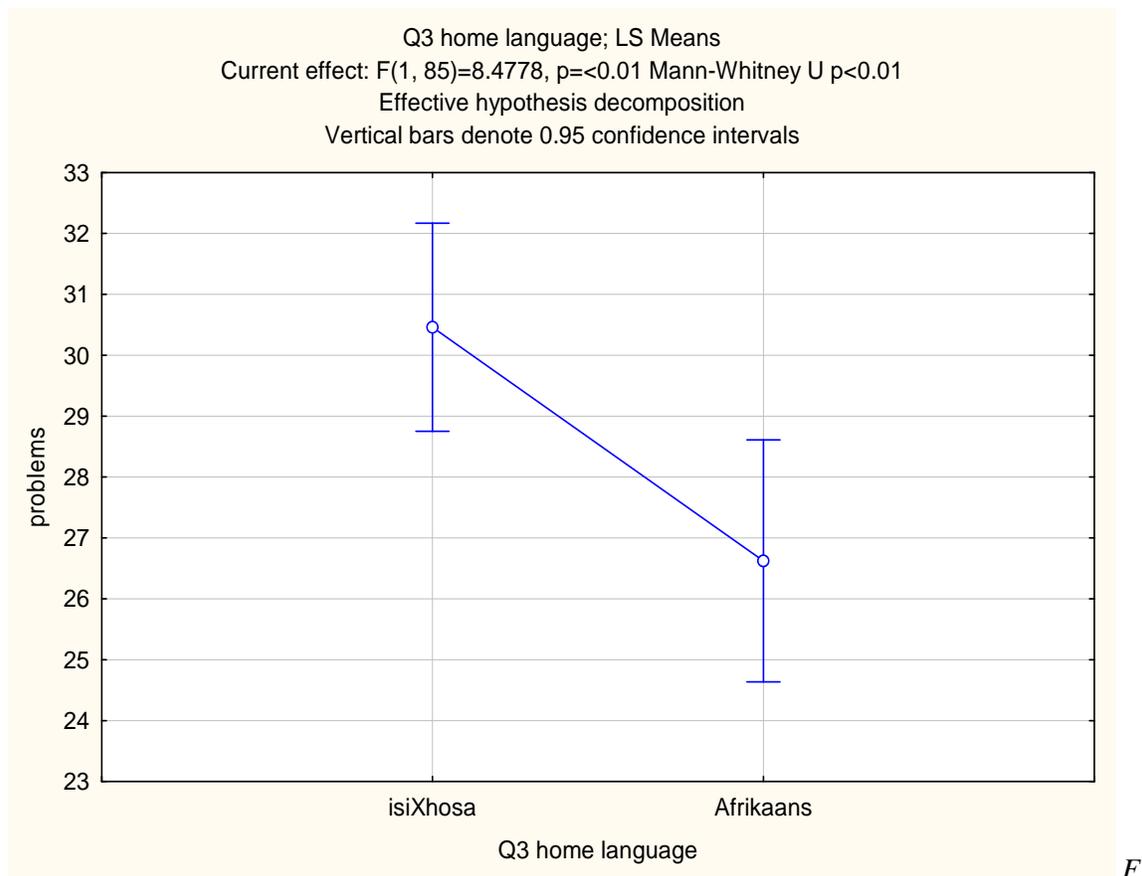


Figure 5.4 A comparison of the extent of problems in parent-adolescent communication (PFC scores) of families in which isiXhosa or Afrikaans is the home language.

As can be seen from Figure 5.4, adolescents who speak isiXhosa as their home language reported more problems in their communication with their parent(s), while those who speak Afrikaans as their home language reported fewer problems in parent-adolescent communication. This difference was found to be statistically significant ($p < 0.01$).

Figure 5.5 illustrates differences in the adolescents' sexual risk-taking behaviours (HRBS scores) according to their parents' marital status.

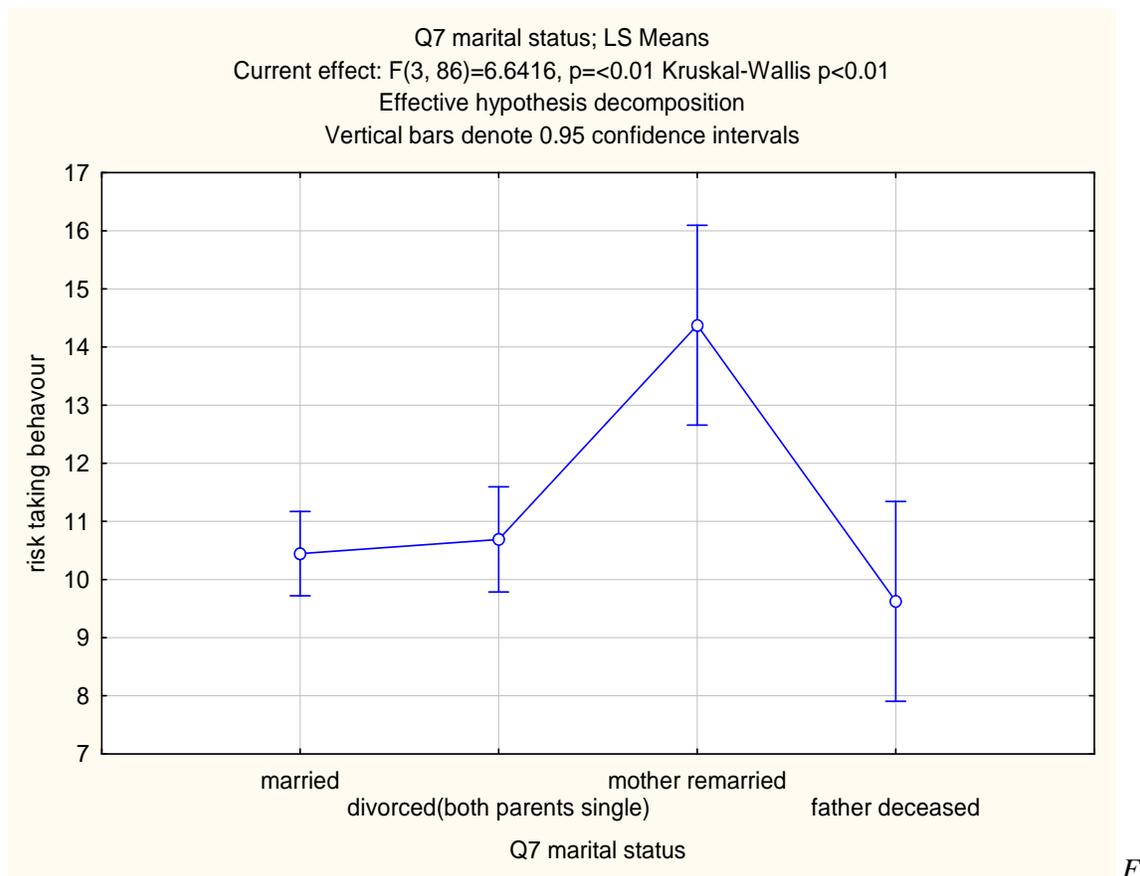


figure 5.5 A comparison of adolescents' sexual risk-taking behaviours (HRBS scores) according to the marital status of their parents.

As can be seen from Figure 5.5, adolescents whose mothers were remarried reported more sexual risk-taking behaviours than those whose parents were married, divorced but both still single, or where the fathers were deceased.

When comparing the parents' marital status with regard to sexual risk-taking behaviours, Bonferroni multiple testing corrections were done. The calculated p-values are shown in Table 4.

Table 4

Pair-wise Comparisons of Marital Status Groups in Adolescent Sexual Risk-taking Behaviour

Parents' marital status	Married	Divorced (both parents single)	Mother remarried	Father deceased
Married		1.000	0.0004	1.000
Divorced (both parents single)	1.000		0.002	1.000
Mother remarried	0.0004	0.002		0.001
Father deceased	1.000	1.000	0.001	

From Table 4 it appears that the main differences were found between mother being remarried and the other three marital statuses ($p < 0.01$).

Figure 5.6 illustrates a trend in adolescents' sexual risk-taking behaviours (HRBS scores) according to their home language. It should be noticed that, to a great extent, Figure 5.6 may reflect a trend in the adolescents' sexual risk-taking behaviours according to race group.

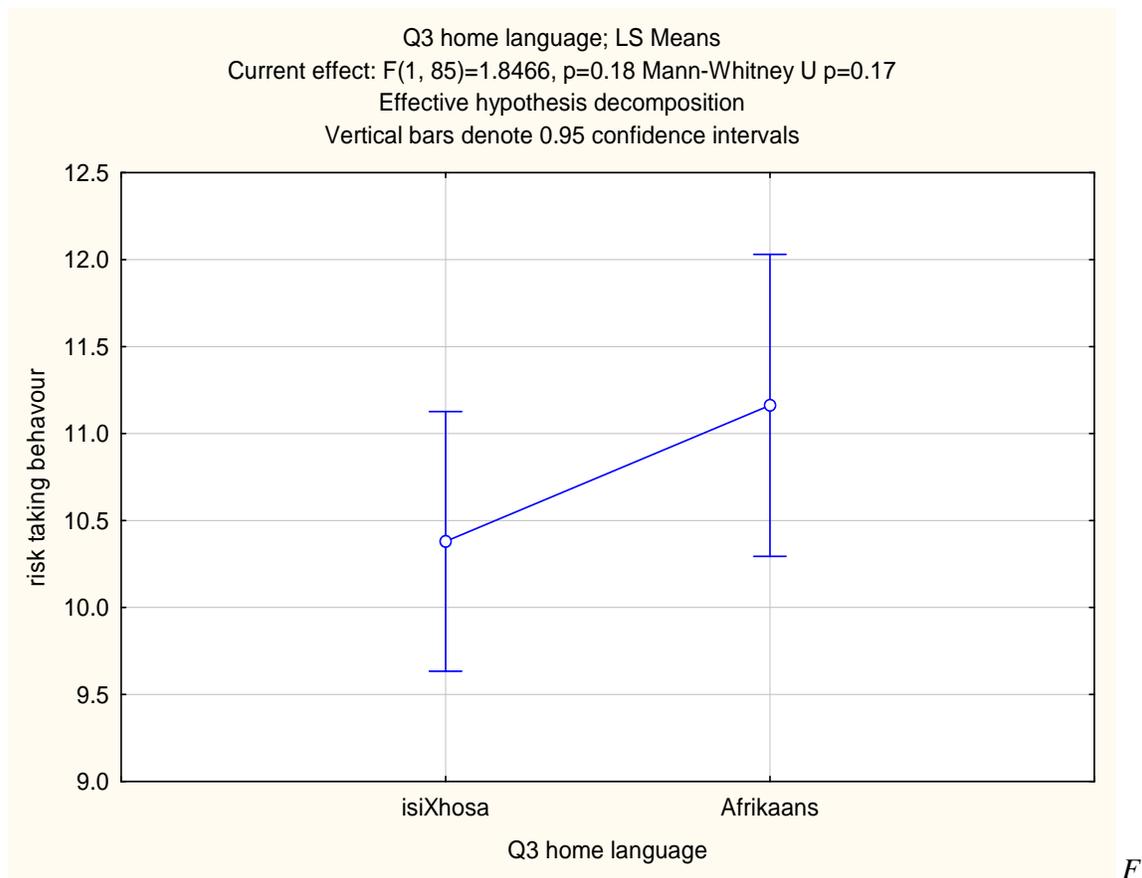


figure 5.6 A comparison of adolescents’ sexual risk-taking behaviours (HRBS scores) of families in which isiXhosa or Afrikaans is the adolescents’ home language.

From Figure 5.6 it appears that adolescents who speak Afrikaans as their home language (n = 37) may exhibit more sexual risk-taking behaviours than those adolescents who speak isiXhosa as their home language (n = 50). This trend was, however, found not to be statistically significant (p = 0.18), as can be seen by the great overlap in the 95% confidence intervals.

Figure 5.6a illustrates differences in frequency of condom use with regular partners (Q3 of HRBS) and the adolescents’ different home languages, which is also to a great extent an indication of differences between race groups.

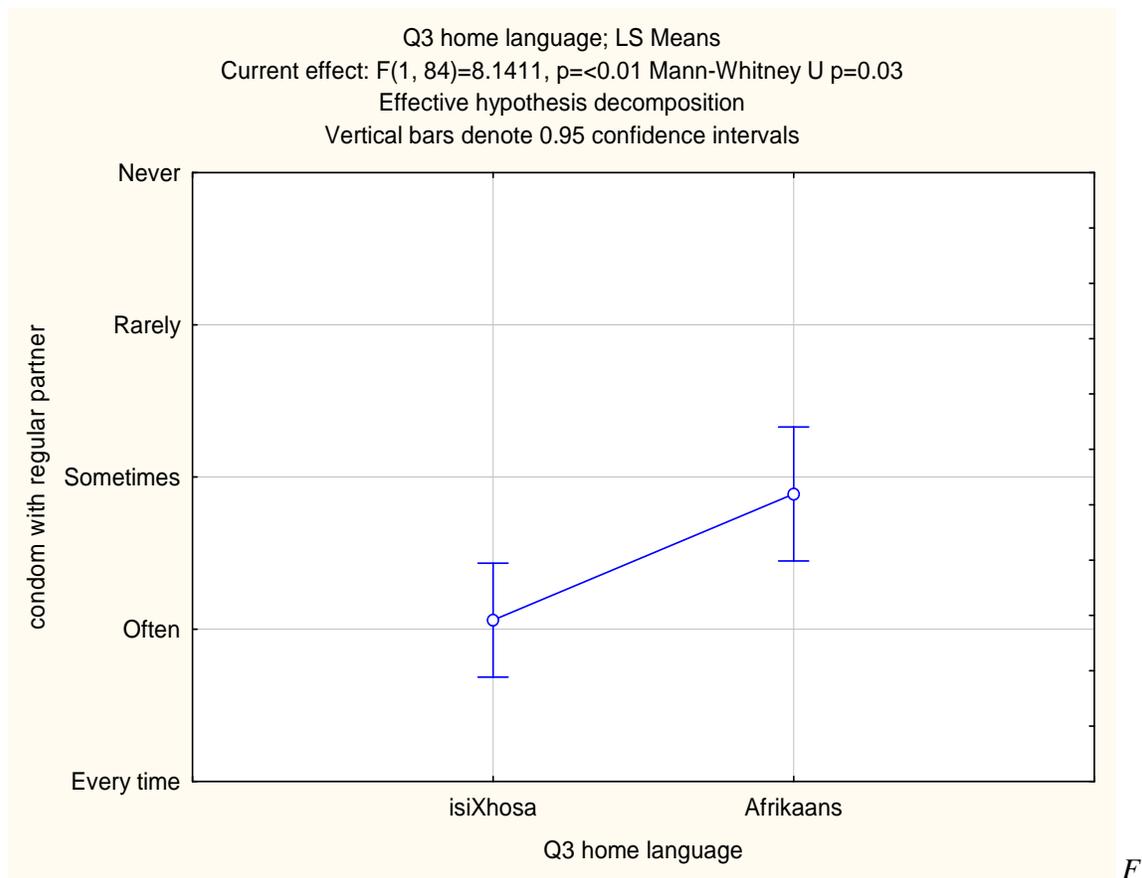


figure 5.6a A comparison of frequency of condom use with regular partner(s) (Q3 of HRBS) of adolescents who speak isiXhosa or Afrikaans as their home language.

As can be seen in Figure 5.6a, adolescents who speak isiXhosa as their home language reported a higher frequency of condom use with their regular partner(s) than those who speak Afrikaans as their home language. This difference was found to be statistically significant ($p < 0.01$).

Figure 5.6b illustrates a possible existing difference in frequency of condom use with casual partner(s) (Q4 of HRBS) and adolescents' different home languages, which is also to a great extent indicative of different race groups.

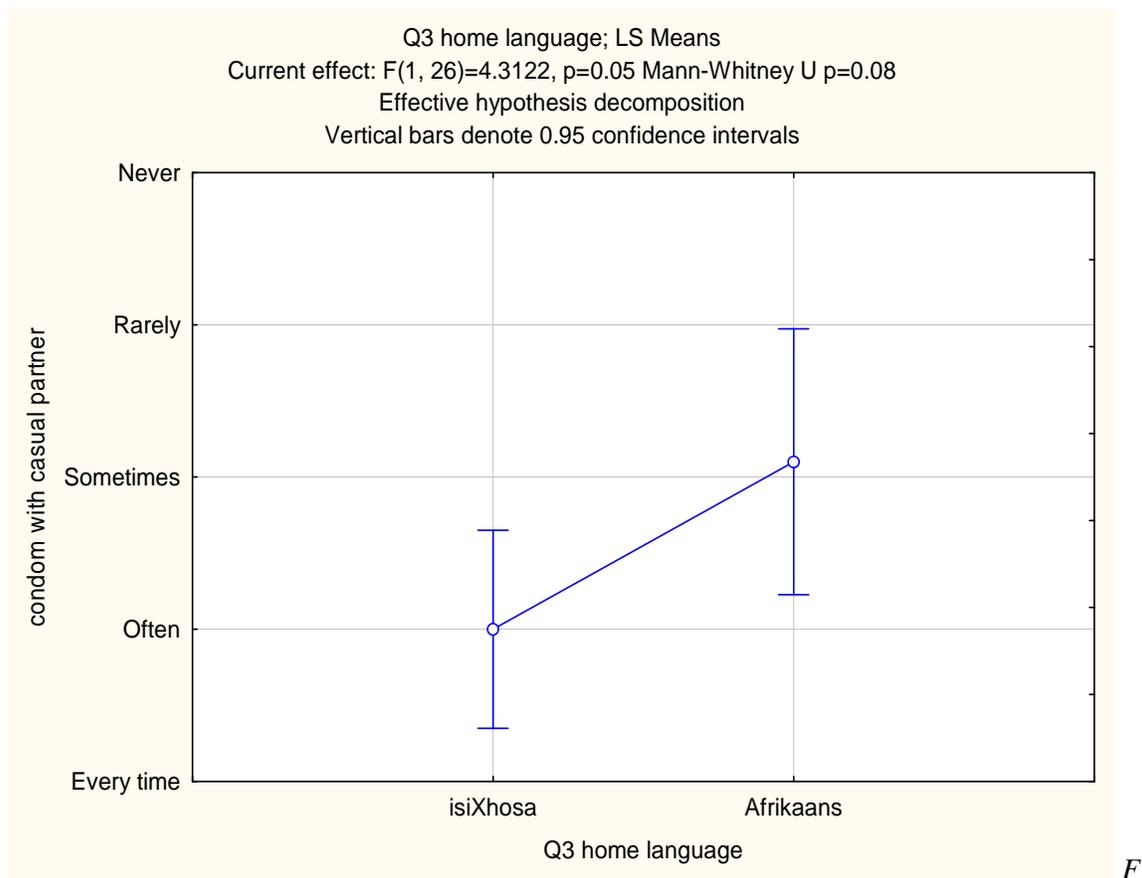


figure 5.6b A comparison of frequency of condom use with casual partner(s) (Q4 of HRBS) of adolescents who speak isiXhosa or Afrikaans as their home language.

From Figure 5.6b it appears that adolescents who speak isiXhosa as their home language reported a higher frequency of condom use with their casual partner(s) than those who speak Afrikaans as their home language. This difference was found to be statistically significant ($p = 0.05$).

5.3 Scatterplots

To determine the correlations between the measured independent variables and the adolescents' sexual risk-taking behaviours (as the dependent variable), Spearman's correlation coefficients were calculated. In addition, the results obtained with the self-report

questionnaires will be reported. Only the four statistically most significant results will be depicted visually (see figures that follow), to be followed by a table containing all the Spearman's correlation coefficients.

The correlations between adolescents' sexual risk-taking behaviours (HRBS scores) and the adolescent's age, number of siblings, and how often they had seen/spoken to their father and mother in the last year will not be illustrated graphically. However, the results are reported. Regarding the correlation between the adolescents' sexual risk-taking behaviour (HRBS total score) and the adolescents' age, no statistically significant correlation ($r = 0.12$, $p = 0.23$) was found. However, regarding the correlation between frequency of condom use with casual partner(s) (Q4 score of HRBS) and adolescents' age, a strong positive significant correlation was found ($r = 0.41$, $p = 0.03$).

Regarding the correlation between the adolescents' sexual risk-taking behaviour (HRBS) and the number of siblings, no statistically significant correlation ($r = -0.06$, $p = 0.57$) was found. Similar, no statistically significant correlation was found regarding the correlation between the adolescents' sexual risk-taking behaviour (HRBS) and how often they had seen/spoken to their father in the last year ($r = 0.16$, $p = 0.13$). The moderate positive correlation ($r = 0.17$) between the adolescents' sexual risk-taking behaviour and how often they had seen/spoken to their mother in the last year was, however, found to be statistically significant at a 10% probability level ($p = 0.09$).

This concludes the correlational findings with regard to the biographical information. The three statistically significant correlations between the measured variables will be depicted

visually further on, whilst all correlations will be reported in Table 5.

Figure 5.7 is a representation of the correlation between the amount of parent-adolescent communication about sexual issues, as measured by the Weighted Topics Measure of Family Sexual Communication Scale (WTMFSCS scores), and the extent of problems in parent-adolescent communication, as measured by the Problems in Family Communication (PFC), a subscale of the Parent-Adolescent Communication Scale (PACS) (Barnes & Olson, 1982).

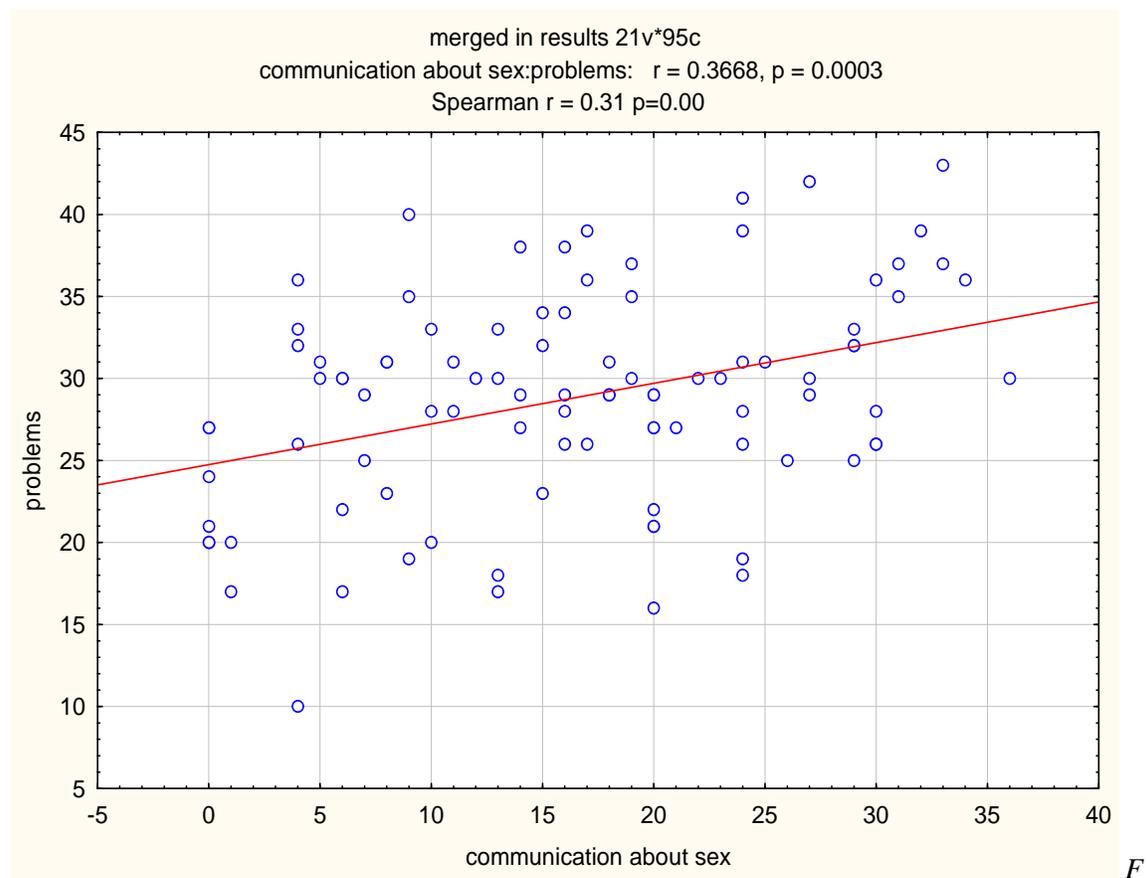


Figure 5.7 Correlation between the amount of parent-adolescent communication about sexual issues (WTMFSCS scores) and the extent of problems in parent-adolescent communication (PFC scores).

From Figure 5.7 it is evident that there is a strong positive correlation between the extent of problems in parent-adolescent communication and the amount of parent-adolescent communication about sexual issues. The statistically significant correlation ($r = 0.31, p < 0.05$) indicates that the more problems exist in general parent-adolescent communication, the more parents and adolescents communicate about sex.

Figure 5.8 illustrates the correlation between the amount of parent-adolescent communication about sexual issues (WTMFSCS scores) and the quality of parent-adolescent communication about sexual issues (PACJ scores), as measured by the Parent/Adolescent Communication Scale (Jaccard *et al.*, 2000).

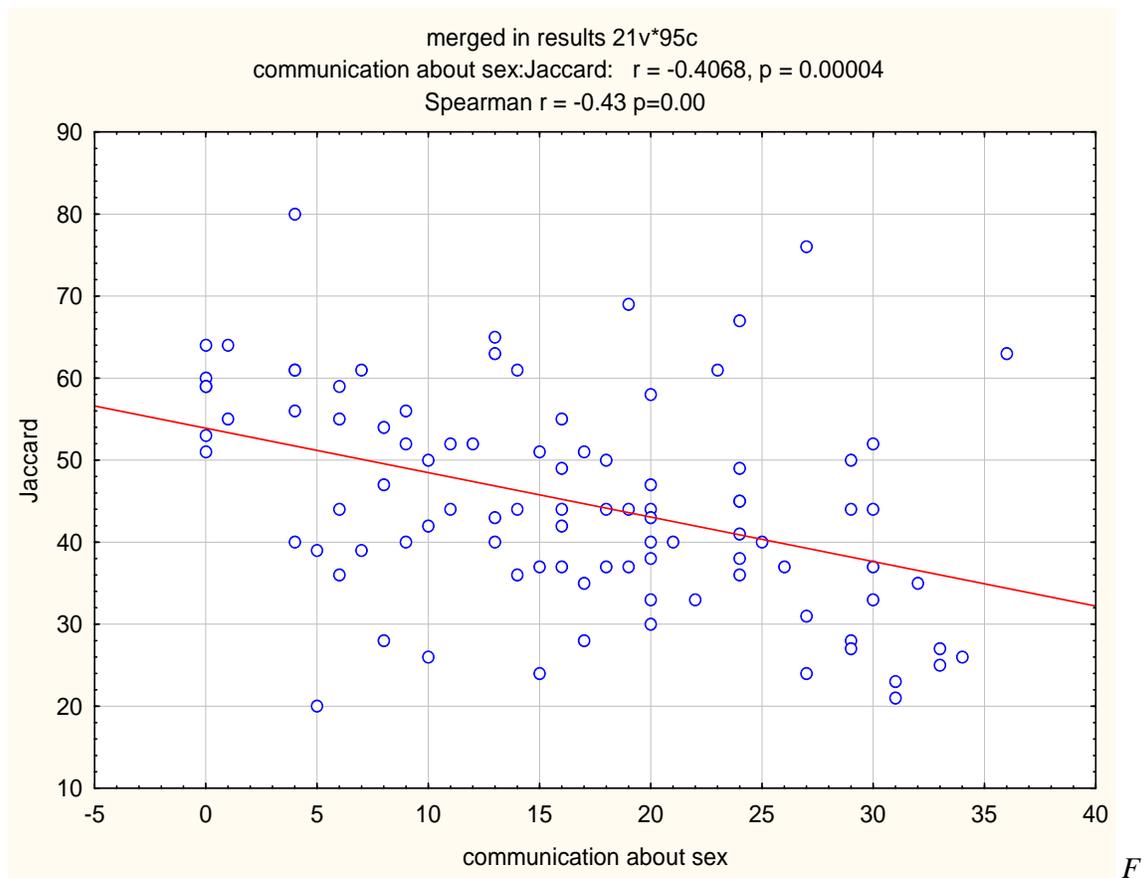


Figure 5.8 Correlation between the amount of parent-adolescent communication about sexual issues (WTMFSCS scores) and the quality of parent-adolescent communication about sexual issues (PACJ scores).

As evident from Figure 5.8, a strong negative correlation exists between the amount and quality of parent-adolescent communication about sexual issues. This statistically significant correlation ($r = -0.43$, $p < 0.05$) indicates that the more the parent(s) and adolescent communicate about sex, the lower the quality of their communications about sexual issues.

Figure 5.9 illustrates the correlation between the quality of parent-adolescent communication about sexual issues (PACJ scores) and the extent of problems in parent-adolescent communication (PFC scores).

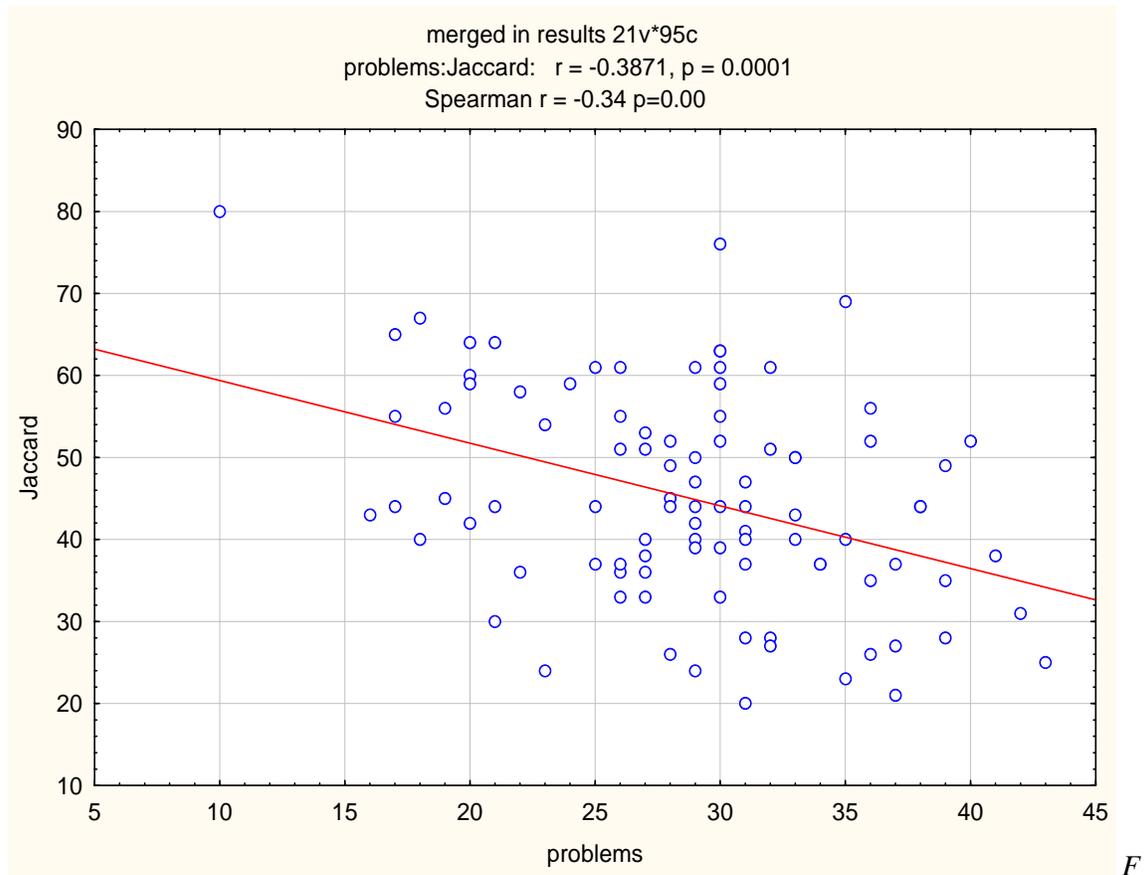


Figure 5.9 Correlation between the extent of problems in parent-adolescent communication (PFC scores) and the quality of parent-adolescent communication about sexual issues (PACJ scores).

Figure 5.9 indicates that there is a strong negative correlation between the extent of problems in parent-adolescent communication and the quality of parent-adolescent communication about sexual issues. This statistically significant correlation ($r = -0.34$, $p < 0.05$) indicates that the more problems exist in general parent-adolescent communication, the lower the quality of their communication about sex.

Table 5 provides a summary of the correlations found between the four different independent variables measured in the study. The Spearman's correlation coefficients, as well as the significance values (p), are reported.

Table 5

Summary of Spearman's Correlations Between the Measured Independent Variables (N = 95)

	Openness of general communication	Problems in general communication	Amount of sexual communication	Quality of sexual communication
Openness of general communication	-	r = -0.05 p = 0.65	r = 0.08 p = 0.45	r = -0.08 p = 0.43
Problems in general communication	r = -0.05 p = 0.65	-	r = 0.31 p = 0.00	r = -0.34 p = 0.00
Amount of sexual communication	r = 0.08 p = 0.45	r = 0.31 p = 0.00	-	r = -0.43 p = 0.00
Quality of sexual communication	r = -0.08 p = 0.43	r = -0.34 p = 0.00	r = -0.43 p = 0.00	-

As can be seen in Table 5 (and shown in the previous three figures), there are three significant correlations ($p < 0.05$). There is a strong positive correlation ($r = 0.31$, $p < 0.05$) between the extent of problems in general parent-adolescent communication and the amount of parent-adolescent communication about sexual issues; a strong negative correlation ($r = -0.34$, $p < 0.05$) between the extent of problems in parent-adolescent communication and the quality of parent-adolescent communication about sexual issues; and a strong negative correlation ($r = -0.43$, $p < 0.05$) between the amount and quality of parent-adolescent communication about sexual issues.

With regard to sexual risk-taking behaviour, Figure 5.10 depicts the correlation found between the adolescents' sexual risk-taking behaviours and the amount of parent-adolescent communication about sexual issues (WTMFSCS scores).

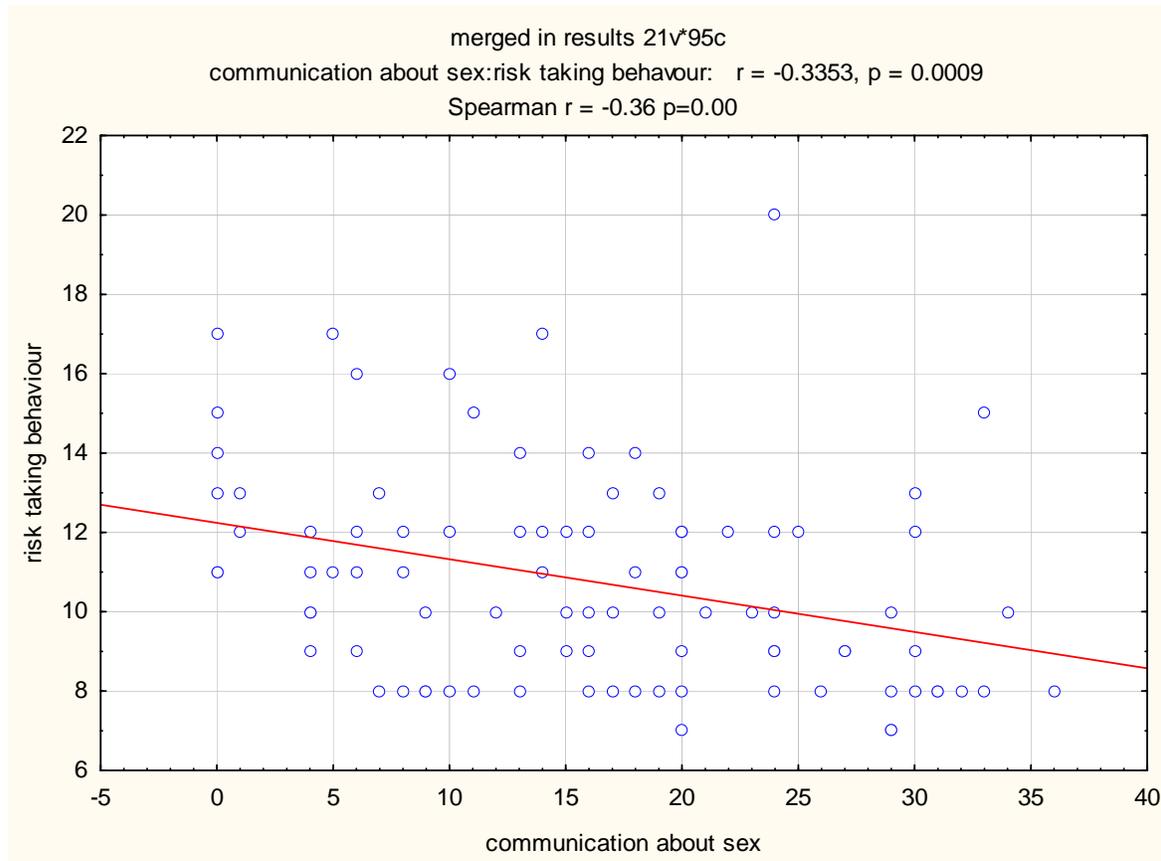


Figure 5.10 Correlation between adolescents' sexual risk-taking behaviours (HRBS scores) and the amount of parent-adolescent communication about sexual issues (WTMFSCS scores).

As can be seen in Figure 5.10, a strong negative correlation exists between adolescents' sexual risk-taking behaviours and the amount of parent-adolescent communication about sexual issues. This correlation was also found to be statistically significant ($r = -0.36$, $p < 0.05$), which indicates that the more the parent(s) and adolescent communicate about sex, the less the sexual risk-taking behaviours of the adolescent.

Table 6 provides a summary of the correlations found between the dependent variable,

adolescents' sexual risk-taking behaviour, and the various independent variables measured in the study. The Spearman's correlation coefficients, as well as the significance values (p), are reported.

Table 6

Summary of Spearman's Correlations Between the Independent Variables and Adolescents' Sexual Risk-taking Behaviour as Measured by the HIV Risk-taking Behaviour Scale (N = 95)

Variable	r	p
Age of adolescent	0.12	0.23
Number of siblings of adolescent	-0.06	0.57
Frequency of seen/spoken to mother in the last year	0.17	0.09*
Frequency of seen/spoken to father in the last year	0.16	0.13
Weighted Topics Measure of Family Sexual Communication Scale (WTMFSCS) – amount of parent-adolescent communication about sexual issues	-0.36	0.00**
Openness in Family Communication (OFC) Scale – degree of openness in parent-adolescent communication	-0.08	0.47
Problems in Family Communication (PFC) Scale – extent of problems in parent-adolescent communication	-0.01	0.95
Parent/Adolescent Communication Scale (PACJ) – quality of parent-adolescent communication about sexual issues	0.09	0.40

*p < 0.1 **p < 0.05

As can be seen in Table 6, only one of the eight correlations was found to be significant (p < 0.05), namely the amount of parent-adolescent communication about sexual issues, which

indicates a strong significant negative correlation with adolescents' sexual risk-taking behaviour. Another correlation, between the frequency the adolescent had seen/spoken to her mother in the last year and adolescent sexual risk-taking behaviour, indicates a positive trend ($p = 0.09$).

5.4 Regression analysis

A best subsets multiple regression analysis was performed to determine which independent variables are best able to predict adolescents' sexual risk-taking behaviour (as measured with the HRBS). The results of the regression analysis are presented in Table 7.

Table 7

Results of the Best Subsets Multiple Regression Analysis (N = 95)

Variable	β	t(90)	p
Amount of parent-adolescent communication about sexual issues (WTMFSCS)	-0.394	-3.511	0.001
Degree of openness in parent-adolescent communication (OFC)	0.001	0.099	0.921
Extent of problems in parent-adolescent communication (PFC)	0.066	0.592	0.555
Quality of parent-adolescent communication about sexual issues (PACJ)	-0.084	-0.743	0.460

The independent variables entered together were: the amount of parent-adolescent communication about sexual issues; the degree of openness in parent-adolescent communication; the extent of problems in parent-adolescent communication; and the quality of parent-adolescent communication about sexual issues. Together, these variables account for 12% ($R^2 = 0.12$) of the variance in the HRBS total score. From the above results it can be seen

that the one and only significant predictor variable is the amount of parent-adolescent communication about sexual issues (WTMFSCS score). A negative sign in front of the beta value indicates that an increase in the amount of parent-adolescent communication about sexual issues will result in a decrease in the adolescents' sexual risk-taking behaviours.

5.5 Descriptive results of adolescent sexual risk-taking behaviour

In the following six tables, the descriptive results of adolescent sexual risk-taking behaviour, which were measured by the HIV Risk Behaviour Scale (HRBS), are shown.

Table 8 shows the frequency and percentage of different responses to the question, "How many people, including clients, have you had sex with in the last month?"

Table 8

Summary of Responses to the Question, "How many people, including clients, have you had sex with in the last month?" (N = 95)

Number of people had sex with in last month	Frequency	%
None	14	15
One	70	74
Two	9	9
3-5 people	2	2

From Table 8 it appears that the majority of the participating adolescents had sex with one person in the last month (n = 70; 74%).

Table 9 shows the frequency and percentage of different responses to the question about the number of regular partner(s).

Table 9

Summary of Responses to the Question About the Number of Regular Partner(s) (N = 95)

Number of regular partner(s)	Frequency	%
None	2	2
One	85	89
Two	6	6
Three and more	2	2

From Table 9, it appears that the majority of the participating adolescents had one regular partner (n = 85; 89%).

In Table 10 the frequency and percentage of the responses to the question, “How often have you used condoms when having sex with your regular partner(s)?”, are shown.

Table 10

Summary of Responses to the Question, “How often have you used condoms when having sex with your regular partner(s)?” (N = 95)

How often do you use condoms with regular partner(s)	Frequency	%
No regular partner	2	2
Every time	37	39
Often	7	7
Sometimes	30	32
Rarely	6	6
Never	13	14

From the responses of the participants, it appears that 37 (39%) used condoms every time when they had sex with their regular partner(s), while 30 (32%) used condoms sometimes

when they had sex with their regular partner(s).

In Table 11 the frequency and percentage of responses to the question, “How often have you used condoms when having sex with your casual partner(s)?”, are shown.

Table 11

Summary of Responses to the Question, “How often have you used condoms when having sex with your casual partner(s)?” (N = 95)

How often to use condoms with casual partner(s)	Frequency	%
No casual partner	65	68
Every time	12	13
Often	4	4
Sometimes	8	8
Rarely	1	1
Never	5	5

From Table 11 it appears that the majority of the participating adolescents had no casual partner (n = 65, 68%) while 12 (13%) of the adolescents used condoms every time they had sex with casual partner(s).

Table 12 shows the frequency and percentage of responses to the question, “How often have you used condoms when you have been paid for sex in the last month?”

Table 12

Summary of Responses to the Question, “How often have you used condoms when you have been paid for sex in the last month?” (N = 95)

How often used condoms when had paid sex	Frequency	%
No paid sex	89	94
Every time	4	4
Often	1	1
Sometimes	0	0
Rarely	0	0
Never	1	1

From Table 12, it appears that the majority of the participating adolescents had no paid sex in the last month (n = 89, 94%), while only six of them had been paid for sex.

Table 13 shows the frequency and percentage of responses to the question, “How many times have you had anal sex in the last month?”

Table 13

Summary of Responses to the Question, “How many times have you had anal sex in the last month?” (N = 95)

How many times had anal sex in last month	Frequency	%
None	75	79
One time	12	13
Two times	5	5
3 to 5 times	2	2
6 to 10 times	0	0
More than 10 times	1	1

From Table 13 it appears that the majority of the participating adolescents had no anal sex in the last month (n = 75, 79%). Twelve (13%) of the adolescents had engaged in anal sex once in the last month.

5.6 Conclusion

A number of important aspects were revealed. Family characteristics, especially the parents' marital status, are significantly correlated with both parent-adolescent communication and sexual risk-taking behaviour. Some significant correlations were also found between different aspects of both general and sexual parent-adolescent communication. Finally, the amount of parent-adolescent communication about sexual issues had the most significant correlation in the regression analysis, which is an inverse relationship with adolescent sexual risk-taking behaviour.

The next chapter will provide a discussion of the results. Then conclusions will be drawn, after which the limitations of this study as well as suggestions for further research will be presented.

CHAPTER 6

DISCUSSION AND CONCLUSIONS

6.1 Introduction

The aim of this study was to investigate parent-adolescent communication and adolescents' sexual risk-taking behaviour, and the relationship between these aspects. According to previous studies, adolescents and children often cite their parents as their preferred source of education about sex, while organised prevention and education efforts continue to advocate active parental involvement in children's sexual socialisation (Alexander, 1984; Bowler *et al.*, 1992; Shtarkshall *et al.*, 2007; Somers & Surmann, 2004). Parent-adolescent communication is an appealing source for influencing adolescents' knowledge, attitudes and behaviour, because parents are an accessible and often willing source of information for their children (Lefkowitz *et al.*, 2000). This study focused on four specific aspects of parent-adolescent communication, namely the openness of general communication, problems in general communication, the amount of sexual communication, and the quality of sexual communication, and on how these four communication factors are related to the adolescents' sexual risk-taking behaviours. The results of the quantitative data analyses will be discussed and compared to findings of previous research. Thereafter, the conclusion of the present study will be presented. Finally, the limitations of the study will be discussed and recommendations will be made for future research.

6.2 Discussion

6.2.1 Findings related to adolescent sexual risk-taking behaviour

Adolescents' sexual risk-taking behaviour was measured with the HIV Risk Behaviour Scale

(HRBS). The results showed different aspects of adolescent sexual risk-taking behaviours. From the 95 participating adolescents, 89% (n = 85) had one regular sex partner, while 8% (n = 8) had more than one regular sex partner (see Table 9). In accordance with previous research (George, Alary & Otis, 2007; Hiltabiddle, 1996; Karim, 2005), infrequent and inconsistent condom use was found in the present study (see Tables 10 and 11). Female adolescents always make categorical differentiations between their sexual partners, most commonly between main (regular) and casual partners (Macaluso, Demand, Artz & Hook, 2000; Nelson & Morrison-Beedy, 2008; Smith, 2003). According to Nelson and Morrison-Beedy (2008), a main (regular) partner is defined as a partner with whom a person engages in sexual intercourse at regular intervals, or otherwise on a long-term, committed basis. In contrast, a casual partner is defined as a partner with whom a person engages in sexual intercourse on an episodic, periodic, or otherwise short-term non-committed basis. These partner-specific distinctions are important because some female adolescents assume different levels of HIV sexual risk based on the categorisation (Macaluso *et al.*, 2000; Nelson & Morrison-Beedy, 2008). In the present study, only 40% (n = 37) of the adolescents who had regular partner(s) used a condom every time when they had sex with their regular partner(s), while 14% (n = 13) of them never used a condom when they had sex with their regular partner(s) (see Table 10). Thirty-two percent (n = 30) of the adolescent participants had casual partner(s). Among these adolescents who had casual partner(s), only 40% (n = 12) used a condom every time when they had sex with their casual partner(s), while 17% (n = 5) never used a condom when they had sex with the casual partner(s) (see Table 11). It is noteworthy that this finding is not inconsistent with previous studies (Cooper & Orcutt, 2000; Ellen, Adler, Gurvey, Millstein & Tschann, 2002; Gebhardt, Kuyper & Greunsven, 2003; Lescano, Vazquez,

Brown, Litvin & Pugatch, 2006; Macaluso *et al.*, 2000), which have shown that condoms are used significantly more often with casual partners than with regular partners. There are many factors that contribute to the motivation for condom use. The most probable reason may be the non-easy access to condoms (Hiltabiddle, 1996). Using the Health Belief Model as a theoretical framework for this study, it is suggested that healthcare providers should guide adolescents to make realistic risk assessments and identify positive ways of putting condoms into their sexual lives.

Other issues concerning sexual risk-taking behaviours were also evaluated in the present study. In the month preceding this research, 11% (n = 11) of the participants had sex with more than one person (see Table 8); 6% (n = 6) of the participants had paid sex (see Table 12); and 21% (n = 20) of the participants had anal sex (see Table 13). These findings are consistent with those of Pettifor *et al.* (2004) and Phillips and Malcom (2006), who pointed out the high prevalence of sexual risk-taking behaviours among adolescents in South Africa.

6.2.2 Findings related to biographical variables

A broad range of family variables were found to have effects on adolescent sexual and contraceptive behaviour (Miller, 2002; Varghese *et al.*, 2002). The contextual and structural features of families are categories of these variables. In the present study, the personal and family characteristics of four participants were found to be significantly related to parent-adolescent communication or sexual risk-taking behaviour. These characteristics are the adolescents' home language (or race) (see Figures 5.4, 5.6a and 5.6b); whether or not the adolescents live with grandparent(s) (see Figure 5.1); whether or not the adolescents live with sibling(s) (see Figure 5.3); and their parents' marital status (see Figures 5.2 and 5.5, Tables 2

and 4). Roberto and Stroes (1992), Segrin and Flora (2005) and Vangelisti (2004) have indicated that grandparents play a complex and important role in relation to children in families, especially when the parents' marriage is unstable or they are divorced. Segrin and Flora (2005) also indicated that the closer grandparents live to their grandchildren, the more opportunities they have to become involved in the grandchild's life. In the present study, adolescents who lived with their grandparent(s) reported less communication about sexual issues with their parent(s), while those who did not live with their grandparent(s) reported more parent-adolescent sexual communication (see Figure 5.1). As mentioned in the 4th paragraph of Section 4.4 and the first paragraph of Section 5.2, adolescents in this study who lived with their grandparent(s) also lived with their parent(s).

Previous research has indicated that siblings can have both positive and negative effects on family communication (Stafford, as cited in Segrin and Flora, 2005; Vangelisti, 2004). In the present study, adolescents who lived with sibling(s) had a significantly higher degree of openness of communication with their parent(s) than those who did not live with sibling(s) (see Figure 5.3).

In the present study, the parents' marital status was significantly correlated with both parent-adolescent communication and the adolescents' sexual risk-taking behaviour. Adolescents whose fathers were deceased reported more parent-adolescent communication about sexual issues than those adolescents (1) whose parents were married, (2) whose parents were divorced but both still single, or (3) whose mothers had remarried. The main difference was found to be between adolescents whose father was deceased and whose parents were divorced (both parents single) (see Figure 5.2 and Table 2), indicated by a statistically

significant difference between adolescents whose father was deceased and whose parents were divorced (both parents single) and parent-adolescent communication about sexual issues. Kaye *et al.* (2009) indicated that both parents' low marital status and bad quality of parent-adolescent relationship were associated with more sexual risk-taking behaviour among adolescents. With regard to the parents' marital status, many studies have showed consistently that living with a single parent or living in step families is related to adolescents being more likely to have had sexual intercourse (Kaye *et al.*, 2009; Miller, Benson & Galbraith, 2001; Newcomer & Udry, 1987). In the present study, adolescents whose mothers were remarried reported more sexual risk-taking behaviours than those adolescents (1) whose parents were married, (2) whose parents were divorced but both still single, or (3) whose fathers were deceased (see Figure 5.5 and Table 4). This finding is consistent with that of Miller (2002) and Varghese *et al.* (2002), who found that single or divorced parents' more permissive sexual attitudes and lesser parental supervision, and the parents' own dating activity, help to explain why adolescents in some single-parent families are at increased risk of sexual risk behaviours.

In previous studies that investigated adolescents' sexual risk-taking behaviour, only a few addressed the issue of race, as gender and age were usually investigated as important biographical variables. Holtzman and Rubinson (1995) found that adolescents' sexual risk-taking behaviour varied little by race. The present study found that adolescents who spoke isiXhosa as their home language (Africans) reported a significantly higher frequency of condom use with both regular and casual partner(s) than those who spoke Afrikaans (Coloureds) as their home language (see Figures 5.6a and 5.6b). This finding does not imply that Coloured girls have more risky sexual behaviours than African girls, because the

frequency of condom use was only one of six indicators of sexual risk-taking behaviours in this study.

The biographical characteristic, age of the participants, showed a significantly positive correlation with frequency of condom use with casual partner(s) (see the second paragraph, Section 5.3). This finding is not consistent with Neinstein, Gordon, Katzman, Rosen and Woods (2007) and Shrier, Goodman and Emans (1999), who indicated a decrease in condom use with increasing age among adolescents.

A moderate positive correlation was also found in this study between how often adolescents had seen/spoken to their mother in the last year and adolescents' sexual risk-taking behaviour (see third paragraph, Section 5.3). This is consistent with the findings of Fox (1980), Newcomer and Udry (1984), and Wingood and DiClemente (2002), who also found a negative effect of the mother on the daughter's sexual and contraceptive behaviour. Wingood and DiClemente (2002) also found that mother-daughter communication can be an important determinant of female adolescents' sexual risk-taking behaviour. However, this positive correlation is inconsistent with many previous research findings (DiIorio *et al.*, 1999; Hutchinson *et al.*, 2003; Miller, Levin, Whitaker & Xu, 1998), who that indicated a better mother-adolescent relationship and a higher level of mother-adolescent communication were associated with less sexual risk-taking behaviour by adolescents.

6.2.3 Findings related to parent-adolescent communication

Few studies have investigated the relationships between different aspects of parent-adolescent communication. Fisher (1987) found there no relation between parent-adolescent general

communication and parent-adolescent sexual discussions. Interestingly, however, some significant correlations were found between different aspects of both general and sexual parent-adolescent communication in the present study.

A significant positive correlation was also found in this study between the extent of problems in parent-adolescent general communication and the amount of parent-adolescent communication about sexual issues (see Figure 5.7 and Table 5). A significant negative correlation was found between the extent of problems in parent-adolescent communication and the quality of parent-adolescent communication about sexual issues (see Figure 5.9 and Table 5). There also was a strong negative correlation between the amount and quality of parent-adolescent communication about sexual issues in the present study (see Figure 5.8 and Table 5). These three statistically significant correlations highlight various aspects in parent-adolescent communication and their associations with each other. The fact that parent-adolescent general communication and sexual communication are related to some extent is consistent with the findings of Miller *et al.* (1998) and Zhang *et al.* (2007), who also indicated a relationship between parent-adolescent general communication and sexual communication.

6.2.4 Findings related to the relationship between parent-adolescent communication and adolescent sexual risk-taking behaviour

The one and only statistically significant correlation found between aspects of parent-adolescent communication and the dependent variable is the strong negative correlation between adolescents' sexual risk-taking behaviours and the amount of parent-adolescent communication about sexual issues (see Figure 5.10 and Table 6), which

illustrates the positive value of the amount of parent-adolescent sexual communication in relation to adolescents' sexual risk-taking behaviour. This finding is consistent with some previous research (Barnett *et al.*, 1991; DiIorio *et al.*, 1999; Hutchinson *et al.*, 2003; Lefkowitz *et al.*, 2000; Mueller & Powers, 1990; Pick & Palos, 1995). However, it is contrary to other researchers (Clawson & Reese-Weber, 2003; Pistella & Bonati, 1998; Somers & Paulson, 2000), who found that more parent-adolescent sexual communication was associated with more sexual risk-taking behaviour by adolescents. In the present study, the results of the multiple regression analysis showed that the amount of parent-adolescent communication about sexual issues indeed made a significant contribution in predicting adolescents' sexual risk-taking behaviours.

Interestingly, not one of the two measured aspects of general communication (openness and problems) was significantly correlated with adolescents' sexual risk-taking behaviours (see Table 6). The other measured aspect, the quality of sexual communication, was also not significantly correlated with adolescents' sexual risk-taking behaviours (see Table 6). This contradictory finding is similar to that of Stanton *et al.* (2002) and Bettinger *et al.* (2004), who found that perceived parental communication had no effect on adolescents' sexual risk-taking activities. In the present study, this discrepancy could perhaps be ascribed to the sampling method (convenience sampling) and the content of the questionnaire (e.g., being uncomfortable, personal questions). In addition to this possibility, other explanations arise from problems with the statistical analysis. Only the amount of parent-adolescent communication about sexual issues was identified as a predictor variable from the multiple regression analysis (see Table 7). Multiple regression analysis was used to determine a

systematic relationship between predictor variables and adolescents' sexual risk-taking behaviours. In the present study, the estimated coefficient of the amount of parent-adolescent communication about sexual issues indicated a sign in accordance with the literature, which is a negative sign. This indicates that an increased amount of parent-adolescent communication will result in a decrease in adolescents' sexual risk-taking behaviours.

6.3 Additional findings

In terms of the demographic characteristics of the participants, there are two more results that are of significance. One has to do with which parent is responsible for the upbringing of the adolescent, and the other has to do with which parent the adolescent usually feels closer to. Of the 95 participants, 50 (53%) reported that their mother was mainly responsible for their upbringing, while 41 (43%) reported that both their father and mother were responsible and only four (4%) reported that only their father were responsible for them (see Section 4.4). Sixty (63%) adolescents reported that they usually felt closer to their mother, while 31 (33%) reported that they felt closer to both parents and only four (4%) reported that they felt closer to their father (see the fifth paragraph, Section 4.4). From these results it follows that fathers do not play as important a role in their daughter's life as do mothers. This may be another possible explanation for adolescents being involved in high-risk sexual behaviours. If fathers could pay more attention to their children and build more intimate relationships with them, the interventions aimed at reducing sexual risk behaviour may be more effective.

6.4 Conclusions

This study aimed to investigate parent-adolescent communication and adolescents' sexual risk-taking behaviour and the relationship between them. An exploratory, descriptive research

design and a quantitative methodological approach were used. Data from 95 female adolescents who were attending the family planning facilities of two clinics in the Metropole Region of the Western Cape was employed for the study. By making use of descriptive statistics, Spearman's correlations, analyses of variance and multiple regression analysis, a number of significant findings emerged from the various procedures undertaken. These findings were considered in the light of previous studies relating to both parent-adolescent communication and adolescent sexual risk-taking behaviour.

Firstly, the findings showed an infrequent and inconsistent use of condoms and indicated a still high prevalence of other sexual risk-taking behaviours among adolescents in South Africa, which are consistent with previous studies (Pettifor *et al.*, 2004; Phillips & Malcom, 2006). Easier access to condoms should be taken into account for effective interventions aimed at reducing adolescents' sexual risk-taking behaviour. Secondly, the significant contribution of the amount of parent-adolescent communication about sexual issues, as a contributing factor to adolescent sexual risk-taking behaviour, is supported by previous research (Barnett *et al.*, 1991; DiIorio *et al.*, 1999; Hutchinson *et al.*, 2003; Lefkowitz *et al.*, 2000; Mueller & Powers, 1990; Pick & Palos, 1995).

At the same time, some unexpected and interesting results emerged. A number of the participants' personal and family characteristics were found to be significantly related to parent-adolescent communication or sexual risk-taking behaviour. Three statistically significant correlations highlight the associations between the extent of problems in parent-adolescent general communication, the amount of parent-adolescent sexual communication and the quality of parent-adolescent sexual communication, and this

highlights that the parent-adolescent general communication and sexual communication were related to each other to a certain extent. Except for the amount of parent-adolescent communication about sexual issues, not one of the other three measured variables concerned with parent-adolescent communication was significantly correlated with the adolescents' sexual risk-taking behaviours. This inconsistency is a great surprise, as the literature relating to the effect of parent-adolescent communication on adolescents' sexual risk behaviour (Blake *et al.*, 2001; Guilamo-Ramos *et al.*, 2006) stresses the significant role played by openness of communication, problems in general communication, and quality of parent-adolescent communication.

In summary, the findings of the present study suggest that interventions aimed at reducing adolescent sexual risk-taking behaviour should take into consideration age and race, parents' marital status, frequency of see/speak to mother, and amount of parent-adolescent communication about sexual issues. The findings also suggest that interventions aimed at improving parent-adolescent communication should consider whether or not an adolescent is living with other family member (besides parents), and the correlations between different factors of parent-adolescent communication (both general communication and communication about sexual issues). Improved parent-adolescent communication and lessened adolescent sexual risk-taking behaviour are likely to have a positive impact on the adolescent's health and on the well-being of families in society.

6.5 Limitations and recommendations

The aim of the present study was to investigate the relationship between parent-adolescent communication and adolescents' sexual risk-taking behaviour. However, the importance of family communication on adolescents' sexual risk-taking behaviour is a process that may change with time and circumstances and should not be measured at a single point in time, as was the case with the cross-sectional design of the present study. Future studies may employ a longitudinal design.

Karp (as cited in Jonker, 2006) argued that different family members have distinctive emotional and practical roles in the family, and consequently they have different perceptions and experiences of the family relationships. Based on the aforementioned, a major limitation of this study was the fact that only an adolescent from each family participated. Only adolescents' perceptions about parent-adolescent communication and their sexual behaviour were reported, while different responses may be obtained from the parents. An improvement to this design would be to have both parents and adolescents participate in a similar study.

Ideally, random probability sampling should be used, while the present study involved convenience sampling. It was only possible to involve adolescents who visited a clinic for family planning. It is possible that the circumstances identifying the people who agreed to take part may give a biased picture of the variables that were measured. This restricts the generalisability of the findings. Future studies could use better sampling techniques and perhaps focus on adolescents who are sexually active but do not come to a clinic for family planning.

This study involved 95 adolescents, all of them females. This is another major limitation of the present study. Future research could also include male adolescents. Furthermore, the majority of the participants were situated in the Western Cape region, specifically in the areas surrounding Bellville. Perhaps different results would be obtained if the study was conducted elsewhere in South Africa.

The specific areas where the research was conducted determined specific language groups. Only two of the eleven official language groups were represented in this study — Afrikaans-speaking Coloured adolescents and isiXhosa-speaking Africans (see Table 3). Bigger and more equal sample sizes from other language groups should also be investigated in order to maximise the meaning and practical value of the findings. It would also be of interest for future studies to seek to identify which, if any, differences exist in the relationship between parent-adolescent communication and adolescents' sexual risk-taking behaviour among the different language groups when there are more participants from each representative group.

Further research is called for to address these limitations. Although this study has a number of limitations, many of the findings are supported by theories and previous research. The limitations of this study can be used to improve the design of future research.

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APPENDICES

Appendix A

STELLENBOSCH UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH

Parent-adolescent Communication and Sexual Risk-taking Behaviours of Adolescents

You are asked to participate in a research study conducted by Zhaohua Wang for her Master of Arts (Psychology) degree in the Department of Psychology of Stellenbosch University. The results will be reported in her thesis. You were selected as a possible participant in this study because you meet the criteria for participating, which are: unmarried, sexually active, and fluent in English.

1. PURPOSE OF THE STUDY

The purposes of the research are to:

- investigate the amount and quality of parent-adolescent communication about sexual issues relating to sexually active adolescents;
- investigate the openness and problems of general parent-adolescent communication involving sexually active adolescents;
- investigate the sexual risk-taking behaviours of adolescents;
- ascertain if there are relationships between the amount and quality of parent-adolescent communication about sexual issues, the openness and problems of general parent-adolescent communication and the sexual risk-taking behaviours of adolescents.

2. PROCEDURES

If you volunteer to participate in this study, we would ask you to do the following things:

1. Sign the participant consent form;
2. Complete Questionnaires A (Biographical information), B (Parent-adolescent communication questionnaire), and C (Adolescent sexual behaviour questionnaire). It will take you about 15 to 25 minutes.

3. POTENTIAL RISKS AND DISCOMFORT

You may feel uncomfortable while completing the questionnaires because some very personal questions are asked about family communication and your sexual behaviour.

4. POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

Through your participation, you might inform yourself about aspects of family communication and sexual risk-taking behaviour.

This research will provide society with information about parent-adolescent communication and adolescent sexual risk-taking behaviour, which will benefit individuals, families and the community.

5. PAYMENT FOR PARTICIPATION

A Twenty Rand voucher will be given to you as payment for your participation in this study.

6. CONFIDENTIALITY

Any information that is obtained during this study and that can be associated with you will remain confidential and will be disclosed only with your permission, or as required by law. Confidentiality will be maintained by only the researcher, the supervisor and the senior statistician having access to the data. The researcher will be in charge of keeping and safeguarding the data.

7. PARTICIPATION AND WITHDRAWAL

You may choose whether or not to take part in this study. If you volunteer to take part in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer but still remain in the study. The investigator may remove you from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact the researcher, Zhaohua Wang, on telephone number 072 568 8215, or the supervisor, Prof. Awie Greeff, on telephone number 021 808 3464.

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact

Maryke Hunter-Hüsselmann of the Unit for Research Development, Stellenbosch University on telephone number 021 808 4623.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was explained to me in English by Zhaohua Wang and I am in command of this language, or it was satisfactorily translated to me. I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I hereby consent voluntarily to participate in this study. I have been given a copy of this form.

Name of Subject/Participant

Name of Legal Representative (if applicable)

Signature of Subject/Participant or Legal Representative **Date**

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____.
He/she was supported and given ample time to ask me any questions. This conversation was conducted in English.

Signature of Investigator

Date

Appendix B
Research Questionnaires

A. Biographical information

All information in this questionnaire is strictly confidential and your information will be processed anonymously.

Please make a cross in the box most appropriate to you, or complete the statement in the space provided:

1. Your age: _____

2. Your sex: male female

3. Your home language: isiXhosa English Afrikaans Zulu
 Sesotho Other (specify _____)

4. Your religion: Christian Muslim Hindu Jewish
 Atheist Other (specify _____)

5. Your current living arrangements:

school residence flat / house with friend(s)

alone in a flat / house / room with parent(s)

6. Your family status:

How many brothers and sisters do you have?

none 1 2 3 4 5 or more

Do you currently live with your brother(s) or sister(s)?

yes no

Do you currently live with your grandparent(s)?

yes (specify which one _____) no

7. Your parents' marital status:

married divorced (both parents single) mother remarried

father remarried mother deceased father deceased

8. In the past year, how often have you seen / spoken to your mother?

daily few times a week weekly monthly few times a year never

9. In the past year, how often have you seen / spoken to your father?

daily few times a week weekly monthly few times a year never

10. Which of your parents was mainly responsible for your upbringing?

mother father both

11. Which of your parents usually make you feel closer to them?

mother father both

B. Parent-adolescent Communication Questionnaire

Part 1. The Weighted Topics Measure of Family Sexual Communication Scale (Fisher, 1987)

Using a scale from 0 to 4, with **0 = none** and **4 = a lot**, please indicate (circle) how much discussion you have had with your parent/s about the following topics.

_____Pregnancy	0	1	2	3	4
_____Fertilisation	0	1	2	3	4
_____Intercourse	0	1	2	3	4
_____Menstruation	0	1	2	3	4
_____Sexually transmitted (venereal) disease	0	1	2	3	4
_____Birth control	0	1	2	3	4
_____Abortion	0	1	2	3	4
_____Prostitution	0	1	2	3	4
_____Homosexuality	0	1	2	3	4

Part 2. The Parent-Adolescent Communication Scale (Barnes & Olson, 1982)

Using the scale below, please indicate how much you agree or disagree with EACH of the following statements about the communication between you and your parent/s. If you are unsure about the answer in terms of both parents, choose the one to whom you feel closer.

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	I can discuss my beliefs with my parent/s without feeling restrained or embarrassed					
2	Sometimes I have trouble believing everything my parent/s tell/s me					
3	My parent/s is/are always a good listener/s					
4	I am sometimes afraid to ask my parent/s for what I want					
5	My parent/s has/have a tendency to say things to me which would be better left unsaid					
6	My parent/s can tell how I'm feeling without asking					
7	I am very satisfied with how my parent/s and I talk together					
8	If I were in trouble, I could tell my parent/s					
9	I openly show affection to my parent/s					
10	When we are having a problem, I often give my parent/s the silent treatment					
11	I am careful about what I say to my parent/s					
12	When talking to my parent/s, I have a tendency to say things that would be better left unsaid					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
13	When I asked questions, I get honest answers from my parent/s					
14	My parent/s tries/try to understand my point of view					
15	There are topics I avoid discussing with my parent/s					
16	I find it easy to discuss problems with my parent/s					
17	It is very easy for me to express all my true feelings to my parent/s					
18	My parent/s nags/bothers/nag/bother me					
19	My parent/s sometimes insult/s me when angry with me					
20	I don't think I can tell my parent/s how I really feel about some things					

Part 3. The Parent/Adolescent Communication Scale (Jaccard, Dittus & Gordon, 2000)

Using the scale below, please indicate how much you agree or disagree with EACH of the following statements about the communication between you and your parent/s. If you are unsure about the answer in terms of both parents, choose the one to whom you feel closer.

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21	I would be embarrassed talking to my parent/s about sex					
22	My parent/s would not want to answer my questions about sex					
23	My parent/s would only lecture me if I tried to talk to him/her/they about sex					
24	I don't need to talk to my parent/s about sex; I know what I need to know					
25	My parent/s do/does not know enough for me to want to talk with him/her/they about sex					
26	My parent/s would not be honest with me if I talked with him/her/they about sex					
27	My parent/s is/are too old to be able to relate to me about sex					
28	I would only make my parent/s suspicious of me if I tried to talk to him/her/they about sex					
29	It would be difficult to find a convenient time and place to talk to my parent/s about sex					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
30	My parent/s is/are just too busy to talk to me about sex					
31	My parent/s would ask me too many personal questions if I tried to talk with him/her/them about sex					
32	My parent/s do/does not want to hear what I have to say when it comes to sex					
33	My parent/s and I would only argue if we were to talk about sex					
34	My parent/s would be embarrassed talking to me about sex					
35	I would have a difficult time being honest about my behaviour with my parent/s if we were to talk about sex					
36	My parent/s would get angry if I tried to talk to him/her/them about sex					

C. Adolescent Sexual Risk-taking Behaviour Questionnaire

The next questions are about your sexual behaviour. By sex we mean oral, vaginal or anal sex, but NOT masturbation. When we talk about condoms, we mean both male and female condoms.

1. How many people, including clients, have you had sex with in the last month?

- | | |
|------------------------------|---|
| A. None..... | A |
| B. One | B |
| C. Two | C |
| D. 3-5 people..... | D |
| E. 6-10 people..... | E |
| F. More than ten people..... | F |

2. How often have you used condoms when having sex with your regular partner(s)?

Number of regular partner(s)	0	1	2	3 and more
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(If you chose 0, skip to Question 3)

- | | |
|--------------------|---|
| A. Every time..... | A |
| B. Often..... | B |
| C. Sometimes..... | C |
| D. Rarely..... | D |
| E. Never..... | E |

3. How often have you used condoms when having sex with casual partners?

- | | |
|-----------------------------|---|
| A. No casual partners | A |
| B. Every time..... | B |
| C. Often..... | C |
| D. Sometimes..... | D |
| E. Rarely..... | E |
| F. Never | F |

4. How often have you used condoms when you have been paid for sex in the last month?

- | | |
|---------------------|---|
| A. No paid sex..... | A |
| B. Every time..... | B |
| C. Often..... | C |
| D. Sometimes..... | D |
| E. Rarely..... | E |
| F. Never | F |

5. How many times have you had anal sex in the last month?

- | | |
|----------------------------|---|
| A. None | A |
| B. One time..... | B |
| C. Two times..... | C |
| D. 3-5 times | D |
| E. 6-10 times | E |
| F. More than 10 times..... | F |