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The Development of a Model to Explain the Sexual Beliefs, Intentions and Behaviours of Adolescents and Young Adults

Eoin Joseph Killackey B.Sc (Melb.), B.Sc (Hons)(Deakin)

This thesis is submitted for the degree of Doctor of Psychology (Clinical)
in partial fulfilment of the requirements for that degree.

School of Psychology,
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Melbourne, Victoria
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August 2000
I certify that the thesis entitled

"The Development of a Model to Explain the Sexual Beliefs, Intentions and Behaviours of Adolescents and Young Adults"

submitted for the degree of Doctor of Psychology (Clinical), is the result of my own research, except where otherwise acknowledged, and that this thesis in whole or in part has not be submitted for an award, including a higher degree, to any other university or institution.

Full Name: Eoin Joseph Killackey

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Abstract

In the last thirty years there have been many research studies which have examined the reasons why adolescents and young adults engage in sexual behaviours. Most of these studies have lacked a theoretical basis. Consequently there are many links made between variables, but no consistency across studies, or attempts to develop an underlying theory to explain the results. However, there have been theoretical models developed to explain adolescents’ and young adults’ sexual decision making. Unfortunately, many of these models have not been empirically validated. This thesis attempts to address these deficiencies in the literature by utilising a theory of behaviour and applying it to adolescent and young adult sexual decision making. This theory is the Theory of Planned Behaviour (TPB). Two longitudinal studies were conducted to examine the utility of an adaptation of the TPB to sexual decision making among adolescents and young adults. In the first study 58 adolescent males, aged between 14 years and 18 years participated in a longitudinal study using a questionnaire adapted from the Depth of Sexual Involvement Scale. In the second study, 194 young adults (156 female, 38 male) aged between 18 years and 21 years participated in a similar study. The first study found that intention to engage in behaviour was well predicted, although some of the variables in the model, did not in fact, contribute significantly to the prediction. The prediction of behaviour was less strong than that of intention. Study two found that intention to engage in behaviours was well predicted by the model. However, the degree to which intention led to behaviour was not well predicted. Overall, the results of these studies suggest that the TPB is a good theoretical basis from which to launch a systematic and theoretically informed explanation of adolescent and young adult sexual decision making. However, other factors may need to be added to the model to fully describe the decision making process and accurately predict behaviour. Suggestions are made for future research, as well as interventions that may arise as more knowledge is gathered using this paradigm.
Acknowledgments

It seems strangely unreal to be at the stage of thinking about who to acknowledge, given that I have thought about being at this moment for so long. But despite this, there are many people who deserve acknowledgment, and indeed fuller praise than I will possibly ever be able to express.

I would like to thank my family, Mum and Dad, and Sinead, Francis and Fiona. This has been a long journey, and without your support, in all senses of that word, and your love, it is a journey that I would have been unable to make.

I would also like to thank my patient and wonderful girlfriend, Kirsten, who has been beside me in almost every step of this journey, in the moments of joy, and the moments of despair, always encouraging, supporting and believing, never so much as the times when I believed that things were never going to work out right. There is so much I could say, and if I went on and on, I doubt that I would ever express half of what I felt. So all I can say is thank you for your love, your belief, and most of all, thank you for being you.

This thesis would not have been written, without the professionalism, dedication and knowledge of my supervisor, Professor Marita McCabe. Marita, you have been everything that I could ever have wanted in a supervisor. At all times you were able to keep the bigger picture in mind, without missing the detail, meaning that the project was always going in the one direction. I used to go into our meetings, sure that I would have to change topics, and I would come out wondering how it was that I ever doubted. Your ability to read, correct and provide feedback on my work in such short amounts of time has amazed me. You must have used several red pens on my work alone in the last few years. Thank you.

Collecting data was possibly the most challenging part of this project. I would particularly like to thank the following people for their role in data collection, either collecting it, giving me ideas for how to collect it, or for some other part in the process: Dave Wilkins, Br. Daryl Moresco, Fr. Paul Cahill, Francis and Fiona Killackey, Greg Tooley, Mark Vujovic jnr, Vanessa, and Martin Robertson. Analysing the data was another challenge, and I would like to thank Dr. Kate Moore for her patience and clarity of explanation when I was having difficulty.
Of course, without all of the people who actually filled in the questionnaires on both occasions, this thesis would not have been written. So to all the participants, I thank you very much for your most important contribution.

I would like also to thank my friends. One of the things that this thesis and the rest of the course work in this degree has required over the last three years, is an extraordinary amount of time. To the friends who have encouraged me and supported me, despite my limited availability to reciprocate, I thank you. In particular I would like to thank the following people, whose friendship has been very important to me; Christian Nicholas, Pete and Bern Nicholas, Chris Kee, Daniel Neubronner, Gavin Stok, Tamsin Kane, Dean Williamson, Michael Jackson, Mark Vujevic jnr, Karen Marriage, Fausta Petito, Litza Kiropolous, Sophie Kurts and Chris Best. In addition are my doctoral classmates, the only people to “really know what it is like” and who have been my weekly debriefers for the last three years; Luke, Roger, Margaret and Bev.
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<td>TRA</td>
<td>Theory of Reasoned Action</td>
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<tr>
<td>PBC</td>
<td>Perceived Behavioural Control</td>
</tr>
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<td>HIV</td>
<td>Human Immuno-deficiency Virus</td>
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<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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CHAPTER 1
INTRODUCTION TO ADOLESCENT AND YOUNG ADULT SEXUAL DECISION MAKING

There is a need for a better understanding of what factors influence the decision of an adolescent to engage in sexual behaviours. In the past, the study of sexual behaviours in adolescents has largely focused on specific behaviours, such as contraceptive use and safe sex practices. However, these studies have not addressed the issue of what factors actually influence adolescents and young adults in a decision to engage in sexual behaviours. It is also apparent that much of the literature focuses exclusively on sexual intercourse. However, it is likely that an adolescent’s first experience of an intimate behavioural interaction with a sexual partner, will be behaviour other than intercourse. The present thesis also includes other behaviours which precede intercourse such as hand holding, kissing and petting.

The aim of the present thesis is to examine the factors which may influence adolescent and young adult decision making regarding whether or not they will engage in sexual behaviour, how these influences affect intention to engage in sexual behaviour, and how valid these intentions are as actual predictors of sexual behaviour. To facilitate this, an adaptation of a theoretical model of decision making, the Theory of Planned Behaviour (TPB)(Ajzen, 1985, 1988) will be utilised.

A vast literature has been developed on factors that are important in the decision to engage in sexual behaviours, or which influence timing of first intercourse. However, on closer inspection, it is found that most of these studies have been undertaken without a strong theoretical base. While they are useful empirical studies, they do not allow a coherent model of adolescent and young adult sexual decision making to be constructed. The reason for this is that it is difficult to make comparisons between studies to gain an understanding of the relevant importance of different variables in the sexual decision making process.

Much of the theoretical work which has been undertaken has suffered from a lack of empirical validation. Empirical research into proposed theories of adolescent and young adult sexual decision making has often exposed serious deficiencies in the proposed theory. One of the reasons for this seems to be that some theories of adolescent sexual decision making, seem to contain implicit value judgements about the type of adolescents that engage in sexual behaviour.
The model that is required to explain adolescent and young adult sexual decision making should have the following characteristics. Firstly, it should not be value laden. Sexual behaviour, needs, like any other subject of scientific investigation, to be viewed dispassionately. Secondly, it must be general enough to apply to as many groups as possible. Thirdly, it should predict whether or not an adolescent will engage in sexual behaviour. The TPB, which will be discussed in detail in a later chapter, is such a model. The present thesis used an adaptation of the TPB as a theoretical basis for a series of empirical studies which examined the factors which may influence the sexual decision making of adolescents and young adults. It should be noted at this point that the meaning implied of the term decision making needs to be clarified. This thesis does not report the findings of a typical decision making study in which participants are asked to make decisions and explain the basis for them. Rather, the studies reported here refer to an exploration of factors which are presumed to eventually contribute to a decision about engaging in a particular behaviour. The term decision making has been used in this way in a number of previously reported studies (e.g. Christopher & Cate, 1985; Gerrard, Breda & Gibbons, 1990; Lock & Vincent, 1995; Pete & DeSantis, 1990, Rosenthal, Lewis & Cohen, 1996).

A brief history of research on sexual behaviour and decision making

Sexual behaviour was not well researched until the studies of Kinsey and colleagues (Reiss, 1967). Kinsey et al.’s studies were epidemiological in nature, gathering data about lifetime sexual experience. Kinsey et al. also examined the age at which people initially experienced sexual intercourse (Kinsey, Pomeroy & Martin, 1948, Kinsey Pomeroy, Martin & Gebhard, 1953). Much of the research into sexual behaviour which followed Kinsey’s work was in a similarly epidemiological vein (Reiss, 1967). Thus, there was a large amount of research which provided information on such topics as; the frequency of sexual behaviour, the number of partners that people had in their lifetimes, and the age at which sexual behaviour was initiated among other things. However, the question of what psychosocial processes were occurring at the time of initial sexual behaviour was not considered in this research (Reiss, 1967). The first person to construct a psychosocial model which attempted to
explain sexual behaviour in adolescents and young adults was Ira Reiss (Clayton & Bokemeier, 1980). Reiss (1967) developed a model known as the premarital sexual permissiveness model. This provided a focus of research for the next decade (Clayton & Bokemeier, 1980). By the end of this time, the theory had not been found to fully account for the sexual behaviour of adolescents and young adults.

In contrast to the 1970s, in which much of the research was exploring Reiss’ theory, the early 1980s was a time when there was no central theory to study. As a result the research of this period appears to be exploratory in nature. Many studies sought to determine if particular factors were involved in sexual decision making. Although several factors were identified, relative importance was unable to be determined as there was no theoretical basis for most of these studies.

With the advent of HIV and the focus of adolescent sex research moving from the prevention of adolescent pregnancy to the prevention of STD transmission, research became more concerned with specific behaviours such as condom use and other AIDS preventative behaviours. This has continued into the 1990s.

While many of the studies which have investigated safe sex behaviours have led to a commendable level of AIDS prevention, there is still a lack of understanding about the psychosocial factors involved in a young person’s decision to become sexually active. The present thesis sought to redress this situation by providing a theoretically based, empirical examination, of factors influencing adolescent and young adult sexual decision making.

**Empirical and theoretical literature relating to adolescent and young adult sexual decision making**

**Catalysts to past research**

Much of the early research on adolescent sexuality was concerned with gathering information on participation rates (Kirkendall, 1948; Willoughby, 1937). Other early work, informed largely by psychodynamic thought, considered questions of sexual deviancy among adolescents (Bender & Paster, 1941; McCord, McCord & Verden, 1962; Zuk, 1958). More recently, research has investigated why adolescents engage in sexual activity. Research in this area has tended to be either theoretical or empirical, with very few theoretically based empirical studies (Christopher & Roosa,
1991; Clayton & Bokeimeir, 1980; Goodson, Evans & Edmundson, 1997). The current thesis will approach the question of what factors influence adolescents and young adults to engage in sexual activity from a theoretical base, and will then proceed to gather data to evaluate the validity of this theory in understanding adolescent sexual decision making.

Why study the factors influencing adolescent and young adult sexual decision making?

Several studies attest to the fact that more adolescents are engaging in sexual behaviours, and at younger ages than in the past (Christopher & Roosa, 1991; Cooper & Orcutt, 1997; Keller, Duerst, & Zimmerman, 1996; McCabe & Collins, 1990; Moore & Rosenthal, 1991, 1993; Sawyer & Smith, 1996). Associated with this increase in sexual activity, there are a number of potential outcomes, both positive and negative. The negative outcomes include exposure to HIV and other STDs (Cooper & Orcutt, 1997; Rosenthal, Hall & Moore, 1992; Moore & Rosenthal, 1991), unplanned pregnancy (Moore & Gullone, 1996; Moore & Rosenthal, 1993), and abortion (Christopher & Roosa, 1991). Finding ways to reduce the probability of the negative outcomes of adolescent sexual behaviour has often been cited as a reason to study such activity. However, there are also potentially positive outcomes to adolescent and young adult sexual behaviour. These include, creating sexual values which are neither exploitative nor aggressive, and which foster well being among adolescents and their partners (Moore & Rosenthal, 1992), and allowing the partners to experience intimacy and, in some cases, commitment (Christopher & Roosa, 1991). It is important that the reasons for young people participating in sexual activity are researched and understood as a first step, to not only reducing the harmful negative outcomes, but also for the development of ways to encourage the positive outcomes.

As decisions about behaviour are generally based on what a person knows about that behaviour, it is important to also consider where young people obtain their information about sexual behaviour. Fifty years ago, Kirkendall (1948) found that sex knowledge of adolescent males was largely gained from their friends. Friends are still the main source of information about sexual behaviour for both genders. Moore and
Rosenthal (1991) found that 61% of sexually active 17 to 20 year olds, credited their friends as the main source of their sex education. Sawyer and Smith (1996) found that 58% of people (of both genders) in their sample cited friends as being the most common source of sex related information. This was followed by media (15%), school (11%) and parents (7%). It is therefore conceivable, that decisions are being made by young people about their sexual behaviour based on myths at worst (Johnson, 1983), and quite possibly misinformation (Moore & Rosenthal, 1991) passed on from their usually equally inexperienced peers. Alternatively, information garnered from other sources may act as a counterweight, balancing and clarifying knowledge so that the young person can make an informed decision about their sexual behaviour.

In the field of adolescent and young adult sexual decision making research, there are a number of weaknesses in the knowledge base. Firstly, given that the emergence of sexual behaviour is a part of the developmental process, it would seem important to include longitudinal studies (Christopher & Roosa, 1991). Studies with a longitudinal element would likely allow the effects of the developmental process to be observed and added to the explanations of sexual decision making. However, there are few studies with a longitudinal component. A further problem is that the studies which do exist, are, for the most part, devoid of a theoretical framework (Christopher & Roosa, 1991; Goodson, Evans & Edmundson, 1997). While this can be seen as a criticism of this field of research, it can also be interpreted as a stage of development of research on adolescent and young adult sexual decision making. Much information has been gathered thus far from cross sectional studies. The next logical developmental stage of research is to construct explanatory models which include the information gathered, and then to test these models.

The findings of this study will make a contribution to the understanding of the factors influencing adolescent and young adult sexual decision making. This will be of assistance to those who are educating adolescents in sexual matters. The use of a theoretical model as the basis for this empirical study will be a step forward in this field of research.
Research Aims

The current thesis will examine previous work, both theoretical and empirical, in order to identify the most useful ideas, and the factors which are seen as having the greatest contribution to an adolescent’s decision on sexual activity. It will test the usefulness of a theoretically based model in the prediction of sexual behaviour. This model will be drawn from the current theoretical and empirical literature. In addition, the present thesis will examine literature outside the area of sexual behaviour and sexual decision making to explore useful theories that may be applied to the area of later adolescent sexual decision making. It has been noted that development in any field can benefit through the use of relevant thought and theory from outside the field (Bubenzer, West & Boughner, 1994).

More specifically, this thesis examines the way in which the attitudes of adolescents and young adults towards sexual behaviour, are influenced by the perceived attitudes of their parents and peers, the level of control which they perceive they have over their sexual behaviour and the attitudes that they hold towards engaging in the sexual behaviour. To this extent, this thesis is a test of the efficacy of applying an adaptation of the TPB to adolescents’ and young adults’ sexual decision making.

Further, this thesis attempts to take the variables which have consistently been shown to be important to young adult and adolescent sexual decision making in the empirical literature, and, using a theoretical model, use them as a basis for constructing a more robust, theoretically and empirically valid model of adolescent and young adult sexual decision making.

Four specific aims, which form the basis for hypotheses tested in the studies reported in this thesis, are listed below:

1. To use a theoretical model to construct a robust model of adolescent and young adult sexual decision making;
2. To extend knowledge of what factors are important in adolescent and young adult sexual decision making by examining the effectiveness of an adaptation of the TPB in predicting the sexual behaviour of adolescents and young adults;
3. To determine if other variables not included in the TPB add significantly to the prediction of sexual behaviour in adolescents and young adults;
4. To determine if there are differences between males and females in terms of attitudes toward sexual behaviour, and the relative influence of parents and peers on these attitudes.
CHAPTER 2
PAST RESEARCH ON SEXUAL BEHAVIOUR

The current chapter examines past empirical studies on the nature and frequency of sexual behaviour experienced by young people. The discussion covers both international and Australian research.

Summary of past research into adolescent and young adult sexual behaviour

Kinsey

Prior to the work of Kinsey and his colleagues (Kinsey, et al., 1948; Kinsey, et al., 1953), there had been very little investigation of adult sexual behaviour in a scientific manner. Adolescent sexual behaviour was even less well researched. The work of Kinsey and his colleagues grew from a realisation that while sex was the subject of art, conversation and literature, there was no systematic or scientific understanding of it (Kinsey et al. 1948). Further, what little research existed, was generally influenced by either societal norms, or the morals of the researcher. Very little of it was detached, dispassionate or scientific (Kinsey et al., 1948).

Kinsey’s methodology was to conduct in-depth interviews with participants in which their sexual histories were elicited. Kinsey et al. (1948) collected such data from approximately 6500 males. A number of findings concerning adolescent sexuality were made. Some of these findings are summarised below. Those who reached adolescence earlier were more likely to have sexual relations before they were twenty than those who reached adolescence later. Males from lower socio-economic groups were more likely to engage in sexual intercourse earlier, with more partners, and were more likely to pay for sex, than those from higher socio-economic backgrounds. A similar finding was made for the effects of education on sexual behaviour, with a greater amount of education being associated with having fewer sexual partners. It was also found that the younger generation in the sample (i.e. those born after 1910) had their first sexual experience at an earlier age than the older generation. One of the most important outcomes of Kinsey’s study was the presentation of the percentage of males with experience of sexual intercourse in their adolescent years. These are shown in Table 2.1 below.
Table 2.1: Percentage of males with sexual experience by age in Kinsey et al. (1948)

<table>
<thead>
<tr>
<th>Age</th>
<th>% with experience of intercourse</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>1.0</td>
</tr>
<tr>
<td>12</td>
<td>4.9</td>
</tr>
<tr>
<td>13</td>
<td>13.8</td>
</tr>
<tr>
<td>14</td>
<td>27.8</td>
</tr>
<tr>
<td>15</td>
<td>38.8</td>
</tr>
<tr>
<td>16</td>
<td>51.6</td>
</tr>
<tr>
<td>17</td>
<td>61.3</td>
</tr>
</tbody>
</table>

The data collected by Kinsey and his colleagues concerning females, were presented in a later report (Kinsey et al. 1953). This report found that a smaller percentage of adolescent females engaged in sexual intercourse and other sexual behaviours such as petting, than males of an equivalent age. As for males, it was found that there was a relationship between education level and age at initial sexual behaviour, with less educated females having sex earlier. It also found that most of the premarital sex that females engaged in, occurred in the year or two before marriage, and was usually with the person whom they later married. Thus, females tended to have fewer partners than males. In terms of frequency, results were not presented in as much detail as was the case for the males. However, by the age of 15 only 3% of the female sample had engaged in sexual intercourse. By the age of 20, 20% of the unmarried females were no longer virgins. As with the males, the younger generation of females were starting to have intercourse, and having it more frequently, at an earlier age, than females of the older generation.

The Kinsey et al. (1948, 1953) data were the first large scale systematic data that looked at sexual behaviours in general, and adolescents and young adults in particular. An interesting finding was the difference in the frequency at which males and females were participating in sexual behaviours during their adolescent years. Such a large difference may have existed because of a double standard concerning
adolescent sexual behaviour in which male participation in sexual behaviour was either ignored or tacitly accepted (eg “he’s just sowing his wild oats”). Concurrently there was disapproval about female premarital sex (eg “Good girls don’t”). Despite this difference, Kinsey et al. noted that there was a generational difference such that both males and females of the younger generation in Kinsey et al.’s samples, initiated sexual behaviour at an earlier age than those in the older generation. It is possible that this was indicative of a trend towards earlier participation in sexual behaviour, which has continued throughout the latter part of this century, and, it can be argued, was encouraged by two major developments. These were the development of the oral contraceptive pill, and the advent of feminism. These two developments will be discussed below.

Effect of feminism and oral contraception on participation rates in sexual behaviour among adolescent and young adults

The Kinsey studies illuminated an area which had previously been unstudied. Importantly, they had also demonstrated that there was a change occurring, in which people of both genders were tending towards earlier initiation of sexual intercourse. While there was some research into other aspects of sexual behaviour over the next decade, much of it was psycho-dynamic in nature, and concentrated on sexual “deviance” as a focus (eg. McCord, McCord & Verden, 1963). However, most of the research of this period remained focussed on participation rates of adolescents and young adults engaging in sexual intercourse. At the same time, two changes were occurring which would drastically affect the way that society, and particularly young people, viewed sexual behaviour, and eventually lead to changes in the questions that researchers of sexual behaviour would ask. These changes were the development of the contraceptive pill, and the feminist movement. Both of these had a substantial effect on the sexual attitudes and behaviours of young people (Rossi, 1977).

In particular, the development of an oral contraceptive pill, and the emergence of feminism affected the rate at which females engaged in sexual behaviour. While males continued their trend to have sexual intercourse at younger ages than in preceding generations (McCabe & Collins, 1990, McCormick, Johnson, Friedman &
David, 1977), there was a dramatically increased incidence of females having sexual intercourse. Libby (1977) reported that in one study 46% of white females and 80% of black females aged 19 had experienced sexual intercourse. McCormick et al. (1977) reported that 74.8% of English college aged males and 62.8% of English college aged females had experienced sex. Rossi (1977) reported findings which showed an increase of participation in sexual behaviour among college aged women between 1958 and 1968. In 1958, 20.7% of college aged women had engaged in sexual behaviour. Ten years later, 34.3% of college aged women had had sexual intercourse. These figures are obviously a large increase on the numbers in the Kinsey et al. (1953) study on female participation rates. In addition, females were having sex with more partners (Libby, 1977). More interestingly, the proportion of college aged women feeling guilty about having sexual intercourse in the context of a dating relationship, had decreased between 1958 and 1968, from 65% to 36% (Rossi, 1977).

It is apparent that the social changes of the 1960s and 1970s, whether they constituted a sexual revolution or not (McCabe & Collins, 1990; Moore & Rosenthal, 1993), had their main effect on the participation rate of women in premarital and adolescent sexual relationships. In addition, there is evidence that these changes also dramatically affected the view women took of participating in a sexual relationship.

The gap between the genders with respect to adolescent sexual behaviour participation rate continued to close during the 1980s. By the time that people are at university, 83% of males and 75% of females have had experience of sexual intercourse (McCabe & Collins, 1990).

The research discussed above has focussed primarily on participation rates. Many others have investigated why people have sex. Others have suggested theories to explain adolescent involvement in sexual behaviour. These will be more fully commented on in later sections.

Terman (1938), by examining trends in rates of premarital sex participation, predicted that among the people born between 1950 and 1955, premarital sex would be universal. The participation rate of that generation (who would have been adolescents in the late 1960s and early 1970s) did not completely support Terman’s predictions. However, the figures reported by McCabe and Collins (1990), suggest that Terman was perhaps only one generation out, and that among those born in the 1970s, premarital sex is the normal, if not yet universal, experience.
Much of the research above was carried out in an American setting. There have been researchers in Australia who have carried out research into the sexual behaviour of adolescents. A consideration of this Australian research now follows.

Summary of past Australian research on adolescent and young adult sexual behaviour

Adolescent and young adult sexuality was a largely neglected area of research in Australia until the last twenty-five years. The rationale for early Australian research into young people's sexual behaviour did not seem to be as driven by the "problem" of teenage pregnancy, as was American research. Instead, Australian research seemed to be more concerned with issues regarding appropriate sex education (Johnson, 1983). However, a shift occurred during the 1980s, so that adolescent sex research in Australia covered a broader range of topics. These included moral values of adolescents (Musgrave, 1984), the influence of incest on normal sexual development (Goldman & Goldman, 1984), and also the relationship between contraceptive knowledge and practice (Collins & Robinson, 1986).

The cause of the second major shift in the focus of research into sexual practices, both in Australia and overseas, was the advent of the human immuno-deficiency virus (HIV). This led to a large amount of research examining the safe sex practices of various groups. One of these groups was adolescents. Areas of research involving adolescents that began to appear at this time included receptivity to sexuality education (Carter & Carter, 1993), attitudes to acquired immune deficiency syndrome (AIDS) and safe sex behaviour (Boldero, Moore & Rosenthal, 1992; Moore & Rosenthal, 1991; Rosenthal, Hall & Moore, 1992), and the social context of adolescent sexuality (Moore & Rosenthal, 1992).

Between 1981 and 1988 in Australia, there was an increase from 40% to 60% of 17 year old males and females claiming to be non-virgins (Moore, Rosenthal & Boldero, 1993). One recent study has gathered data on the prevalence of sexual behaviour among Australian youth (Dunne, Donald, Lucke, Nilsson, Ballard, & Raphael, 1994). Although prevented by school authorities from asking questions as to the exact type of sexual behaviour engaged in (i.e. vaginal, oral, or anal), the study did establish the number of people at given ages who had had intercourse. A total of 3854
students in secondary schools in all states except for New South Wales participated in the study. The findings of their study, with respect to prevalence of sexual intercourse, are summarised in Table 2.2 below.

Table 2.2 Percentage who have experienced sexual intercourse by age. (Adapted from Dunne, et al., 1994).

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 and under</td>
<td>11.9</td>
<td>8.2</td>
<td>9.9</td>
</tr>
<tr>
<td>14</td>
<td>14.8</td>
<td>17.4</td>
<td>16.2</td>
</tr>
<tr>
<td>15</td>
<td>24.8</td>
<td>23.2</td>
<td>23.9</td>
</tr>
<tr>
<td>16</td>
<td>33.9</td>
<td>38.4</td>
<td>36.6</td>
</tr>
<tr>
<td>17 and over</td>
<td>53.0</td>
<td>49.6</td>
<td>51.2</td>
</tr>
</tbody>
</table>

It is important to note that the number of males and females engaging in intercourse by the end of high school is roughly equal, with slightly, but not significantly, more males having sexual intercourse. This trend continues past the end of school. The number of people who have experienced intercourse once they finish school increases greatly with 75% of female first year university students and 83% of male first year university students having experienced intercourse (McCabe & Collins, 1990).

Several studies have examined the AIDS related behaviours that Australian adolescents engage in. Dunne et al. (1994) in their nationwide study mentioned above, found that of 932 sexually active adolescents in the last three years of school, only 27.9% of females and 51.4% of males, used condoms every time that they had had sex. In addition, the frequency of condom use declined with age. It was found that there was a significant decline in the number of females who reported that a condom was used when they had sex. Finally, Dunne et al. (1994) found that 10% of their sample had last had sex with someone they had only known for a few hours.

Apart from having sex at an earlier age than previous generations, adolescents are engaging in a wider variety of sexual behaviours, some of which are exposing them to a greater risk of contracting HIV. These behaviours include both oral and anal sex. Moore, Rosenthal & Boldero (1993) reported a study which found that amongst a sample of 18 year olds, 46% of males and 28% of females had engaged in
oral sex with a casual partner. With regular partners the figures were 56% and 58% respectively. Among a sample of 16 year old homeless youth, 25% of males and females reported having engaged in anal sex with both casual and regular partners (Moore et al., 1993).

The studies briefly discussed above, have investigated many aspects of adolescent sexual behaviour in the Australian context. However, very few of these studies have asked the question of what leads to adolescents engaging in sexual behaviours.

Summary of chapter 2

The above discussion has shown that much of the earlier research into sexual behaviour was primarily concerned with epidemiological data collection. These studies have found that there has been an increase in participation in sexual behaviour across the century, particularly among females. The increase in sexual behaviour among adolescent and young adult females, has been such that the formerly significant difference between their participation rate and that of males, has disappeared. However, the issue of why adolescents and young adults make the sexual decisions that they do, was not answered by the epidemiological data. This question, and the empirical investigations attempting to answer it, are the subject of the next chapter.
CHAPTER 3
PAST EMPirical RESEARCH ON
ADOLESCENT AND YOUNG ADULT SEXUAL
DECISION MAKING

This chapter reviews the empirical literature on factors influencing adolescent and young adult sexual decision making. It does so by examining research pertaining to a number of factors which have been consistently implicated in the sexual decision making process of adolescents and young adults. These factors include exposure to sex education, gender differences, religiosity and role of parents and peers. As previously stated, the aim of the current thesis is to empirically apply a theoretical model to introduce structure to the field of adolescent sexual decision making. The chapter begins by drawing attention to the fact that much of the empirical work in adolescent sexual decision making has not come from a theoretical base, before proceeding to discuss the findings of empirical research. The chapter concludes with a summary of this discussion.

The lack of theoretical basis in empirical studies of sexual decision making

Past empirical research of adolescent sexual decision making has examined many factors. As noted earlier, very little of this work has been based on models developed from theory. In a review of studies between 1984 and 1994 of female adolescents and initiation of sexual intercourse (Goodson, Evans & Edmundson, 1997), it was found that 69% of the forty-nine studies that were reviewed had no theoretical basis. Instead, the work in the field of adolescent sexuality can be said to be largely empirical in nature. Several variables have been identified which have been found to influence an adolescent making a decision about having sexual intercourse, or holding a particular attitude about such behaviour.

While there is benefit in empirically based research in that it may be broad in scope, and a number of potentially important variables are generated, there are problems with this approach. Because there is no central theoretical framework from which research stems, each piece of research stands alone. Papers can not readily be
compared to each other, the knowledge of the field accumulates, but does not progress. As a consequence, no clear picture of the field develops. Some of the variables that have been associated with sexual behaviour include; sex education (Eisen & Zellman, 1987), religion (Beck, Cole & Hammond, 1991; Daugherty & Burger, 1984; Jensen, Newell & Holman, 1990), gender (Christopher & Cate, 1984; Cohen & Rose, 1984; De Gaston, Weed & Jensen, 1996; Gerrard, Breda & Gibbons, 1990), celebrity disclosure of sexual behaviour (Brown, Baranowski, Kulig, Stephenson & Perry, 1996), consumption of alcohol and non-prescription drugs (Weinbender & Rossignol, 1996) childhood sex abuse (Udry, Koenenock, Morris & van den Berg, 1995), and the influence of either the family, peers, or both (Emmerich, 1978, Owuamanam, 1983; Shah & Zelnik, 1981; Whitbeck, Conger & Kao, 1993, Wyatt, 1989; Yarber & Greer, 1986; Zani, 1991).

This work has resulted in some factors being more thoroughly investigated than others. The following discussion shall concentrate on the factors which have been most consistently associated with decisions regarding adolescent and young adult participation in sexual behaviour. These are exposure to sex education, the effect of religion, the role of gender, and the role of family and peers in adolescent and young adult sexual decision making. These factors shall be reviewed below.

**Exposure to sex education**

Eisen and Zellman (1987) evaluated the change in the incidence of sexual intercourse of teenagers following participation in a sex education program which the authors had developed. Their program involved a curriculum that covered the major aspects of reproductive biology, STDs and contraception. In addition, participants were taught communication and assertiveness skills. The findings showed that a sex education program neither increased nor decreased the likelihood of an adolescent having sexual intercourse. This was consistent with findings of other studies on the outcome of sex education (Sawyer & Smith, 1996). The conclusion to be drawn from this is that sex education programs seem to have little effect on whether or not adolescents engage in sexual intercourse. One of the claims that opponents of sex education programs make is that exposure to sex education will encourage
adolescents to experiment with sex. Eisen and Zellman (1987) showed that sex education does not lead to a decrease in the amount of sexual behaviour that those already sexually active engage in. At the same time, their study clearly shows that sex education does not lead those who were not sexually active prior to the educational intervention, to engage in sexual behaviours.

There were some limitations of Eisen and Zellman’s (1987) study that should be borne in mind when drawing conclusions from their work. The major one is that they did not have a randomly selected sample, but a self selected one. This could potentially affect the extent to which the findings of their study may be generalised. Secondly, the authors themselves urge caution because they had to rely on self-reported behaviour. While these limitations suggest that cautious interpretation would be sensible, the results were not so weak as to be rendered uninterpretable.

Sawyer and Smith (1996) showed in their study that not only does receiving sex education not change the amount of sexual behaviour that young people engage in, but that there is no difference in the age of initiation of sexual behaviour between those who do receive and those who do not receive sex education. What is different, however, is the higher level of contraceptive use and lower level of risk behaviours (i.e. unprotected intercourse) among those who have received sex education (Sawyer & Smith, 1996).

From the studies of Sawyer and Smith (1996) and Eisen and Zellman (1987), it can be suggested that while sex education may be influential in sex related behaviours such as the use of contraception, or STD preventative methods and devices, it would not appear to have much bearing on the actual decision to have sex or to not have sex. Given that there are only two reported studies, it could be suggested that any conclusions about the role of sex education in sexual decision making among adolescent and young adult populations, should be tentative. Further, more research is needed on the specific question of the role of sex education in the sexual decision making process.

A study on the role of sex education in the sexual decision making process would obviously examine the way in which such knowledge affected the decision to engage in sexual behaviour or not. Alternatively there is a view, most frequently espoused by religious groups, that there is not really any decision to be made about
sexual behaviour among adolescents and young (unmarried) adults. The role of
religion is discussed below.

**The effect of religion on adolescent and young adult sexual decision making**

Most religions have a view concerning "appropriate" sexual behaviour. In
general, religions see sexual behaviour as a means to procreation, properly expressed
only heterosexually, and usually being exclusive to the partners of a marriage.
Expression of sexuality outside of marriage is considered to be sinful. The role of
religion in adolescent sexual decision making is a factor that has not been extensively
examined by researchers. For example, Daugherty and Burger (1984) considered the
extent to which participants in their study perceived the church to be communicating
positive and negative messages about sexual behaviour. The study also gathered data
about which sex behaviours the participants had engaged in and how they felt when
they participated in these behaviours. The study found that there was no correlation
between the perceived message of the church and the participants' level of
erotophobia or erotophilia. That is, people were making their own decisions about the
"rightness or wrongness" of their sexual behaviour.

In another study, Jensen, Newell and Holman (1990) examined the
relationship between church attendance, sexual behaviour and permissive attitudes in
young men and women. Using frequency of intercourse as a dependant variable, they
found a main effect for permissiveness, but not for church attendance. This finding
was consistent for both genders. There was an interaction of church attendance with
permissiveness. However, this was not a clearly interpretable interaction as the three
groups with the highest intercourse frequency were those who attend church a few
times a year and were either nonpermissive or permissive, and those who attend
church weekly and are permissive. The conclusion that Jensen et al. (1990) reached is
that while religiosity, as measured by church attendance, may have some indirect
influence, this influence is further affected by cognitive and social processes
surrounding sexual behaviour.
One difficulty in assessing the influence of a religion on the behaviour of people in Western societies is that there is a move away from observance of the institutional rules, such as those of churches, by which people used to govern their lives (Seligman, 1991). The validity, therefore, of asking about the influence of religion on one behaviour, without inquiring as to the influence of religion on the person in general, is questionable. Neither Daugherty and Burger (1984) nor Jensen et al. (1990) made any inquiry as to the influence of religion in the lives of the participants in their study. Thus it cannot be claimed that the findings are necessarily representative of a relationship between the church’s message and the participants’ sexual behaviour. One of the problems of many studies of the influence of religion on sexual behaviour in young people, is that there is a concentration on what might be termed the mainstream Christian religions such as Catholicism and the main Protestant denominations (Beck, Cole & Hammond, 1991). To try and counter this, Beck et al. (1991) examined data from a larger study to see if those people brought up in more fundamentalist Christian traditions were more influenced by their churches teachings on premarital sex. Evidence was found that supported the idea that sexual behaviour was related to religious heritage. The group that was most distinct from mainstream groups was the one labelled institutionalised sects. These were religions like Jehovah’s Witnesses, Mormons and Pentecostals. Beck et al. (1991) concluded that theologically these groups were not so different from other fundamentalist religions, which were closer to the mainstream religions in terms of premarital sex among their youth. However, the institutionalised sects were much more structured in terms of communities, and require a higher level of commitment by their adherents. These factors may interact to create greater affiliation to the principles of the religion. In any case, it can be concluded from the aforementioned studies that if religion has an influence on sexual behaviour it is unlikely to be a direct one and is more likely to be mediated by cognitive, and social factors, which may themselves be affected by religious values, and in turn perhaps also affect the degree to which those religious values are held.
Gender effects involved in adolescent and young adult sexual decision making

There is much anecdotal evidence that there is a difference in the way that males and females approach sexual decision making. One study which provides empirical evidence to support this gender distinction was carried out by Christopher and Cate (1984). In their study a scale was developed to try and elicit other factors which were relevant to sexual decision making. Data were factor analysed and four main factors were found. These were (with variance accounted for); positive affect/communication (41.2%), arousal/receptivity (23%), obligation/pressure (14.2%), and circumstantial (8.5%). Positive affect/communication included items such as liking for partner, love for partner, partner’s love for participant, awareness of partner’s feelings, degree of commitment between partners, and possibility of eventual marriage. Arousal/receptivity consisted of items which included, partner’s physical arousal during date, receptivity of partner to participant’s sexual advances and physical attractiveness of partner. The items in the obligation/pressure factor were more concerned with what could be broadly termed perceived social norms. These included participant’s feelings of obligation to have sex with partner, number of participant’s friends engaging in intercourse and number of partner’s friends engaging in intercourse. Finally, the circumstantial factor included items like preplanning to increase chance of intercourse, consumption of alcohol and drugs and whether or not the date was a special event. It was found that there was a significant difference between males and females on two of these factors. The results showed that females considered positive affect/communication to be significantly more important in their decision to have sex than did males. In addition, males felt more social pressure than females to become sexually experienced. These results suggest that there are gender specific ways of approaching a decision to enter into a sexual relationship.

Gerrard, Breda and Gibbons (1990) in a study which examined gender effects in the domain of sexual decision making and contraception found that there are divisions of decision making concerning different parts of sexual behaviour. In this study, couples were separated and asked to write individual opinions about premarital sex and contraception. They were then brought back together and asked to write a joint opinion about premarital sex and contraception. By assessing the two opinions
written individually, with the opinion written together, Gerrard et al. (1990) sought to ascertain which partner had the greatest input into decisions made by the couple. Finally, the couple were separated again and asked to individually write which method of birth control was used last time they had sex. Each partner also wrote which method they would choose to use if the choice was entirely theirs. The study found that males had more influence on the couples’ opinions of premarital sex and contraception, but females had more control over the type of contraception actually practiced.

In relation to Christopher and Cate’s (1984) work, the results of the Gerrard et al. (1990) study imply that while the female, when making a decision about sexual behaviour, is likely to primarily consider positive affect/communication dimensions of the relationship, the decision to initiate sexual behaviour originates with the male. Consequently, this decision is more likely to have been informed by the males perception of social norms concerning sexual behaviour, than the quality of the communication in the relationship. This raises the question of how these two different views of relationship readiness for sex can be reconciled.

A study that goes someway towards providing an answer to this question investigated the differences between the sexual behaviour of adolescent males and females (DeGaston, Weed & Jensen, 1996). This study used questionnaires to examine several aspects relating to sexual behaviour. These included views on many topics including contraception, extent of recent and past sexual behaviour, and views on conception and parenting. The results indicated significant differences between males and females on almost every measure. Some of these differences showed that adolescent males were less likely to be virgins, and more likely to have had frequent sex (more than five partners) and recent sex (within the last four weeks). Adolescent females on the other hand were more likely to feel less pressure from friends to become sexually active and more support from friends for remaining abstinent. The study found that females thought parents would be less approving of adolescent sexual behaviour. The results of DeGaston et al.'s. (1996) study supported the finding of Christopher and Cate (1984) that males are more inclined to feel pressure to have sex from perceived social norms. In addition DeGaston et al. (1996) showed that females, while considering love and commitment (which would come under the positive affect factor in Christopher and Cate’s (1984) study) important in the
decision to have intercourse, did not see these qualities as being justifications for having sex. This finding may provide a lead towards the answer to the question raised by the Gerrard et al. (1990) study. One answer may be, that while an adolescent female might consider initiating sex in a relationship when she feels that there is adequate positive affect and communication (Christopher & Cate, 1984), it is usually the male acting on perceived social norms, who initiates sex (Gerrard et al., 1990). Therefore the decision of the female to participate may be based on other factors. These include how she views the consequences of sex affecting her, what her own perception of social norms are and where these norms come from. The main benefit of the study by DeGaston et al. (1996) is that it provides much information about differences between males and females with regard to sexually related beliefs and behaviours.

From this brief examination of the differences that exist in the empirical literature between adolescent males and females in terms of sexual behaviours and beliefs, some conclusions can be made. Firstly, females, more so than males, tended to consider the factor of positive affect and communication in their sexual decision making (Christopher & Cate, 1984). This factor included items like love, openness, and the meaning of intercourse for the person. However, De Gaston et al. (1996) demonstrated that although positive affect and communication was considered by females as being necessary for intercourse, it was not by itself sufficient to justify intercourse. It was also clear that adolescent males feel a social pressure to become sexually active which influenced their sexual decision making (Christopher & Cate, 1984; DeGaston, et al., 1996). Finally, although the male had a less romantic notion of sex and was more likely to influence the couple's decision to have sex, it was the female who seemed to be in control of the contraceptive decision making process (Gerrard et al., 1990). Females, more than males, saw pregnancy as a greater inhibitor to attainment of future goals and as having greater effect on their current life (DeGaston et al., 1996).

There has been much research carried out on the environmental and biological factors such as religion, sex education and gender which influence adolescent sexual decision making. However, two important areas of influence in the life of a young person are family and peers. Initially, a person learns how to relate to the world through the models and lessons provided in their family. Later, the influence of peers
becomes more pronounced (Moore & Rosenthal, 1991). It is important when researching the influences affecting adolescents when they make decisions about sexual behaviour, that the role of family and peers is not neglected. There are several studies which have examined the role of these two factors in adolescent sexual decision making. A number of these studies will now be considered.

Role of family and peers in sexual decision making

Before considering studies which investigate the role of family and peers in adolescent sexual attitudes and behaviours specifically, a study which examined the influence of peers and family on adolescents' general decision making will be considered. Emmerich (1978) gave ninth and twelfth grade students ten written hypothetical situations to read, each of which resulted in two possible courses of action. In each situation, one of the courses was favoured by peers and one was favoured by parents. The students then made a decision as to which alternative they would follow. To control for factors of gender and content, the character of the story was the same gender as the respondent and the options favoured by the parents and those favoured by the peers were reversed for half of the sample. The main findings of the study were, that while the level of influence by either parents or peers did not change between grade nine and twelve for females, males in grade nine were more influenced by parents, while males in grade twelve were more influenced by peers. This developmental change in males, at approximately the same time that many are becoming sexually aware, might go some way towards explaining the findings of Christopher and Cate’s (1984) study, that males were feeling more social pressure to become sexually active. However, Emmerich (1978) emphasised that there is a large contextual effect. Given that she did not include a situation that involved sex, generalisation of her findings to this area is speculative and requires caution. Another reason why it may be dangerous to generalise from Emmerich’s (1978) study is that while parents may have an influence on one type of behaviour, it may be unwise to assume that they automatically have the same degree of influence, if any, in another area, such as sexual behaviour.

Studies have extended the methodology used by Emmerich (1978) into the realm of sexual behaviour. One study used the same task as described above, but in
addition, used a separate questionnaire to ascertain the participants’ level of sexual experience (Owuamanam, 1983). The peer-parent choice task was used to classify participants as being peer-oriented or parent-oriented. The sexual experience questionnaire asked whether the participant had engaged in any of the following five activities: held hands, embraced, kissed, fondled breasts or genitals, or had sexual intercourse. There was a significant difference between parent and peer oriented participants for all behaviours with the exception of hand holding. In all cases peer-oriented participants had engaged in more of each activity than parent-oriented participants. There is clearly a correlation between the source of influence and the level of sexual behaviour experienced. However, it is important to temper these results with a note of caution concerning two important aspects of this study. The first is that there is no indication that data from different genders were treated separately.

In Emmerich’s (1978) study, gender was found to be an important factor, particularly with respect to developmental changes. A more robust conclusion in Owuamanam’s (1978) study would be possible if the gender composition of the sample was known. Secondly, Owuamanam’s (1983) study was conducted in Nigeria. It is most likely that there would be several cultural factors which preclude the smooth generalisation of this study to a broader context. Bearing these issues in mind, Owuamanam’s (1983) study is further evidence that there is a difference in the influence of family and peers on adolescent decision making, and that this is likely to affect adolescent sexual decision making.

Shah and Zelnik (1981) used data from a national probability sample of 15-19 year old women to explore the role of peers and family on contraceptive use and sexual behaviour. Participants were asked whether their views were more similar to their parents’ or their peers’ views. It was found that women who said their views were more similar to their parents’ views had less premarital sexual experience than women whose views were similar to their peers’ views. However, contraceptive use exhibited a strange pattern. Those who were parent oriented in their views to premarital sex either consistently did not use contraception or consistently did use it. Those influenced by peers were casual in their use of contraception. However, the parent oriented women tended to use “non-medical” contraceptive methods such as condoms, withdrawal, rhythm, and douching. The peer oriented women tended to use more reliable methods such as the pill and IUD’s. One explanation for the differences
in contraceptive use was that those who are parent influenced, who do not use contraception, were able to justify their sexual behaviour to themselves by suggesting that they did not plan to have sex as was evidenced through their lack of contraceptive preparedness. Similarly, the methods favoured by the parent oriented women who did use contraception, were all methods which required little if any preparatory behaviour, thus allowing the justification to themselves that sexual intercourse was not planned. The peer oriented women who were using contraception were using reliable methods which required planning (Shah & Zelnik, 1981). The important point is that while peers may encourage sexual behaviour, when they also encourage contraceptive use, the risk of pregnancy is reduced through greater planning. As seen in other studies, this study points to differences in sexual behaviour between those who are peer influenced and those who are parent influenced. Shah and Zelnik's (1981) study is perhaps better than the study of Owuamanam (1983) in that it more closely examined the relationship between the participants' actions and their perceptions of their parents attitudes about sex. In both the Owuamanam (1983) and the Emmerich (1978) studies, there are other possible explanations for why people chose parent or peer responses. For example, they may have been answering in a socially desirable way. However, in Shah and Zelnik's (1981) study people were asked about the perceived attitudes of their parents. This is a better methodology because it addresses the fact that the influence of a parent is not directly through what the parent thinks, but through what the child perceives the parent thinks. In terms of sexual decision making, this study is further evidence for the important role played by parents and peers in influencing sexual decision making.

All of the research designs examined thus far have been cross-sectional and retrospective. This can be a weakness, as time can cause both the perception of events and the motivations underlying actions to be altered or lost. Further, it is likely that opinions and attitudes will change as a person develops and is exposed to new experiences and ideas. Therefore a longitudinal study may be able to examine this change in attitudes and also look at how changing attitudes affect actual behaviour. Unfortunately however, there are few longitudinal studies in this area. One study which adopted a longitudinal design was able to monitor some of the factors that changed over a one year period. In the course of the study, some participants who were virgins at the start, had had sex by the end of the study. In this study, Whitbeck,
Conger and Kao (1993), using only female participants, made two measures a year apart. They found that a number of factors combined in that time to lead a participant to having sex. These included reporting depressed affect at the first measurement, perceiving that friends were sexually active, and feeling emotionally isolated from family. The authors suggested that depressed affect led to poorer self esteem. This, combined with a perceived lack of family support, caused the participants to see sexual behaviour, in which they believed their friends to be engaged, as rewarding. This was primarily because it provided for a seemingly emotionally intimate relationship outside the home. These results support the earlier finding of Christopher and Cate (1984). In that study it was found that females would enter a sexual relationship because of a high degree of positive affect and communication. The implication of the results of Whitbeck et al. (1993) is that they may also enter a sexual relationship to find these things. This may explain why females, supposedly needing positive affect and communication to enter into sexual relations, enter into such relationships with males who are possibly only seeking to satisfy perceived social requirements of young men. It may be that the female’s perception is that positive affect and communication can be found or will develop through having sexual intercourse. Whitbeck et al.’s study was carried out on a rural sample, which may affect the degree to which the findings can be generalised. Taking this into account, the study of Whitbeck et al. further demonstrates that relationships with family, and more importantly, the family’s perceived attitude towards the person and towards sexual behaviour, can also have influence on whether or not the person engages in sexual behaviour.

Daugherty and Burger (1984), who examined the role of religion on the sexual behaviour of undergraduate students, also investigated the influence of parents and peers on the sexual attitudes and behaviours of these students. Daugherty and Burger (1984) found that for females there was no relation between parents’ perceived attitudes and participants’ attitudes or behaviour. There were significant correlations between the perceived attitudes of these female participants’ peers and the participants’ attitude towards sex, the number of sexual behaviours that they had engaged in, number of partners, and their age at first coitus. The results however, were not similar for males. For males, there was a relationship between the perceived attitudes of their parents, the participants’ attitudes towards sex, and the participants’
number of partners. For males, the only variable affected by the perceived attitudes of peers was age at first coitus. There were two aspects to these data. The first is that there was a difference between the influence provided by parents and peers. The second is that males and females were subject to different influences. These findings may explain why males feel more social pressure to become sexually active (Christopher & Cate, 1984). In Daugherty and Burger’s (1984) study, the age at first intercourse of both males and females was correlated with the attitudes of their peers. However, no direction of influence was reported and no mean ages at first intercourse were given. Thus it is possible that males are encouraged to become sexually active at an earlier age by their peers, whereas the peers of a female may support her decision to remain sexually inactive. The results of Daugherty & Burger’s (1984) study are in the form of correlations, and thus any conclusions must be treated with caution. Correlated results do not inform as to whether sexually active or curious people seek out as peers those who will support their behaviour. If this was the case then peers are not influencing a decision, but are merely supporting it.

Family and peers are perhaps the most important sources of influence on sexual decision making for young people. Several studies have shown that there is an influence of these two groups. Further, it has been seen that the direction of influence of parents and peers seems to be contrary to each other. The two groups have effect, not only on age at initial coitus, but perhaps more significantly on the type and consistency of contraception used. Thus, given there is a large influence of parents and peers on decisions and attitudes of adolescents concerning sexual behaviour, it is important that any theory which tries to explain sexual decision making, must be able to accommodate the influence described.

Summary of chapter 3

In reviewing the above literature, the main findings of the empirical research in the area that seem to have influenced adolescent sexual decision making have been covered. While there are studies which have examined other factors that may contribute to sexual decision making, such as celebrity disclosure of sexual behaviour (Brown et al., 1996), childhood sex abuse (Udry et al., 1995) and the abuse of drugs and alcohol (Weinbender & Rossignol, 1996), these tend to involve factors which
cannot be said to be a part of “normal” development. From the studies considered, a few conclusions can be made. Firstly, there is no indication that sex education programs lead adolescents to experiment with sex. Sex education programmes do not stop those who are having sex from continuing to do so. Religion was another factor that was found to have no direct influence in the sexual decision making process. The results of studies which considered the role of family and peers suggest that, in general, family influences delay initial sexual experience while peer influences encourage it. Gender is another factor that has an influence on the attitudes that young people have towards sex and sexual behaviours, and, it would seem, gender dictates the type of conditions under which sexual behaviour will be considered. What also became apparent from the studies discussed above is that the influence of factors was often indirect. That is, it was not what the parent or peer actually thought or was doing that influenced the adolescent, it was what the adolescent perceived the parent or peer to be thinking or doing.

The findings of empirical studies have provided a good foundation for the further and more systematic exploration of adolescent sexuality. However, the empirical literature, while generating many factors involved in the adolescent sexual decision making process, does not explain how these factors are involved in the decision making process. Part of extending the empirical literature is to fit the known data into a theoretical model which can adequately explain that data. A first step towards this is consideration of theories that have been proposed to explain why adolescents engage in sexual behaviour.
CHAPTER 4
REVIEW OF THEORETICAL LITERATURE ON FACTORS AFFECTING ADOLESCENT AND YOUNG ADULT SEXUAL DECISION MAKING AND BEHAVIOUR

This chapter reviews the theoretical literature which has attempted to explain adolescent and young adult sexual decision making over the past thirty years. It does this in chronological order, in an attempt to demonstrate both the ideas which have contributed to the development and growth of theory on adolescent and young adult sexual decision making, and the degree to which these theories have reflected the mores of the time in which they were developed.

Theoretical thought concerning adolescent and young adult sexual decision making, attitudes and sexual behaviour is fairly recent (Libby, Gray & White, 1978; Reiss, 1967). While work was carried out in the first half of this century exploring sexual issues, much of that work was concerned with the collection of epidemiological data (Libby et al., 1978). To that end, there was a large effort towards gaining an accurate collection of incidence rates. Obviously the Kinsey et al. (1949, 1953) studies were such projects. One of the effects of the epidemiological studies was that other researchers began to ask why people were engaging in the behaviours that were being witnessed in these studies. Consequently, this led to the development of theories concerning the sexual behaviours and attitudes of all types of social groups. One of the groups that has received much attention has been the adolescent and young adult populations.

There have been a large number of theories developed to try and explain the sexual attitudes and sexual decision making of adolescents and young adults. Unfortunately, the literature contains many examples of theories which, once developed, were not subjected to empirical examination (Goodson et al., 1997). On the other hand there have been few well developed and then well tested theories (e.g. Reiss, 1967). Many of the theories also seem to be linked to the prevailing moral atmosphere of the time. Thus, theories developed in more conservative times, interpreted adolescent sexual decision making in terms of moral reasoning theory (D'Augelli & D'Augelli, 1977). In more recent, and presumably less conservative times, models of sexual decision making have begun to be based on less value laden
Past theoretical literature

Factors such as the perceived cost and benefit of the behaviour (Gordon, 1996). This
observation itself is nothing new. Reiss (1967), commenting on earlier research into
sexual issues, stated that that research “usually made moral judgements on the
increased acceptance of sex and added little of empirical worth” (p. 1). This chapter
will consider both theories based on moralistic thinking, and those which are less
constrained by implied value judgments. It will also examine those which have been
empirically explored, and those which have not been evaluated in this way. Further,
theories that have bearing on sexual decision making, but were not developed with
sexual decision making specifically as a target behaviour will be considered later.

Theory of sexual permissiveness

One of the earliest and most substantial attempts at a theory to describe
adolescent and young adult sexual attitudes and behaviour was based on studies
conducted between 1959 and 1964 (Reiss, 1967). Reiss’ studies examined the social
context of premarital sexual permissiveness using high school, college, and adult
populations. From this research Reiss (1967) postulated a series of seven propositions
and one general theory. As part of the theory, four categories of permissiveness that
might characterise a style of sexual interaction were also developed and described. It
is important to spend some time discussing this theory as it was the main focus for
research on factors influencing sexual decision making and sexual behaviour of
adolescents and young adults throughout the 1970s (Clayton & Bokemeier, 1980).

As stated above there were seven propositions postulated by Reiss (1967). These are as follows: The first states that if a person is from a traditionally low
permissive group, then there is a greater likelihood that social forces will alter an
individual’s level of permissiveness. Reiss (1967) found that those who came from
groups traditionally associated with higher levels of permissiveness, were less likely to
be affected by social forces such as religiosity.

The second proposition concerns the level of liberality in the group of
interest. Specifically, the greater the degree of liberal values in a group the higher the
level of permissiveness that will be found. For example, a hypothetical demonstration
of this proposition might be that there is more openness to the idea of premarital sexual relationships among Labor voters than there is among Liberal voters.

Proposition number three was stated as "to the extent that individual ties to the marital and family institutions differ, individuals will tend to display a different type of sensitivity of permissiveness to social forces" (Reiss, 1967, p. 89). This proposition raises an interesting point about the perhaps inescapable forces of the time at which Reiss was writing. In discussing this proposition, Reiss posits that it infers that because of their different roles in courtship contexts, males' and females' level of permissiveness will respond differently to the same social forces. An example of this is that affection is more associated with permissiveness in females than it is in males, according to Reiss' (1967) data. However, in more recent times many authors have commented on the fact that there is less of a gap in the sexual experience levels of males and females (e.g., Dunne et al., 1994; McCabe & Collins, 1990; Meschke & Silbereisen, 1997; Moreau-Gruet, Ferron, Jeannin & Dubois-Arber, 1996), and there is presumably therefore, less difference in the attitudes held, in terms of permissiveness of each group. Taking this a step further, given that there has been a change in the traditional roles of males and females since Reiss' work (Beh, 1994), it is possible that factors which have traditionally affected permissiveness, no longer do so.

The fourth proposition says that the higher the level of permissiveness in a group, then the greater the degree of equality in terms of sexual behaviour and attitudes there will be in the group. This means that in a high permissive group there will be more acceptance of females engaging in premarital sex than there would be in a low permissive group. There are three main demographic categories used to describe permissiveness levels in Reiss' (1967) study. These are race (blacks and whites), gender (males and females), and church attendance (non-church attenders and church attenders). In each category pair, the former is the high permissive group of the two. For example, the most permissive group would be black males who did not attend church. The least permissive group would be white females who did attend church.

The fifth proposition states "differences in the potential for permissiveness in one's basic set of parentally derived values is a key determinant of the number, rate and direction of changes in one's premarital sexual standards and behaviour" (Reiss,
Past theoretical literature

1967, p.162). Reiss (1967) explains that what is meant by this proposition, is that while social forces will have some bearing on the level of permissiveness that a person has, the person's ability (or susceptibility) to change due to these social forces, will be determined by their core beliefs and values. It is Reiss' contention that these values are imparted from parents, either consciously or unconsciously. To support this, Reiss (1967) points to the fact that high permissive offspring tend to have high permissive parents.

The sixth proposition stated that "there is a general tendency for the individual to perceive his parents' permissiveness as a low point on a permissive continuum and his peers' permissiveness as a high point, and to place himself closer to his peers, particularly to those he regards as his close friends." (Reiss, 1967, p.163). This statement is important to the current project because it hints at the fact that sexual attitudes are not only influenced by social forces such as religion, and family, but also by the perceived attitudes of people with whom there is close contact.

The final proposition states that those with greater responsibility for other family members and who have a lesser role in the courtship process are likely to be less permissive. Thus parents, having greater family responsibilities, will be less permissive than their children or recently wed people. Recently wed people in turn, being less involved in the courtship process will be less permissive than dating couples.

Reiss (1967) attempted to cover a broad range of influences over the permissiveness of young adults and adolescents. From the propositions that he offered, Reiss (1967) developed a theoretical statement. This was "the degree of acceptable premarital sexual permissiveness in a courtship group varies directly with the degree of autonomy of the courtship group and with the degree of acceptable premarital sexual permissiveness in the social and cultural setting outside the group" (Reiss, 1967, p.167). Autonomy basically refers to the degree to which a dating couple is left alone or can create opportunities in which to pursue sexual behaviour, and the degree of the permissiveness will be determined by the social and cultural setting according to the influences discussed in the seven propositions.

As mentioned at the start of the description of Reiss' theory of sexual permissiveness, it was of major importance, as most of the ensuing decade was "dominated by and preoccupied with testing Reiss' (1967) theory of sexual..."
permissiveness” (Clayton & Bokemeier, 1980 p765-766). As with many theories, exposure to examination has led to some aspects of the theory being supported and others receiving less support. Specifically propositions one, two, six and seven were subjected to investigation. It was found that there was little support for the first two propositions (Clayton & Bokemeier, 1980). That is, for proposition one, that influence of social forces did not seem to be related to level of permissiveness in the manner that Reiss (1967) described, and for proposition two permissiveness did not seem to vary with liberalism. Proposition six, that people will perceive themselves as being more akin to their peers than their parents was supported (Clayton & Bokemeier, 1980; Libby et al. 1978). However, conflicting with this is the fact that this transition to be more similar to peers is a part of normal development and may not be related to sexual behaviour exclusively. Proposition seven received mixed support when tested, and there was no consistent results to show that family responsibility and courtship status were related to permissiveness (Clayton & Bokemeier, 1980; Libby et al. 1978; Schulz, Bohmstedt, Borgatta & Evans, 1977).

Despite the mixed findings and the inevitable revisions of the theory, Reiss (1967) made a significant contribution towards the understanding of adolescent and young adult sexual attitude formation. His theory gave researchers a starting point for exploration of sexual issues to do with young adults for the next decade. It was also the first time that a theory of sexual attitudes had been developed which placed the formation of sexual attitudes and behaviour in the social context.

Theories based on moral reasoning

At about the time that Reiss published his work in 1967, Kohlberg was introducing his concept of cognitive moral development (Kohlberg, 1969). A number of theorists have examined the way in which cognitive moral development can be used as a basis for theorising about sexual attitudes and behaviour.
Cognitive moral development and premarital sexual standards

As mentioned above, Reiss (1967) also discussed four standards of premarital sexual permissiveness. The first of these was total abstinence before marriage and was the standard favoured by institutions such as religions. The second was a double standard in which men were permitted to engage in premarital sexual behaviours, but women were not. The next standard was the permissiveness with affection standard. This described a standard wherein sexual behaviour was accepted in the presence of a love or affectionate relationship. The permissiveness without affection standard described the standard held by those who believed that physical attraction and pleasure were sufficient justifications to engage in sexual behaviour.

Jurich and Jurich (1974) used Kohlberg’s cognitive moral development theory to explain the selection of premarital sexual standards. They found that certain standards were associated with certain cognitive moral development levels. They also found an additional standard that they felt was not covered by Reiss’ (1967) description of standards. This standard was called non-exploitive permissiveness without affection. It referred to the fact that many of the participants in Jurich and Jurich’s (1974) study felt that permissiveness without affection was acceptable so long as both partners realised that there was no affection. If one partner wanted sex and commitment and the other just wanted sex, then this would constitute an exploitive situation. Jurich and Jurich (1974) found that those who were at the lower levels of cognitive moral development chose complete abstinence, double standard or permissiveness without affection standards. Those at a medium level of moral development chose permissiveness with affection, and those with the highest level of cognitive moral development chose non-exploitive permissiveness without affection as their standard.

This study showed that cognitive moral development may be a good platform to use to look at the type of thought associated with sexual decision making in young adults and adolescents. It was also an attempt to use a theory (i.e. moral reasoning) developed outside the domain of the behaviour under consideration to explain that behaviour. Clayton and Bokemeier (1980) referred to such theories as general theories. D’Augelli and D’Augelli (1977) pursued the use of moral reasoning theory a little further with their concept of relationship reasoning.
**Relationship reasoning**

D’Augelli and D’Augelli (1977) attempted to develop a model of sexual decision making based around two main factors. Firstly a consideration of the proximal environment, by which they were referring to “the interpersonal relationship that provides the environment for the behaviour” (D’Augelli & D’Augelli, 1977, p.47), and secondly the moral reasoning involved in deciding to have a sexual relationship. The model of moral reasoning adopted in their study was based on Kohlberg’s model of moral reasoning (Kohlberg, 1969), and attempted to extend this model into the area of interpersonal involvement.

D’Augelli and D’Augelli (1977) suggested that because a decision about sexual behaviour had to be made not only on an individual basis, but within the context of a relationship, that what needed to be examined was not moral reasoning on an individual level (which they had looked at in previous studies), but also what they called relationship reasoning. Relationship reasoning took into account the fact that the decision was based in the context of a relationship. For this type of reasoning they suggested three levels: Egoistic reasoning, in which the person considers what they will get from their partner with little consideration of what the partner may want. In this way, there is little focus on long term rewards of the relationship, and much focus on immediate rewards. The second level is dyadic reasoning, in which decisions are made based upon stereotypical roles, and are consistent with perceived expectations of the partner. At this level of reasoning, the locus of control of the relationship is invested in one person by mutual agreement. This means that the person in which control is invested is the one who makes decisions which are likely to affect the couple, and that these decisions are made without input from the non-dominant partner. An example might be the stereotypical husband/wife roles, in which the husband makes all the decisions and the wife goes along with them as she believes her husband to be acting in the best interests of their relationship. The highest level of relationship reasoning is known as interactive reasoning. At this level the decisions which affect the relationship are mutually discussed, and are based upon a consensually developing conception of the relationship. This conception is dynamic, changing as needs and values change. In this level there is a partnership aimed at delivering the best outcome for both parties in the relationship.
The model developed by D’Augelli and D’Augelli (1977) provided a framework through which sexual decision making could be investigated. This was accomplished by the operationalisation of different types of relationship reasoning which could then be further explored. However, there are studies (e.g., Gerrard et al., 1990) which question the usefulness of using these types of labels to investigate adolescent sexual decision making. One finding which suggests that the idea of levels of moral reasoning may not be useful in the context of sexual decision making in a relationship, was that the female partner tended to defer to the male partner’s level of moral reasoning when issues such as premarital sex are considered by a couple (Gerrard et al., 1990). Thus, while a woman may have the capacity to act at an interactive reasoning level, if her partner only acts at an egoistic level, it is likely that the couple’s stated reasons for engaging in sexual behaviours would more closely match his reasons than hers. D’Augelli and D’Augelli (1977) had already acknowledged this possibility and suggested that other individual factors would also have to be taken into account, such as each partner’s level of sex guilt. To its credit, the proposal of relationship reasoning was a useful interpretation of Kohlberg’s developmental model of moral reasoning to the role of moral reasoning in relationships. It also highlights the fact that no matter what factors bear on a decision about engaging in sexual behaviour, the decision to engage in the behaviour is not entirely at the volition of one individual, although one person may have more influence over the couple’s choice. Despite this, this model requires further factors, to be useful in the prediction of sexual behaviour.

Explaining the factors influencing the sexual decision making process should be one aim of a sexual decision making model. The other function of such a model should be to provide a basis for the prediction of behaviour. As has been discussed, the relationship reasoning model was not demonstrated to explain the process involved because it neglected other factors involved in the sexual decision making process. Because of this, the relationship reasoning model is not very useful in developing an understanding of the factors involved in sexual decision making.
Social cognitive models of adolescent and young adult sexual decision making

Components and skills of sexual decision making

Another theory in the field of adolescent sexual decision making, is that proposed by Juhasz and Sonnenschein-Schneider (1980). According to this theory there are three main influences that effect the sexual decision making process. These are cognitive factors, influences of socialisation, and situation specific factors. These will be described below.

Cognitive factors

Cognitive factors are further broken down into three steps. Firstly, the ability of the individual to gather information relevant to sexual behaviour, for example contraception and reproduction literature. Secondly, the person must analyse this information and think through the behaviours and their possible consequences. Finally the adolescent must synthesise all the information. This is done by evaluating, selecting and combining actions into an acceptable decision as to which behaviour to carry out. Effecting this synthesis are three factors. Firstly the adolescent must have the ability to hypothesise about future events. In a Piagetian sense this means that they must have reached the formal operational level of development. Secondly there is the influence of peer pressure. Finally there is the personal fable of adolescents which suggests to them that negative consequences only happen to other people.

Influences of socialisation

Influences of socialisation include socio-cultural values, values gathered in the process of sexual socialisation, family and parental values, and the values of peers. Obviously, the relative influence of these factors is likely to be widely variable.
Situation specific factors

Finally, there are the influences of the specific situation. These are highly individual circumstances. For example, an adolescent who meets someone at a party where the adolescent has been drinking heavily may, in that instance decide to engage in sexual behaviours that they might not otherwise engage in. These factors are likely to change in importance to the adolescent over time.

Juhasz and Sonnenshein-Schneider (1980), suggested that the factors listed above can be directly involved in sexual decision making, or they can be indirectly involved through a set of skills leading to a decision. These skills consist of self-awareness (knowing what one wants), communication (the ability to inform other people of what is wanted), values clarification (clarifying the values which are personally important), and problem solving skills (the ability to utilise the information gathered in the previous three skills which allow a decision to be made).

A useful contribution of Juhasz and Sonnenshein-Schneider’s model is the way in which it organises the factors thought to be associated with sexual decision making into three clear groups. The first group of factors, which they have labelled cognitive factors are essentially an evaluation of the behaviour and its likely impact on the participant. The second group of factors are the values of others with whom the individual socialises, in particular, parents, peers, and other socio-cultural influences. The final situation specific factors relate to the more fluid factors that may or may not be present in a given situation. The usefulness of this contribution is that it allows for factors to be sorted depending on their role. This allows for a clearer picture of the role of factors to be developed.

Unfortunately, despite the contribution their theory makes in terms of categorising influences on sexual decision making, Juhasz and Sonnenshein-Schneider (1980), do not provide any empirical support for their theory. In many ways their theory would be very difficult to test. There is little operationalisation of the factors which supposedly influence sexual decision making. The difficulty of operationalisation of their factors might explain why, when the same authors did do a study, they interpreted their results, not in the framework described here, but in the framework of Kohlberg’s moral development model (Juhasz & Sonnenshein-Schneider, 1987). The model of Juhasz and Sonnenshein-Schneider (1980), while
naming factors which may influence sexual decision making in adolescents, does not effectively explain how these may contribute to the sexual decision making of adolescents.

**Gordon's model of adolescent sexual decision making**

Gordon (1996) developed a model of sexual decision making for the purpose of understanding why high school students got pregnant. Her model is split into three broad bands of influence that bear a strong resemblance to the factors suggested by Juhasz and Sonnenshein-Schneider (1980). In Gordon's (1996) model, the first area of influence are cognitive factors. These are based strongly in Piagetian theory. Thus there is a concentration on concrete thinking as opposed to formal operational thinking. It would seem that the cognitive factor in this model differentiates between those who can think of the possible consequences of sex, and those who cannot see beyond the act of sex itself. Where Juhasz and Sonnenshein-Schneider (1980) had socialisation factors, Gordon (1996) has social and psychological factors. These are further broken into three sub-domains, firstly, general personality characteristics, secondly, personality characteristics particularly pertinent during adolescence or decision making, and thirdly, interactions with the immediate world. Finally, instead of Juhasz and Sonnenshein-Schneider's (1980) immediate situation factor, Gordon (1996) has cultural and societal factors. These are really the wider situational factors, and include items such as political system, educational system, and socio-economic influences. Gordon (1996) empirically evaluated this model using qualitative data which were gathered by means of open ended interview questions with a group of pregnant high school students. Because of the nature of the data that Gordon (1996) gathered it is not possible to generalise her findings beyond this sample. This makes evaluation of this model in comparison to other models difficult. Thus, while it is broader, and couched in terms that are possibly more easily operationalised than Juhasz and Sonnenshein-Schneider's (1980) model, Gordon's (1996) model is not, at this stage, useful to a discussion of the factors leading to a decision about sexual behaviour.
Cost/benefit model of sexual decision making

The rationale for researching adolescent sexual decision making in the 1970s and early 1980s was the reduction of the incidence of teenage pregnancy. However, as AIDS became an issue, the search for the minimisation or prevention of sexually transmitted diseases (STDs), including HIV and AIDS, became the new rationale for research into adolescent sexual decision making. A theory that derived from this field of research looked at why people engaged in risky sex (Pinkerton & Abramson, 1992). This model claimed that in order to understand why people had sex, and in particular had sex which could be classified as risky, it had to be considered that the decision to have ‘risky’ sex may be subjectively rational. In essence this model reduced to a cost/benefit analysis, where the perceived benefits (sexual fulfilment) were compared to the perceived costs (chance of catching an STD). If the benefits were expected to outweigh the costs, then the person might choose to have sex. If the costs were expected to be greater, then sex might not occur. While this model may have the potential to explain some facets of sexual decision making, it is unlikely that it covers a large area. If it is assumed that a decision to have sex is precipitated by a judgement as to what is gained personally, versus what is potentially lost personally, then, borrowing from D’Augelli and D’Augelli (1977), the model of Pinkerton and Abramson (1992) contains an implied assumption that sexual decisions are made in the context of egotistic reasoning. If it is accepted that there are three levels of reasoning regarding sexual decision making, then it is highly unlikely that all sexual decisions will be confined to one level. In addition, the idea of sexual fulfilment, while not as subjective as the idea of “knowing ourselves” (Juhasz & Sonnenshein-Schneider, 1980), is still subjective. It may be that two people achieve identical levels of sexual fulfilment, one through unprotected penetration, a relatively high risk activity, and the other through genital fondling, which is relatively low risk. Again this is a theory that is vulnerable to criticism through its lack of empirical support. There is no evidence that the claims made are any more than speculation. Consequently the model of Pinkerton and Abramson (1992) does not add much to the understanding of sexual decision making.

In 1995, Pinkerton and Abramson, extended their model to take into account personality factors which may have an influence in the decision to have sex (Pinkerton
& Abramson, 1995). The reason for this was that several studies examining sexual behaviour had taken personality styles into account. However, despite acknowledging a role for such factors in their model, they did not test their model, with or without these factors. By not doing this, and offering no other reason for the inclusion of additional factors, other than that other researchers were examining these factors, Pinkerton and Abramson (1995) do not in any way increase the usefulness of their earlier model (Pinkerton & Abramson, 1992). Thus, their earlier speculation as to what leads to a decision to have sex, remains a speculation.

The health behaviour model and adolescent sexual decision making

Lock and Vincent (1995) utilised a model known as the interaction model of client health behaviour to analyse pre-existent data in a search for the factors involved in the sexual decision making of rural adolescent females. This model as applied to the sexual decision making task has five domains, leading to the final outcome, which is a decision about participating in sexual intercourse. These domains are: demographic characteristics (town, age, race, religion), environmental resources (family structure, socioeconomic status), social influence (religiosity, parental influence, peer influence, commitment to partner), cognitive appraisal (educational goals, knowledge, sex role attitude, sexual attitude, decision making ability), and intrinsic motivation (self-esteem, health locus of control, personal responsibility). Age, family structure, peer influence, commitment to partner, and sexual attitudes, were found to directly affect the sexual decision making process. Other factors such as race, religiosity, sex role attitude, reproductive knowledge, and parental influence, had an indirect effect on the decision. This model is rare in there being both a theoretical background, and the use of empirical data to support the proposed model. Additionally, as opposed to other models (eg Pinkerton & Abramson, 1992), this model considers several factors in the process of sexual decision making.

However, despite including several variables the model, was only able to account for 31% of the variance in the sample. This is strongly suggestive that there are other, as yet unconsidered factors which influence the sexual decision making process. In fact, the authors suggested some variables such as drug and alcohol use, and media influence that might be considered in further studies. It is worth noting that
all the factors involved such as family and peer influence, attitude towards sex, where a person lives, and their social involvement, either contribute to what may be called normative beliefs, or arise as a result of normative beliefs. Thus, a model which would explain more than 31% of the variance would need to look at factors outside the domain of normative beliefs. Additionally, the data utilised were gathered from an all female rural sample and as such there would have to be caution in generalising the findings of the study. This could be remedied by testing on a more inclusive sample, such as an urban one which included males. Being one of the few models which was actually tested, the authors suggested that there may have been error due to the use of little used scales, which consequently have low reliability. While there are many areas in which this study could be improved, it is several steps ahead of other models in this field because of the empirical support it received.

Summary of theories relating to adolescent and young adult sexual decision making

Although many models of adolescent sexual decision making have been developed, most have not been well tested empirically. It is evident that there is a need for a model which is based in theory, and well supported by methodologically sound empirical studies. The Reiss (1967) theory of sexual permissiveness was such a theory. However, it failed to be adequate in explaining all of the empirical data. A strong contribution of the Reiss (1967) model was that it postulated that the reasons for sexual attitudes, decisions and behaviour can be influenced, if not caused, by factors in the social environment (Clayton & Bokemeier, 1980). Reiss’ work also gave researchers a starting point to work from in the decade which followed its publication. One of the problems of similar research in the 1980s and early 1990s was that it lacked a similar theoretical basis (Goodson et al. 1997) and so appears to be a little more discordant.

One of the faults of many of the theories has been to limit themselves to a few factors, the most extreme of which was Pinkerton & Abramson (1992) who only included one factor, cost versus benefit. Any model which claims to explain the sexual decision making process needs to be able to account for several of the influences which go into the decision. However, a decision about sexual behaviour is no more
than a decision about an activity. Thus, it may not be necessary to specifically develop a model of decision making that is specific to sexual behaviour. In fact, Reiss (1967) although developing a theory of young adult sexual attitudes, was suggesting that these attitudes were effected by factors which might influence any behavioural decision. One of the most successful of the above models was a model that was altered from its previous use in the examination of general health behaviours, to the investigation of sexual health behaviours (Lock & Vincent, 1995). While the central question of Lock and Vincent's (1995) study was a health issue, the central question of the present project is one of determining the factors influencing adolescent and young adult sexual decision making. It would therefore seem to make sense to consider as a basis for this study a model which is specifically about decision making, and importantly, not designed to explain a particular behaviour. Such a model will be presented in the following chapter.
CHAPTER 5
THE THEORY OF PLANNED BEHAVIOUR

The models examined in the previous chapter had all been used to try and explain sexual decision making by young adults and adolescents. Some of them had been designed specifically with this task in mind, and others, such as the health belief model, had been modified to suit the behaviour. Clayton and Bokemeier (1980) distinguished between such models by calling the models made specifically to explain sexual behaviour substantive, and the adapted ones general. One of the problems faced by the substantive models is that many of them were not subjected to empirical evaluation. Of those that were (e.g. Reiss 1967), subsequent research has failed to support the original predictions. Another problem was that some of them were (probably unintentionally) value laden, and reflected authoritarian/institutional opinions of premarital sexual behaviour. Compounding this, was the fact that only twenty years ago, much of the research categorised sexual behaviour among adolescents and young adults as deviant (e.g. Jessor & Jessor, 1977). General theories on the other hand also have problems associated with them. One of the main problems has been the trade off between either using many or few variables to explain the behaviour of interest (Bagozzi, 1992). For example, the health beliefs model discussed above (Lock & Vincent, 1995) used a number of variables, but it could be argued that these essentially produced a group of predictor variables which could be grouped under two main categories. One would be the effect of normative influences, and the other would be the person’s attitude towards the behaviour. There is theoretically no limit to the number of variables that could be added onto a general model, and each new variable may contribute to the solution, thus increasing its accuracy. However, the more variables necessary for the explanation of the behaviour, then the more unwieldy the model becomes. To explain the influence of factors on the sexual decision making of adolescents and young adults, a theory is needed which is general (and thus has the advantages discussed above) and is at the same time parsimonious in regard to the number of variables that it employs to explain behaviour. Bagozzi (1992) illustrated two models, the Theory of Reasoned Action and the Theory of Planned Behaviour, which have behaviour as an outcome and which potentially balance explanatory power with parsimony. In the example of the reduction of Lock
and Vincent's (1995) factors to the two above, it could be further argued that these are similar to the factors described in the Theory of Reasoned Action (TRA) as proposed by Ajzen and Fishbein (Ajzen, 1985).

The TRA (see Figure 5.1) was developed in an attempt to predict behaviour through knowledge of a person's attitudes towards the outcome of the behaviour, and knowledge of the subjective norms they held in regard to the behaviour (Fishbein & Ajzen, 1980). These two factors were said to predict intention, and intention was posited to predict behaviour. This was supported in a number of studies which examined a variety of behaviours (Ajzen, 1985, 1988).

![Figure 5.1 The Theory of Reasoned Action (adapted from Ajzen, 1988).](image)

However, problems were found with the TRA when the behaviour in question was not entirely under volitional control. For example, trying to quit smoking, going to the theatre, having more children, having sex, and losing weight are all behaviours which to varying degrees do not come completely under volitional control (Ajzen, 1985).

To remedy this situation Ajzen proposed a new theory, the Theory of Planned Behaviour (TPB) (Figure 5.2)(Ajzen, 1985). The TPB is a theory which uses attitudes, norms and perceived behavioural control to predict intentions, which in turn are used to predict behaviours (Ajzen, 1991; Beck & Ajzen, 1991; Madden, Ellen & Ajzen, 1992)
Figure 5.2 The Theory of Planned Behaviour (adapted from Ajzen, 1988 p 133)

This theory was more general than the TRA, in that it applied to behaviours which were under the complete control of the participant, and also to behaviours which were not. The way in which the new theory managed to do this was that it added to the two factors in the TRA, a third factor called perceived behavioural control (PBC).

Factors in the TPB

The TPB seeks to predict intentions to carry out a certain behaviour. Ajzen (1985) discussed the fact that intentions are better predictors of behaviour than attitude towards the outcome of behaviour. These intentions are predicted by a combination of three factors. The first of these is PBC. The antecedent to PBC is the belief that the person has about the level of control they have over the situation. This is assumed to take account of past experiences, and perceived obstacles to the current situation. The second factor is the subjective norm held by the individual with regard to the behaviour. This subjective norm is hypothesised to be strongly influenced by the perceived norms held by significant people in the individual's life, regarding the behaviour in question. It may also be influenced by other social and cultural considerations. The third factor which contributes towards the prediction of intention is the attitude held by the individual towards the outcome of the behaviour. This is based upon what they know about the outcome. This knowledge may have been gained personally or it could be based on information provided by others. In general,
if attitudes towards the outcome are favourable, the subjective norms are not prohibitory, and there is a higher degree of perceived control, then there should be an intention to engage in the behaviour. These three factors will now be considered in more detail

**Perceived Behavioural Control**

PBC was defined as “the perceived ease or difficulty of performing the behaviour, and it is assumed to reflect past experience as well as anticipated impediments and obstacles” (Ajzen, 1988 p.132).

Ajzen (1988) identified two main factors which would influence the level of control that people felt that they had over behaviour. These were internal and external factors. The internal factors included information, skills, abilities, emotions and compulsions. For example, the level of the first three internal factors held by the person, will affect their perception of how likely they are to successfully complete the behaviour. Emotional and compulsive behaviour is often beyond the control of the individual and thus they are unlikely to feel a great deal of control over these type of behaviours. Consequently this may affect their intentions or the behaviour itself. The external factors which impinge upon PBC are opportunity, and dependence on others (Ajzen, 1988). It may be that the person has all the knowledge needed to complete the behaviour, but the opportunity may not occur. An example of this might be a mountain climber who has all the skill necessary to climb Mount Everest, but cannot afford the time and money to mount an expedition to climb it. Thus the opportunity does not come his or her way. In terms of the current project, a person may wish to have sex, but may be unable to obtain a partner. This leads of course to the other external factor, dependence on others. It may be that somebody has a regular partner, but if the partner does not want to have sex on that occasion, then the intended behaviour may not occur. PBC is also the only one of the predicting factors which is able to have a direct effect on behaviour. This is possible because PBC by measuring perceived control “may be considered a partial substitute for a measure of actual control.” (Ajzen, 1988, p.134).

The factor PBC has been operationalised by asking participants in studies “how easy or difficult they considered performance of the behaviour to be” (Ajzen,
Theory of planned behaviour

1988, p.106). This wording, or variants of it, have been used by many other researchers (e.g. Jammer, Wolitski, Corby & Fishbein, 1998; Madden et al., 1992; Maher & Rickwood, 1997; Roinecke, Schmidt & Ajzen, 1996; Sheeran & Orbell, 1999). However, there have also been several others who have argued that the definition of PBC is not made explicit in Ajzen’s description (Terry, Galligan, & Conway, 1993; White, Terry & Hogg, 1994) and that the components of PBC need to be measured separately. White, Terry and Hogg (1994), for example, break PBC into three elements, control, self efficacy and planning. Another factor mentioned as being independently important, but also assumed by Ajzen to be subsumed in PBC is past behaviour (Drake & McCabe, 1999).

It makes intuitive sense to think that past behaviour will be predictive of future behaviour. Triandis (1979) discussed the reinforcing nature of behavioural acts. It could be suggested that past behaviour would affect PBC as suggested by Ajzen (1985) through giving the participant a better basis for judging the control they exercise in a given situation. Alternatively, it could also be suggested that past behaviour acts through Attitude in the TPB and TRA. It would do this through allowing the participant to know whether engaging in the behaviour will lead to positive or negative outcomes. However, there is also the argument that the addition of past behaviour as a separate predicting factor of future behaviour is warranted.

One investigation which included past behaviour in the model was an investigation into drug use by college students (Bentler & Speckart, 1979). In their study Bentler and Speckart (1979) found that the addition of past behaviour accounted for “a highly significant degree of variability in drug consumption behaviour” (Bentler & Speckart, 1979, p. 461). On this basis, there is some justification for considering the role of past behaviour as a separate variable in the current study.

Subjective Norms

As mentioned above, Subjective Norms, along with Attitude, were original components of the TRA. The definition of these factors did not change between the models. Subjective Norms were originally defined as “beliefs that certain referents think the person should or should not perform the behaviour in question.” (Fishbein & Ajzen, 1975, p.16). In writing about the TPB, Ajzen (1988) defined Subjective Norms
as "the person's perception of social pressure to perform or not perform the
behaviour under consideration." (p.117) In addition to this aspect of the definition of
Subjective Norms, there is another aspect which considers the level of the person's
motivation to comply with the perceived desire of the referent (Ajzen, 1988; Fishbein

Subjective Norms have been operationalised in two main ways. In the first
method the perception of the referent's opinion is sought as well as a measure of the
will to comply with such an opinion (e.g. Ajzen & Madden, 1986; Boyd &
Wandersman, 1991; Evans & Norman, 1998). Alternatively, some studies have not
reported using a measure of motivation to comply (e.g. Beck & Ajzen, 1991; Doll &

In reviewing findings of studies using the TPB, Ajzen (1991) noted that there
was a considerable contribution of attitude to the prediction of intention, but that the
findings for "subjective norms were mixed, with no clearly discernible pattern" (p.
189). Terry and Hogg (1996) argued that subjective norms could be better
understood if, instead of measuring motivation to comply with the referent group, the
level of identification of the participant with the referent group was considered. This
idea came from social identity theory. Terry and Hogg (1996) conducted two studies
which found support for this idea.

In the current thesis, subjective norms are replaced by normative beliefs which
are the participants own norms concerning the behaviour, and are conceptualised to
be influenced by the perceived norms of significant others.

**Attitudes**

The third predictor of intention in the TPB is Attitude. In formulating the
TPB, Ajzen (1985, 1988) maintained the same definition of Attitude that had been
used by Fishbein and Ajzen (1975). Thus Attitude was defined as the "person's
positive or negative evaluation of performing the behaviour" (Ajzen, 1985, p.12).

According to Ajzen and Fishbein (1980), Attitude should be measured by
evaluating the person's beliefs about the outcomes of engaging in the behaviour. This
has been operationalised as a question about whether engaging in the behaviour will
be a positive or negative experience. This is commonly done using Likert scales. As
noted above, Ajzen's (1991) review of studies using the TPB found that attitude had been a consistent predictor of intention. He suggested that this demonstrated that personal considerations in deciding on an intention, outweighed the influence of perceived social pressures (Ajzen, 1991).

In the present thesis attitudes are replaced by behavioural beliefs which are a measure of the beliefs that the participants have that a range of positive or negative consequences will occur if they engage in sexual behaviour.

**What evidence is there to support the TPB?**

There are a substantial number of studies which have used the TPB as a theoretical basis to examine the prediction of a wide range of behaviours (Ajzen, 1991). Ajzen (1991) showed that intentions to carry out a behaviour, were significantly correlated with carrying out the behaviour in 16 studies that covered 17 behaviours. These behaviours ranged from getting an A in a course, to losing weight, to voting intention, and exercising after giving birth. Each study had found that the addition of perceived behavioural control to attitudes and subjective norms, increased the amount of variability that was accounted for.

An example of one of these studies which specifically compared the TRA with the TPB, examined the utility of the inclusion of perceived behavioural control on the prediction of intentions and behaviour of ten activities (Madden, Ellen, & Ajzen, 1992). In this study the authors found that where the degree of control over the behaviour was high, there was some, albeit little, value in including perceived behavioural control. However, when the degree of behavioural control was lower the level of perceived behavioural control became an important variable. It was found that inclusion of perceived behavioural control significantly enhanced the prediction of intentions, and resulted in a significant increase in the level of explained variance in predicting behaviour as compared to the amount explained by the TRA. Ajzen (1988) actually concluded that the TRA was a special case of the TPB, where the behaviour under consideration was completely under the volitional control of the individual. Madden, Ellen, and Ajzen (1992) concluded that the TPB was a useful extension to the TRA because it improved the reliability of behavioural intention predictions. When regressions were carried out on the data, Madden, Ellen and Ajzen (1992) found that
on average, across all the behaviours considered, the coefficient of determination for the intentions increased from 0.48 using the TRA, to 0.59 using the TPB. A similar increase was found when comparing the prediction of behaviours using the two models. In the case of behaviours, the average coefficient of determination increased from 0.28 using the TRA, to 0.38 using the TPB.

What are the prior uses of the TPB in sexual behaviour research?

Because it was developed independently of any particular type of behaviour, the TPB has been applied successfully to a wide variety of behaviours. In addition to the behaviours discussed above, the TPB has also been applied to decision making concerning sexual behaviours. These sexual behaviours include condom use (Kashima, Gallois, & McCamish, 1993), safe sex behaviour (Terry, Galligan, & Conway, 1993; White, Terry, & Hogg, 1994), and extra-relationship involvement (Drake & McCabe, 1999).

Although all of these studies used the TPB, they found several problems in its application to their individual questions. The biggest problem, which was shared both by Drake and McCabe (1997) and Terry et al. (1993) was to be found in the definition of perceived behavioural control. Ajzen (1991) defines perceived behavioural control as “people’s perception of the ease or difficulty of performing the behaviour of interest” (pp. 183). This is not always an easy construct to actually measure. There are many reasons for this such as, people’s perception of behavioural control varies over time (Ajzen, 1991), or they will not be the only person involved in the decision making process (Terry et al., 1993). As the definition is somewhat unclear there has been debate over what exactly is meant by perceived behavioural control (Drake & McCabe, 1999). Authors have resolved this problem in different ways. Terry et al. (1993) opted to examine locus of control instead of perceived behavioural control. One of the reasons why Ajzen did not use locus of control in his model, was that there is not a good link between locus of control and actual behaviour (Ajzen, 1988). Alternatively, Drake and McCabe’s (1999) results showed that a better understanding of the components of perceived behavioural control was necessary in order to enhance the effectiveness of the theory with regard to extra-relationship involvement. Drake
and McCabe (1999) also suggested that past behaviour needed to be added into the theory as a separate predicting factor rather than being assumed in PBC.

**What is the relationship between the TPB and adolescent sexual decision making?**

As was seen earlier, the majority of Australian adolescents have had at least one experience of sexual intercourse by the time they finish school (Dunne, et al., 1994). And by the time Australians are 21 over 80% have had sexual intercourse (McCabe & Collins, 1990). These people chose to become sexually active. At some point, therefore, these people made a decision as to whether or not they would participate in having sex. In order to understand this decision it is necessary to gain an appreciation of what factors may have informed and influenced this choice. The TPB, through its intention to not only predict behaviour, but also to understand it (Ajzen, 1991), is a theory with obvious appeal. It is also ideal because it is a theory which looks at behaviour that is not completely under volitional control (Ajzen 1985). Sexual behaviour, by necessity involving other people, is a behaviour not entirely under one’s volitional control.

It is hoped that by basing a study of sexual decision making on the TPB, that a start can be made on drawing the empirical and theoretical research together, and that this more systematic approach to researching adolescent and young adult sexual decision making will lead to more meaningful results. The specific nature of those results is the subject of the next section.
CHAPTER 6
SEXUAL DECISION MAKING OF ADOLESCENT MALES: RELATIONS BETWEEN ATTITUDES, NORMS, CONTROL, INTENTION AND BEHAVIOUR

The present chapter describes the results of a longitudinal study of the role of attitudes, norms, control, and intentions upon a variety of sexual behaviours in a population of adolescent males.

It was decided to conduct this study on adolescents at high school because it is at this age that people are beginning to confront decisions regarding sexual behaviour (Dunne et al., 1994). There were several difficulties in recruiting a sample for this study. Initially it was hoped to recruit a large sample from across the three school systems that operate in Victoria (State, Catholic and Independent). However, the project was not approved by the Department of Education as they did not want their students asked about “practices rather than attitudes” (Letter from DoE, 3/1/98). It was also not approved by the Catholic Education Office as “some parts of the questionnaire contain items which may be interpreted as being contrary to the teachings of the Catholic Church” (Letter from CEO, 22/12/97). Following this, one hundred and twenty independent schools were contacted. While many expressed interest in the results, none consented to participate. Finally, one school was found which was willing to be involved in the study. Although this was a Catholic school, their participation was allowed as the CEO’s decision is advisory rather than absolute. The effects that this has on the results are discussed later.

This study, unlike much of the past research on adolescent sexual decision making, was a theoretically based empirical study. The TPB (discussed in Chapter 5) was the basis of the study. This theory predicts that in any human behaviour, which is not entirely under volitional control, three factors will be predictive of intention, which in turn will predict behaviour (see Figure 6.1 below). These three factors are attitude towards the outcome of the behaviour (Attitude), subjective norms concerning the behaviour (Norms), and the perceived control one has over engaging in the behaviour (PBC). As well as being an exploration of the factors that are important in male adolescent sexual decision making, this study will also examine the
predictive validity of an adaptation of the TPB in predicting sexual behaviour among this population.

As mentioned above, a number of behaviours were considered in this study. Although the term sexual behaviour often refers exclusively to sexual intercourse, this study was interested in the factors influencing a decision to engage in sexual behaviours. Sexual intercourse is conceptualised as the final behaviour of a chain of sexual behaviours that leads up to it. For example, it is unlikely (although not impossible) that a young person will have consensual sexual intercourse without having gone through some preliminary behaviours first. These preliminary behaviours are likely to have become increasingly intimate. In the present studies, six behaviours including intercourse were chosen to be examined. These behaviours were chosen for three reasons. Firstly, they were perceived to describe a hierarchy of increasingly intimate behaviours that a young person may engage in. Secondly, these behaviours had been used in other studies (e.g. McCabe & Collins, 1984; Owuamanam, 1983). Finally, although initially it was intended to have even more behaviours, the constraints imposed by ethics committees limited the study to the following six behaviours, hand holding, light kissing, prolonged kissing, breast petting, genital petting and sexual intercourse.
Background to hypotheses

Emmerich (1978) showed that there was a difference between ninth and twelfth grade males in terms of the degree to which they were influenced by parents and peers, with the older boys being more influenced by peers in their behaviour and the younger boys being more influenced by parents. Owuamanam (1983) found that there was a correlation between being peer-influenced in behaviour and having engaged in more intimate behaviours. Shah and Zelnik (1981) found that those who were more peer-oriented tended to plan their contraceptive behaviour and use more reliable contraceptives than those who were parent-influenced. Shah and Zelnik’s (1981) findings indicated another effect of parent and peer influence on sexual behaviour. This was, that the peer-influenced participants were more likely to have engaged in sexual behaviour than were the parent-influenced participants. Whitbeck, Conger and Kao (1993) found that subjects in their study who felt little support from their parents, sought that support in sexual activity, which they believed their friends were engaged in and which they consequently saw as rewarding. With respect to the present study, the findings of Whitbeck et al. must be treated with caution as they only involved female respondents. Daugherty and Burger (1984) found that the age at which males first engage in intercourse is related to the perceived opinions of their peers regarding such behaviour. There was also a relationship between the perceived attitude of parents towards sexual behaviour and the attitude of males towards the same behaviour.

All of the above studies show that the influence of significant people in the life of adolescents and young adults, impacts on the individual in different ways. In general, peers’ views have been found in the literature to be more permissive than parents’ views of sexual behaviours. However, while Emmerich (1978) showed that the opinion’s of peers become more influential as people become older, her study was not examining sexual behaviour. Of possible more relevance is the study of Daugherty and Burger (1984) which suggested that both parents and peers provide influence on males. These are as follows; parents, in the attitudes held by males, and peers, in the behaviour engaged in by males. As the present study is using a younger sample than that used by Daugherty and Burger (1984), it is likely that their attitudes will be influenced by both parents and peers and will fall in between the two extremes of
attitude provided by these two groups. It is therefore predicted that parents will be perceived to hold more conservative norms than peers, and that participants' subjective norms will be between parents' and peers' perceived norms.

Several of the remaining predictions for this study evaluate either specific components of the adaptation of the TPB, or the theory as a whole. The rationale for these predictions will now be explained.

Subjective norms according to Ajzen (1985) are derived from the perceived approval or disapproval, with respect to a given behaviour, of important others. If one's subjective norms are permissive in regard to a behaviour, then it is more likely, according to the TPB, that intentions towards engaging in the behaviour will be positive and that the behaviour will actually be engaged in. This leads to the prediction, that having subjective norms that are more permissive will lead to a greater intention to engage in sexual behaviour. In this study this has been operationalised as being influenced, but not determined by the perceived permissiveness of parents and peers. This is in keeping with the findings of Emmerich (1978) and Owuammanan (1983) concerning the way in which influence effects adolescents.

While subjective norms were concerned with the perceived social desirability of engaging in a behaviour, the attitude towards the behaviour in the TPB, related to the perceived personal consequences that would follow from engaging in the behaviour. Thus if a person perceives positive personal consequences of the behaviour, this is likely to influence their intention to engage in the behaviour in a positive fashion. Alternatively, if the person perceives primarily negative consequences as following from the behaviour, they are less likely to intend to engage in the behaviour (Ajzen, 1985, 1988; Fishbein & Ajzen, 1980). Therefore the third prediction is, that having an attitude that suggests that positive outcomes of sexual behaviour are more likely than negative outcomes, will lead to a stronger intention to engage in sexual behaviours.

It was the addition of perceived behavioural control (PBC) to the TRA which allowed the TPB to be utilised in areas where there was not complete volitional control over the behaviour (Ajzen, 1988). PBC was said to be the perceived ease or difficulty of performing the behaviour (Ajzen, 1985). If a person perceived that engaging in the behaviour was well within their control, then they were likely to have a greater intention to engage in the behaviour. PBC was theorised to take into
account past experience as well as anticipated impediments and obstacles (Ajzen, 1988). On the basis of this, the fourth prediction is, that having more perceived control over involvement in sexual behaviours is likely to be positively related to the level of intention to engage in those behaviours.

The previous three predictions have dealt with the theorised predictors of intention. The TPB states that intentions predict behaviour (Ajzen, 1985). This provided the basis for the fifth prediction, which was that intention to engage in a behaviour at time one, will predict whether or not that behaviour occurred in between time one and time two.

While PBC was said to be a construct which took past behaviours into account (Ajzen, 1988), there have been studies in the literature where the inclusion of past experience as a separate factor has added to the predictive power of the theory (eg. Drake & McCabe, 1999). In fact, Drake and McCabe (1999) suggested that past behaviour needed to be included as a separate predictive factor. The sixth prediction states that past experience of sexual behaviour at time one, will be related to sexual behaviour at time two.

The previous hypotheses have all considered the various components of the TPB. The final hypothesis considers the validity of the TPB as a whole in application to the sexual decision making of adolescent males. The TPB has been used to predict a number of behaviours not completely under the volitional control of the individual (Ajzen, 1991). Studies have shown that on average the theory accounts for 26% of the variance in intention. Sexual behaviour is a good example of behaviour that is not completely under the volitional control of the individual. Therefore it is predicted that the TPB will account for at least as much of the variance in the prediction of both intention and sexual behaviour, as it has for other behaviours.

Before considering the specific hypotheses for this study, as was mentioned earlier, subjective norm and attitude factors were operationalised as normative beliefs and behavioural beliefs respectively. Because of this, the interpretation of results rising from the testing of the above predictions must be seen as a reflection of the utility of an adaptation of the TPB in the prediction of factors possibly influencing male adolescent sexual decision making. So as not to cause any confusion, the term normative belief will replace the term subjective norm henceforth as it more closely
reflects the measured factor. In the same way behavioural beliefs will replace the term attitude.

In summary, the specific hypotheses to be tested in this study are:

1. That there are differences between the perceived norm of parents and peers, and the normative beliefs of participants
2. That having normative beliefs that are more permissive will lead to a greater intention to engage in sexual behaviour.
3. Having a behavioural belief that suggests that positive outcomes of sexual behaviour are more likely than negative outcomes, will lead to a stronger intention to engage in sexual behaviours.
4. Having more perceived control over involvement in sexual behaviours is likely to be related to the level of intention to engage in those behaviours.
5. Intention to engage in a behaviour at time one, will predict whether or not that behaviour occurred between time one and time two.
6. Past experience of sexual behaviour at time one will be related to sexual behaviour at time two.
7. The model adapted from the TPB will be able to account for a substantial amount of the variance in the prediction of sexual intention and sexual behaviour.

Method

Participants

Time one

The participants in this study were 58 males aged between 14 and 18 years (M = 15.17 years SD = 0.82). They were all attending a Catholic secondary college in Melbourne. Most had parents who were professionals (26 mothers and 31 fathers who were professionals).
At time one most were not in a current relationship (71.43%). The participants who were in a relationship, had been in these relationships for an average of 3.42 months (SD = 4.37). These boys were evenly split in terms of how often they saw their girlfriends. Eight boys saw their girlfriends between three and six times a week, and the other eight saw their girlfriends between one and two times per week.

Fifty-one of the participants lived with both parents, four lived with their mother alone, and two lived with their father alone. All the participants had siblings. The number of siblings ranged between one and five. The modal number of siblings was two. Of the participants in the study, 22 were oldest children, 13 were middle children and 23 were youngest children.

Fifty-three of the participants claimed to have a religion. Religious services were attended weekly by nine people, monthly by 17, yearly by 17, and never by 13. Religion was very important to three participants, important to 20, not too important to 25 and not important at all to eight. Two of the participants did not answer these questions.

Time two

At time two, 47 of the original 58 participants responded to the survey. This represents a retention rate of 81%. Of the eleven who did not complete the second administration of the questionnaire, most had left the school in the interval and were not able to be followed up. The remainder of the participants who did not complete the questionnaire at time two were absent at the time of administration. At time two the mean age was 15.83 years, with a range of 15-17 years. There was no significant difference in the number of participants who were in a relationship between time one and time two. Of the 14 relationships at time two, five had existed at time one.

There were no significant differences in the demographics of the sample at time one and at time two. The only difference between those who completed questionnaires on both occasions and those who only completed the time one questionnaire was in the importance of religion $F(1,54) = 7.57$, $p<0.01$. Those who only completed the time one questionnaire found religion (which was reverse scored) to be more important ($\text{Mean} = 2.00$ $\text{SD} = 0.76$) than those who contributed data at both time points ($\text{Mean} = 2.79$ $\text{SD} = 0.74$)
Materials

The same materials were used at time one and time two, with the exception of an extra set of questions in section three of the questionnaire at time two. These extra questions measured behaviour between time one and two. It was only the responses to the behaviour and demographic questions that were of interest at time two, and thus only these time two data were considered. The other questions at time two were presented to the participants only in the interest of face validity. These questionnaires will be discussed below.

The questionnaire used was adapted from the Depth of Sexual Involvement Scale (McCabe & Collins, 1984). The depth of sexual involvement scale measured experienced or desired behaviours in dating situations. The adaptation of the depth of sexual involvement scale used in the current study (and will be referred to as the Sexual Attitudes Questionnaire (SAQ)), elicited a greater range of information.

The SAQ was divided into five sections. The first asked participants to indicate their perception of the level of approval that their parents would give for the participant engaging in the stated behaviour in a given relationship level. This was measured on a five point scale from strongly disapprove to strongly approve.

Participants did this for the six behaviours (Hand holding, Light kissing, Hugging and prolonged kissing, Breast petting, Genital petting, Intercourse) for each of the three relationship levels (Attracted to but not going out with, going out for a short while, going out for a long while). This was then repeated for the participant’s perception of their friend’s approval level. Finally, participants were asked for their own approval level of someone their age engaging in the stated behaviours (See Appendix A1).

Section two measured intention to engage in the above behaviours. The same format as section one was used, except that participants were asked to indicate if the opportunity were to arise if they would engage in the listed behaviours. Again, this was asked for each of the three relationship levels. The 5 point response scale ranged from definitely not to definitely would (See Appendix A2).

Section three was a measure of past behaviour. It asked the participants if they had ever engaged in the above behaviours. If they had, they were to put a circle
around the level of relationship that they were in at the time the behaviour occurred. Participants were able to mark more than one type of relationship, but in the scoring process only the minimal level of relationship at which they had engaged in the behaviour was counted. The second part of section three examined the level of control that participants had felt in engaging in sexual behaviours in the past. Participants were asked what their usual willingness was to engage in the behaviour. There were 6 options. There was an answer which indicated that they had never engaged in the behaviour. The other options ranged from “very willing, I have always initiated the behaviour”, to “not willing, it was always my partner’s idea”. At time two the wording of the first question in section 3 was changed to ask “In the last six months, indicate which of the following behaviours you have engaged in” (See Appendix A3).

Section four was concerned with perceived behavioural control and asked participants how much control they would feel they had in engaging in each of the six sexual behaviours at each of the three relationship levels. A four point scale was used which ranged from “I would be completely in control of my decision whether or not I participated” to “I would participate even though I did not feel comfortable about it” (See Appendix A4).

Section five measured behavioural belief towards the outcome of sexual behaviour. Participants were asked how likely, on a five point scale from “extremely unlikely” to “extremely likely” each of nine possible outcomes of sexual behaviour was for them. Five of these were negative outcomes (unwanted pregnancy, catch an STD, complicate a relationship, feel used, and more embarrassed about body). The other four were positive (generate positive feelings for me, feel more loved, feel better about my body, would be physically pleasurable). A behavioural belief score was found by subtracting the average of the negative scores from the average of the positive scores. The second part of section five asked participants to write the age at which they engaged in each of the behaviours for the first time. It also asked for the age of their partner on that occasion (See Appendix A5).

In addition to these main sections, the demographic section obtained information about age, sex, parent’s occupations, current partner status, length of this relationship if there was one, and frequency of contact, whom the participant lived with, if they had siblings, if they had a religion, how important that religion was and how often they attended religious services (See Appendix A6).
The questionnaire was trialled on five volunteers aged between 14 and 18 for comprehension and ease of completion. Following this, some minor changes were made to the layout and wording of some items. These changes have been incorporated into the questionnaires in the appendices.

Procedure

After approval from the University Ethics Committee was obtained (Appendix B1), schools were sought to participate in the study (Appendix B2). Due to the perceived sensitive nature of the project it was extremely difficult to recruit schools to participate. After over 120 schools were approached, a school was found who gave permission to involve their students in the study. It was initially intended that both males and females would participate in this study, but it was not possible to obtain permission from schools to access female participants. Permission was then sought from the parents of students (Appendix B3). Finally the students themselves consented to their participation in the project. The 58 students who participated represented approximately 13% of the population in the year levels of interest at this school. Consideration of the limits that this imposes on the findings of this project will be returned to in the discussion.

The questionnaire was administered to the students in a classroom under exam conditions. The participants were told that this was an important survey, that there were no right or wrong answers. They were told that the answers that they gave would be strictly confidential. It was explained that this meant that their answers would not be given to their teachers, parents or friends. Finally they were told that if they found the questionnaire embarrassing that they could stop at any time. No student found this necessary. The questionnaires were distributed and each student was allowed to begin as soon as he got his copy. If participants were unclear about items or how to respond they were allowed to ask the researcher, who was present throughout the administration. The questionnaire took between 15 and 20 minutes for participants to complete.

The process of data collection was repeated at the second time point approximately seven months after the first data collection (August 1998 and March
1999). Again, students were administered the questionnaire under exam conditions and given the same instructions as previously. At both time points all participants completed the questionnaire in less than 20 minutes.

Results

The data were initially screened and then the hypotheses were tested. Results of both of these steps will be reported. All the data analyses reported were carried out using SPSS 8.0 (SPSS, 1997).

Data screening

Although there were variables throughout the data set which had missing data, there was no discernible pattern to those missing data. The actual amount of data missing was very small (< 1%) and it was felt that the default option for dealing with missing data in SPSS (pair wise deletion) would be a satisfactory way of dealing with the data. This method is one of the recommended ways of dealing with missing data as described in Tabachnik and Fidell (1989).

Normality was tested using the skewness and kurtosis indices and the quotient of division by their respective standard errors. Where this value was in excess of three, as it was on a number of variables (30/76), various transformations were used to correct these variables (Tabachnik & Fidell, 1989, p. 86). Analyses were re-run using these transformed variables and were not found to be substantially different. Therefore, the untransformed variables were used in all subsequent analyses.

The correlation matrix produced by the variables was closely scrutinised to determine if there would be a problem of multicollinearity or singularity. No examples were found of variables being perfectly correlated to each other, and thus singularity was ruled out as a potential problem. There were four instances of variables correlating above 0.9. However, on further examination, it was found that all of these were variables that related to age of participants or partners when particular behaviours were first engaged in. These were variables which would logically be correlated, such as participant’s age when a behaviour was first engaged in, and
partner’s age when the same behaviour was engaged in. Because of this it was
decided that none of these variables were redundant, and thus all were retained.

At the conclusion of this process, it was decided that the data set had enough
integrity to be used for further analyses.

**Descriptive Statistics**

The descriptive statistics (see Appendix D1) give a brief picture of the sample
in terms of their responses to the questions on the questionnaire. In general perceived
attitudes of parents towards behaviours become less approving as the behaviour
becomes more intimate. This was tempered only slightly by the length of the
relationship. A similar, although generally more permissive picture was seen for the
perceived attitudes of peers towards the various behaviours. Respondents own
attitudes followed the same pattern, but lay between the perceived attitudes of their
parents and peers.

Intention to engage in a behaviour decreased as behaviours became more
intimate, but increased across relationship levels, so that there was no difference
between intention to engage in hand holding and intercourse in a long term
relationship.

There was a low level of perceived behaviour control across all behaviours
and relationship levels. This is perhaps reflective of the low level of experience of the
participants in this sample.

In terms of past behaviour, it was more likely that people had engaged in less
intimate behaviours. The mean age at which people had first engaged in a specific
behaviour increased as the behaviour became more intimate. So for holding hands, the
mean age at first experience was 11.90 years and for intercourse the mean age at first
experience was 15.12 years. For all behaviours the mean age of partner at first
experience of the behaviour was older than the respondents’ mean age.
Hypothesis testing

Hypotheses were tested using the data set as described above.

Hypothesis one

*That there are differences between the perceived norms of parents and peers, and the normative beliefs of participants.*

This hypothesis was tested using a within subjects MANOVA with Person, Relationship level and Behaviour as factors. The factor Person had three levels (Parent, Peer and Self), Relationship level had three levels (Attracted to but not going out, Going out a short while, Going out a long while), and the factor Behaviour had six levels (Hand holding, Light kissing, Prolonged kissing, Breast petting, Genital petting and Intercourse).

The within subjects analyses found that there were significant main effects of Person ($F(1.80, 91.80) = 115.97$, $p = 0.000$, $\eta^2 = .70$), Relationship level ($F(1.47, 75.13) = 72.55$, $p = 0.000$, $\eta^2 = .59$) and Behaviour ($F(1.56, 79.51) = 107.66$, $p = 0.000$, $\eta^2 = .68$). Person by Behaviour ($F(3.01, 153.43) = 35.04$, $p = 0.000$, $\eta^2 = .407$) was the only interaction which had significance and a reasonable eta squared value. While Relationship level by Behaviour ($F(5.25, 267.94) = 6.46$, $p = 0.000$, $\eta^2 = .112$), Person by Relationship level ($F(3.08, 157.26) = 4.326$, $p = 0.000$, $\eta^2 = .078$) and the three way interaction of Person by Relationship level by Behaviour ($F(10.46, 533.74) = 3.049$, $p = 0.001$, $\eta^2 = .056$) were significant, they all had weak eta squared values, suggesting that the addition of extra variables was not adding to the explanatory power of the result, and was in fact weakening it.

Importantly for the hypothesis under consideration, the only interaction which had a strong eta squared value was the one of Person and Behaviour. The differences in the perceived norms of peers and parents and the normative beliefs of participants are illustrated in the three graphs shown in Figure 6.2. In each it can be seen that the perceived peer norms are more permissive than the perceived parent norms. The normative beliefs of the participants are in the middle, suggesting that participants saw themselves as more permissive than their parents, but not as permissive as their peers.
Figure 6.2(A,B&C) Difference in perceived norms of parents and peers and normative beliefs of participants at three relationship levels
Further analysis of these results via examination of means and 95% confidence intervals showed that the main differences were between parents’ and peers’ perceived norms. There were significant differences between parents’ and peers’ perceived norms on every behaviour. There were significant differences between parents’ perceived norms and participants’ normative beliefs on four behaviours (prolonged kissing, breast petting, genital petting and intercourse). Friends’ perceived norms and participants’ normative beliefs only differed on breast petting. The mean differences calculated using 95% confidence intervals are shown in Table 6.1.

**Table 6.1 Means (and standard deviations) for the person by behaviour interaction showing differences based on 95% confidence intervals between perceived parent and peer norms and normative beliefs of participants.**

<table>
<thead>
<tr>
<th></th>
<th>Hand holding</th>
<th>Light kissing</th>
<th>Prolonged kissing</th>
<th>Breast petting</th>
<th>Genital petting</th>
<th>Intercourse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>4.20</td>
<td>4.08</td>
<td>3.72</td>
<td>2.77</td>
<td>2.31</td>
<td>1.94</td>
</tr>
<tr>
<td></td>
<td>(.09)</td>
<td>(.09)</td>
<td>(.09)</td>
<td>(.11)</td>
<td>(.12)</td>
<td>(.13)</td>
</tr>
<tr>
<td>Peer</td>
<td>4.55*</td>
<td>4.51*</td>
<td>4.55*</td>
<td>4.31*</td>
<td>4.07*</td>
<td>3.67*</td>
</tr>
<tr>
<td></td>
<td>(.08)</td>
<td>(.09)</td>
<td>(.08)</td>
<td>(.10)</td>
<td>(.12)</td>
<td>(.15)</td>
</tr>
<tr>
<td>Self</td>
<td>4.44</td>
<td>4.43</td>
<td>4.30*</td>
<td>3.91*</td>
<td>3.70*</td>
<td>3.16*</td>
</tr>
<tr>
<td></td>
<td>(.09)</td>
<td>(.09)</td>
<td>(.08)</td>
<td>(.11)</td>
<td>(.13)</td>
<td>(.15)</td>
</tr>
</tbody>
</table>

NB: * indicates a significant difference from the perceived opinion of parent. ** indicates a significant difference from the perceived opinion of peer. Differences were calculated using 95% confidence intervals.

Therefore, hypothesis one was supported by the data.

**Hypothesis two**

*That having normative beliefs that are more permissive will lead to a greater intention to engage in sexual behaviour.*

This hypothesis was tested using bivariate correlation analysis. In order to test the hypothesis, the normative beliefs of participants were correlated with their stated intention to engage in sexual behaviours. The correlations were measured between normative beliefs concerning all behaviours at all levels of relationship and intention to engage in those behaviours at all levels of relationships. It was found that there were
significant positive correlations between having a higher normative belief for a particular behaviour and intention to engage in the behaviour. This is demonstrated in Table 6.2.

Table 6.2 Correlations and significance levels between normative beliefs and intention to engage in behaviours.

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Normative belief mean</th>
<th>Intention mean</th>
<th>Correlation (significance)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Less intimate behaviours</strong></td>
<td>4.09</td>
<td>4.18</td>
<td>.483</td>
</tr>
<tr>
<td>with someone you are attracted to but not going out with:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>More intimate behaviours</strong></td>
<td>3.13</td>
<td>3.11</td>
<td>.542</td>
</tr>
<tr>
<td>with someone you are attracted to but not going out with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Less intimate behaviours</strong></td>
<td>4.40</td>
<td>4.56</td>
<td>.477</td>
</tr>
<tr>
<td>with someone you have been going out with for a short while</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>More intimate behaviours</strong></td>
<td>3.51</td>
<td>3.47</td>
<td>.710</td>
</tr>
<tr>
<td>with someone you have been going out with for a short while</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Less intimate behaviours</strong></td>
<td>4.67</td>
<td>4.79</td>
<td>.739</td>
</tr>
<tr>
<td>with someone you have been going out with for a long while</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>More intimate behaviours</strong></td>
<td>4.07</td>
<td>4.17</td>
<td>.762</td>
</tr>
<tr>
<td>with someone you have been going out with for a long while</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NB: Less intimate behaviours are hand holding, light kissing and prolonged kissing.

More intimate behaviours are breast petting, genital petting and intercourse.
Thus, the data support the hypothesis that participants with normative beliefs more approving of sexual behaviour are more likely to intend to engage in these behaviours if the opportunity presented itself.

**Hypothesis three**

*Having a behavioural belief that suggests that positive outcomes of sexual behaviour are more likely than negative outcomes will lead to a stronger intention to engage in sexual behaviours.*

This hypothesis was tested by using bivariate correlation analyses. The results of these analyses indicate an interesting pattern of relationship between behavioural belief towards outcome of sexual behaviours and intention to engage in a behaviour. Behavioural belief, calculated as described in the materials section, correlated with only one of the three less intimate behaviour conditions, which was intention to engage in less intimate behaviours (hand holding, light kissing, hugging) in a long relationship ($r = .29, p = .031$). However, behavioural belief correlated significantly with intention to engage in more intimate behaviours (breast petting, genital petting and intercourse) in all three relationship conditions, attracted to but not going out ($r = .30, p = .024$), going out with for a short time ($r = .30, p = .025$), and going out for a long time ($r = .41, p = .001$).

This would suggest that behavioural belief towards the outcome of sexual behaviour positively influences intention to engage in more intimate behaviour at all relationship levels, and is an influence on less intimate behaviours in long relationships.

**Hypothesis four**

*Having more perceived control over involvement in sexual behaviours is likely to be related to the level of intention to engage in those behaviours.*

This hypothesis was tested using bivariate correlation analysis. It was found that the data supported the hypothesis. Table 6.3 below, displays the means and correlations between the intentions and the perceived level of control that participants felt that they had. The results indicate that when participants feel they have more
control over engaging in a behaviour, then they are more likely to have an intention to engage in that behaviour.

**Table 6.3 Correlations between perceived control and intention for various sexual behaviours at different relationship levels.**

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Control mean (SD)</th>
<th>Intention mean (SD)</th>
<th>Correlation (significance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less intimate behaviours with someone you are attracted to but not going out with:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More intimate behaviours with someone you are attracted to but not going out with</td>
<td>3.39 (.74)</td>
<td>3.11 (1.20)</td>
<td>.31</td>
</tr>
<tr>
<td>Less intimate behaviours with someone you have been going out with for a short while</td>
<td>3.73 (.52)</td>
<td>4.56 (.68)</td>
<td>.50</td>
</tr>
<tr>
<td>More intimate behaviours with someone you have been going out with for a short while</td>
<td>3.36 (.76)</td>
<td>3.47 (1.09)</td>
<td>.36</td>
</tr>
<tr>
<td>Less intimate behaviours with someone you have been going out with for a long while</td>
<td>3.74 (.71)</td>
<td>4.79 (.60)</td>
<td>.42</td>
</tr>
<tr>
<td>More intimate behaviours with someone you have been going out with for a long while</td>
<td>3.52 (.78)</td>
<td>4.17 (1.04)</td>
<td>.42</td>
</tr>
</tbody>
</table>
**Study one: Adolescent Males**

**Hypothesis five**

*Intention to engage in a behaviour at time one will predict whether or not that behaviour occurred between time one and time two.*

This hypothesis was tested using bivariate correlation analysis. It was found that there were relationships between intention to engage in a particular behaviour and actually engaging in that behaviour, but this was not so for all behaviours.

At time one participants were asked whether or not, if the opportunity arose, they would engage in any of the six behaviours at each relationship level. At time two participants were asked if they had engaged in the behaviour between time one and time two. This hypothesis was tested by separately correlating their responses at the three relationship levels at time one to the single response at time two.

There was no relationship found between intention to hold hands at time one and actually holding hands between time one and time two at any relationship level.

There was a relationship between intending to lightly kiss someone to whom there was an attraction but who was not being gone out with and subsequently engaging in the behaviour ($r = .41$, $p = .005$). This was also true of intention if the opportunity arose in long term relationships ($r = .38$, $p = .01$).

Prolonged kissing was found to be predicted by intention. There was a relationship between intending to engage in prolonged kissing with someone to whom there is an attraction but no relationship and actually engaging in prolonged kissing ($r = .41$, $p = .005$). A similar relationship was found between intending to engage in prolonged kissing with a person with whom there had been a relationship for a short while and subsequently engaging in prolonged kissing ($r = .29$, $p = .049$).

Intention to engage in breast petting at all three relationship levels was related to actually doing so between time one and time two. The correlations were as follows: For intending to engage in breast petting with someone to whom there was an attraction but with whom there was no relationship ($r = .36$, $p = .014$), with someone with whom there has been a relationship for a short while ($r = .56$, $p = .000$), and with someone with whom there has been a relationship for a long while ($r = .44$, $p = .002$).

Intention to engage in genital petting at all three relationship levels was related to actually doing so between time one and time two. The correlations were as follows: For intending to engage in genital petting with someone to whom there was an
attraction but with whom there was no relationship \((r = 0.40, p = 0.006)\); with someone with whom there has been a relationship for a short while \((r = 0.48, p = 0.001)\); and with someone with whom there has been a relationship for a long while \((r = 0.45, p = 0.002)\).

There was no relationship between intention to have intercourse with someone to whom there was an attraction but no relationship, and subsequently doing so. There were however, relationships between intention to engage in intercourse at the level of going out with someone for a short while \((r = 0.42, p = 0.004)\) and going out with someone for a long while \((r = 0.44, p = 0.002)\), and actually doing so between time one and time two.

As can be seen, all correlations were positive, and although results have been described in terms of their being a relation between intention to engage in a behaviour and actually doing so, the converse is also true. That is, there is a relationship between intending to not engage in a behaviour and subsequently not engaging in it.

These results show that particularly for the more intimate behaviours (breast petting, genital petting and intercourse) there is a relationship between intention to engage in a behaviour and actually doing so. This is particularly so in longer relationships.

**Hypothesis six**

*Past experience of sexual behaviour at time one will be related to sexual behaviour at time two.*

This hypothesis was tested using bivariate correlation analysis. As can be seen, in Table 6.4 below, the time one behaviours were correlated with the time two behaviours. A notable exception is having had intercourse at time one was not significantly correlated with the less intimate behaviours at time two but was correlated with the more intimate behaviours at time two.
Table 6.4 Correlations and significance levels between time one and time two behaviours

<table>
<thead>
<tr>
<th>Time One Behaviour</th>
<th>Time Two Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding</td>
<td>Kissing</td>
</tr>
<tr>
<td>Hand Holding</td>
<td>Light Kissing</td>
</tr>
<tr>
<td>$r = .49^{***}$</td>
<td>$r = .69^{***}$</td>
</tr>
<tr>
<td>Holding Light Kissing</td>
<td>Kissing Prolonged Kissing</td>
</tr>
<tr>
<td>$r = .51^{***}$</td>
<td>$r = .65^{***}$</td>
</tr>
<tr>
<td>Kissing Prolonged Kissing</td>
<td>Breast Petting</td>
</tr>
<tr>
<td>$r = .42^{**}$</td>
<td>$r = .56^{***}$</td>
</tr>
<tr>
<td>Breast Petting</td>
<td>Genital Petting</td>
</tr>
<tr>
<td>$r = .31^{*}$</td>
<td>$r = .44^{**}$</td>
</tr>
<tr>
<td>Genital Petting</td>
<td>Intercourse NS</td>
</tr>
<tr>
<td>$r = .31^{*}$</td>
<td>$r = .31^{*}$</td>
</tr>
<tr>
<td>Intercourse NS</td>
<td></td>
</tr>
<tr>
<td>$r = .31^{*}$</td>
<td>$r = .41^{**}$</td>
</tr>
</tbody>
</table>

NB $^* = .05$ $^{**} = .01$ $^{***} = .001$

Thus, this hypothesis was supported by the data. The finding of a positive correlation suggests that past behaviour is related to future behaviour in this sample.

Hypothesis seven
The model adapted from the TPB will be able to account for most of the variance in the prediction of sexual intention and sexual behaviour.

This hypothesis was tested in three steps using a series of multiple regressions. The first step considered the prediction of normative beliefs from the perceived norms of parents and peers, the second examined the prediction of intention from normative beliefs, behavioural beliefs and PBC, and the third regression evaluated the contribution of intention and perceived behavioural control to predict behaviour.
Because of the constrictions of sample size, some of the data were collapsed to reduce the number of variables in the regression. This affected normative beliefs and perceived norms, perceived behavioural control and intention variables. The data were collapsed for behaviours across relationship levels. Thus, for example, the normative beliefs for the behaviour of lightly kissing at all three relationship levels were added together and divided by three. The result was a new variable called own norms for lightly kissing. This reduced the number of predictor variables in each of the regressions where intention was the dependent variable, from seven variables to three.

Six regressions were carried out at each stage, one for each behaviour. In the first series of regressions, the dependent variable was normative beliefs concerning the behaviour under consideration. The predictor variables were the perceived norms of parents and peers. In the second series the dependent variable was intention to engage in the type of behaviour. The predictor variables were behavioural belief, normative beliefs, and perceived behavioural control over engaging in the behaviour. The third series had actual behaviour as a dependent variable. Intention to engage in the behaviour and perceived behavioural control over engaging in the behaviour were predictor variables.

As described, the first set of analyses regressed perceived parental and peer norms onto normative belief for each of the behaviours. The results of these regressions can be seen in Tables 6.5-6.10, below. As can be seen, normative belief was well predicted by perceived parent and peer norms, with an average of 55% of the variance in normative beliefs accounted for by these two variables. It is interesting to note that the perceived norm of peers was always a substantial contributor to normative beliefs but the influence of parents was more variable in its contribution.
Table 6.5 Standard multiple regression of parents' and peers' norms onto own normative beliefs for holding hands

<table>
<thead>
<tr>
<th>Variable</th>
<th>Own norm (DV)</th>
<th>Parent</th>
<th>Peer</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>0.69</td>
<td></td>
<td></td>
<td>0.45***</td>
<td>0.42</td>
<td>0.23</td>
</tr>
<tr>
<td>Peer</td>
<td>0.70</td>
<td>0.59</td>
<td></td>
<td>0.56***</td>
<td>0.45</td>
<td>0.26</td>
</tr>
<tr>
<td>Means</td>
<td>4.44</td>
<td>4.20</td>
<td>4.56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD’s</td>
<td>0.68</td>
<td>0.64</td>
<td>0.55</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R² = 0.61 *
Adjusted R² = 0.59
R = 0.78***

NB: *** p<0.000; * Unique variability = 0.49; Shared variability = 0.12

Table 6.6 Standard multiple regression of parents' and peers' norms onto own normative beliefs for light kissing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Own norm (DV)</th>
<th>Parent</th>
<th>Peer</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>0.69</td>
<td></td>
<td></td>
<td>0.52***</td>
<td>0.48</td>
<td>0.25</td>
</tr>
<tr>
<td>Peer</td>
<td>0.65</td>
<td>0.61</td>
<td></td>
<td>0.39**</td>
<td>0.36</td>
<td>0.16</td>
</tr>
<tr>
<td>Means</td>
<td>4.42</td>
<td>4.08</td>
<td>4.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD’s</td>
<td>0.68</td>
<td>0.62</td>
<td>0.62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R² = 0.56 *
Adjusted R² = 0.55
R = 0.75***

NB: *** p<0.000, ** p<0.001; * Unique variability = 0.41; Shared variability = 0.15

Table 6.7 Standard multiple regression of parents' and peers' norms onto own normative beliefs for prolonged kissing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Own norm (DV)</th>
<th>Parent</th>
<th>Peer</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>0.53</td>
<td></td>
<td></td>
<td>0.24*</td>
<td>0.25</td>
<td>0.09</td>
</tr>
<tr>
<td>Peer</td>
<td>0.68</td>
<td>0.50</td>
<td></td>
<td>0.57***</td>
<td>0.56</td>
<td>0.32</td>
</tr>
<tr>
<td>Means</td>
<td>4.30</td>
<td>3.76</td>
<td>4.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD’s</td>
<td>0.60</td>
<td>0.64</td>
<td>0.59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R² = 0.51 *
Adjusted R² = 0.49
R = 0.72***

NB: *** p<0.000, * p<0.05; * Unique variability = 0.41, Shared variability = 0.10
Table 6.8 Standard multiple regression of parents’ and peers’ norms onto own normative beliefs for breast petting

<table>
<thead>
<tr>
<th>Variable</th>
<th>Own norm (DV)</th>
<th>Parent</th>
<th>Peer</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>0.51</td>
<td></td>
<td></td>
<td>0.35**</td>
<td>0.33</td>
<td>0.17</td>
</tr>
<tr>
<td>Peer</td>
<td>0.67</td>
<td>0.31</td>
<td></td>
<td>0.64***</td>
<td>0.56</td>
<td>0.37</td>
</tr>
<tr>
<td>Means</td>
<td>3.88</td>
<td>2.78</td>
<td></td>
<td>4.07</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>SD’s</td>
<td>0.81</td>
<td>0.78</td>
<td></td>
<td>0.71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R² = 0.55 *
Adjusted R² = 0.53
R = 0.74***

NB: *** p<0.000; ** p<0.001; * Unique variability = 0.54; Shared variability = 0.01

Table 6.9 Standard multiple regression of parents’ and peers’ norms onto own normative beliefs for genital petting

<table>
<thead>
<tr>
<th>Variable</th>
<th>Own norm (DV)</th>
<th>Parent</th>
<th>Peer</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>0.37</td>
<td></td>
<td></td>
<td>0.27*</td>
<td>0.24</td>
<td>0.09</td>
</tr>
<tr>
<td>Peer</td>
<td>0.64</td>
<td>0.22</td>
<td></td>
<td>0.63***</td>
<td>0.58</td>
<td>0.37</td>
</tr>
<tr>
<td>Means</td>
<td>3.64</td>
<td>2.32</td>
<td></td>
<td>4.07</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>SD’s</td>
<td>0.95</td>
<td>0.85</td>
<td></td>
<td>0.87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R² = 0.46 *
Adjusted R² = 0.44
R = 0.68***

NB: *** p<0.000; * p<0.05; * Unique variability = 0.46; Shared variability = 0.00

Table 6.10 Standard multiple regression of parents’ and peers’ norms onto own normative beliefs for intercourse

<table>
<thead>
<tr>
<th>Variable</th>
<th>Own norm (DV)</th>
<th>Parent</th>
<th>Peer</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>0.23</td>
<td></td>
<td></td>
<td>0.06</td>
<td>0.06</td>
<td>0.01</td>
</tr>
<tr>
<td>Peer</td>
<td>0.77</td>
<td>0.23</td>
<td></td>
<td>0.77***</td>
<td>0.76</td>
<td>0.57</td>
</tr>
<tr>
<td>Means</td>
<td>3.10</td>
<td>1.96</td>
<td></td>
<td>3.67</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>SD’s</td>
<td>1.08</td>
<td>0.91</td>
<td></td>
<td>1.05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R² = 0.59 *
Adjusted R² = 0.58
R = 0.77***

NB: *** p<0.000; * Unique variability = 0.57; shared variability = 0.02
The second set of analyses regressed normative beliefs, behavioural beliefs and PBC onto intention. The results of these regressions are presented in Tables 6.11-6.16 below. As can be seen, the model predicted intention quite well, accounting for an average 52% of the variance in intention for behaviour. However, there were differences in the extent to which the various factors contributed to the prediction of intention. Behavioural belief was not a significant predictor of intention for any behaviour. PBC was a predictor for the less intimate behaviours (hand holding, light kissing, and prolonged kissing), but not the more intimate behaviours (breast petting, genital petting, and intercourse). Normative beliefs were the strongest predictor, being significantly related to intention for all behaviours.

**Table 6.11: Standard multiple regression of normative belief, behavioural belief and PBC onto intention to hold hands**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intention (DV)</th>
<th>Own</th>
<th>PBC</th>
<th>Attitude</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own</td>
<td>0.59</td>
<td></td>
<td></td>
<td></td>
<td>0.49***</td>
<td>0.49</td>
<td>0.31</td>
</tr>
<tr>
<td>PBC</td>
<td>0.55</td>
<td>0.26</td>
<td>0.32</td>
<td></td>
<td>0.58***</td>
<td>0.44</td>
<td>0.26</td>
</tr>
<tr>
<td>Attitude</td>
<td>0.18</td>
<td>0.21</td>
<td></td>
<td></td>
<td>-0.05</td>
<td>-0.07</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Intercept</td>
<td>0.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>4.54</td>
<td>4.44</td>
<td>3.73</td>
<td>1.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD's</td>
<td>0.67</td>
<td>0.67</td>
<td>0.51</td>
<td>0.91</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R² = 0.51
Adjusted R² = 0.49
R = 0.72

**NB:** ***p < 0.000; a Unique variability = 0.57; shared variability = 0.00; b Not significant

**Table 6.12: Standard multiple regression of normative belief, behavioural belief and PBC onto intention to engage in light kissing**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intention (DV)</th>
<th>Own</th>
<th>PBC</th>
<th>Attitude</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own</td>
<td>0.57</td>
<td></td>
<td></td>
<td></td>
<td>0.46***</td>
<td>0.49</td>
<td>0.28</td>
</tr>
<tr>
<td>PBC</td>
<td>0.50</td>
<td>0.22</td>
<td>0.37</td>
<td></td>
<td>0.48**</td>
<td>0.40</td>
<td>0.19</td>
</tr>
<tr>
<td>Attitude</td>
<td>0.25</td>
<td>0.24</td>
<td></td>
<td></td>
<td>0.00</td>
<td>-0.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Intercept</td>
<td>0.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>4.55</td>
<td>4.42</td>
<td>3.69</td>
<td>1.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD’s</td>
<td>0.65</td>
<td>0.67</td>
<td>0.53</td>
<td>0.91</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R² = 0.47
Adjusted R² = 0.44
R = 0.69

**NB:** ***p < 0.000, ***p < 0.01; a Unique variability = 0.47, shared variability = 0.00;
### Table 6.13: Standard multiple regression of normative belief, behavioural belief and PBC onto intention to engage in prolonged kissing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intention (DV)</th>
<th>Own</th>
<th>PBC</th>
<th>Attitude</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own</td>
<td>0.68</td>
<td>0.31</td>
<td>0.41</td>
<td>0.68***</td>
<td>0.57</td>
<td>0.37</td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>0.46</td>
<td>0.36</td>
<td>0.41</td>
<td>0.32*</td>
<td>0.25</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>0.40</td>
<td></td>
<td></td>
<td>0.07</td>
<td>0.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Intercept</td>
<td>0.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>4.44</td>
<td>4.27</td>
<td>3.64</td>
<td>1.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD’s</td>
<td>0.74</td>
<td>0.63</td>
<td>0.57</td>
<td>0.91</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NB:** ***p<0.000, * p<0.05; Unique variability = 0.47; shared variability = 0.07

### Table 6.14: Standard multiple regression of normative belief, behavioural belief and PBC onto intention to engage in breast petting

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intention (DV)</th>
<th>Own</th>
<th>PBC</th>
<th>Attitude</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own</td>
<td>0.73</td>
<td>0.36</td>
<td>0.41</td>
<td>0.76***</td>
<td>0.63</td>
<td>0.43</td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>0.39</td>
<td></td>
<td></td>
<td>0.18</td>
<td>0.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>0.40</td>
<td>0.34</td>
<td></td>
<td>0.16</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Intercept</td>
<td>0.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>3.98</td>
<td>3.90</td>
<td>3.53</td>
<td>1.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD’s</td>
<td>0.99</td>
<td>0.82</td>
<td>0.68</td>
<td>0.91</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NB:** ***p<0.000; * Unique variability = 0.43; Shared variability = 0.13

### Table 6.15: Standard multiple regression of normative belief, behavioural belief and PBC onto intention to engage in genital petting

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intention (DV)</th>
<th>Own</th>
<th>PBC</th>
<th>Attitude</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own</td>
<td>0.69</td>
<td>0.43</td>
<td>0.38</td>
<td>0.66***</td>
<td>0.58</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>0.47</td>
<td></td>
<td></td>
<td>0.28</td>
<td>0.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>0.37</td>
<td>0.36</td>
<td></td>
<td>0.11</td>
<td>0.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Intercept</td>
<td>0.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>3.69</td>
<td>3.67</td>
<td>3.47</td>
<td>1.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD’s</td>
<td>1.09</td>
<td>0.96</td>
<td>0.70</td>
<td>0.91</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NB:** ***p<0.000; * Unique variability = 0.35; shared variability = 0.17
The third series of regressions used logistic regression (Tabachnik & Fiddell, 1996) to examine the ability of PBC and intention to predict whether or not behaviour occurred. The results of these analyses are in tables 6.17-6.22 below. The regressions found that intention was a more consistent predictor of behaviour than PBC. PBC was only significant for the prediction of light kissing. Intention was a significant predictor for all behaviours except hand holding. Intention had a bigger impact as is shown through the examination of odds ratios and correlations. With the exception of hand holding, the models provided to explain the behaviour were significantly different from constant only models, and not significantly different from hypothetical perfect models using the Hosmer-Lemeshow goodness of fit test (Tabachnik & Fiddell, 1996). The first regression considered engaging in the behaviour of hand holding as an outcome. It was found that there was no significant relation between either PBC and behaviour or intention and behaviour. In addition the proposed model was not significantly different from a constant only model ($\chi^2 (2) = 4.07$, p>0.05). The reason for this is possibly that nearly all participants had engaged in this behaviour, and thus variation in PBC and intention were not important in the prediction of this behaviour. The results are shown in Table 6.17.
Table 6.17: Direct logistic regression of hand holding as a function of PBC and intention

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Wald test</th>
<th>R</th>
<th>Odds ratio</th>
<th>95% CI for Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>PBC</td>
<td>1.46</td>
<td>2.84</td>
<td>0.15</td>
<td>4.32</td>
<td>0.79</td>
</tr>
<tr>
<td>Intention</td>
<td>0.52</td>
<td>0.35</td>
<td>0.00</td>
<td>1.68</td>
<td>0.30</td>
</tr>
<tr>
<td>Constant</td>
<td>-5.87</td>
<td>1.94</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The second behaviour investigated was light kissing. The regression showed that both PBC (Wald test = 3.80, p<.05) and intention (Wald test = 4.63, p<.05) were significant in predicting whether or not behaviour was engaged in. Further the addition of the variables to the model made a significant difference over a constant alone model ($\chi^2_{(2)} = 11.28$, p>0.01), and at the same time were not significantly different from a hypothetical “perfect” model according to the Hosmer and Lemeshow Goodness of Fit test ($\chi^2_{(9)} = 6.11$, p>0.05) (Tabachnik & Fiddell, 1996). The model correctly classified 91.3% of participants. The odds ratio results inform that the likelihood of engaging in light kissing due to a one unit change in PBC increases six times, whereas the chance of engaging in the behaviour due to a one unit change in intention increases twelve times. The results of this regression are shown in Table 6.18.

Table 6.18: Direct logistic regression of light kissing as a function of PBC and intention

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Wald test</th>
<th>R</th>
<th>Odds ratio</th>
<th>95% CI for Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>PBC</td>
<td>1.76</td>
<td>3.80*</td>
<td>0.22</td>
<td>5.86</td>
<td>0.99</td>
</tr>
<tr>
<td>Intention</td>
<td>2.46</td>
<td>4.63*</td>
<td>0.27</td>
<td>11.77</td>
<td>1.24</td>
</tr>
<tr>
<td>Constant</td>
<td>-15.20</td>
<td>5.58*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The third behaviour subjected to logistic regression was hugging and prolonged kissing. In the analysis for this behaviour, only intention (Wald test = 4.02, p<0.05) significantly predicted whether or not the behaviour was engaged in. The addition of the variables did improve upon the prediction provided by the constant alone model ($\chi^2_{(2)} = 8.28$, p>0.05). Although PBC did not contribute to the solution, the model had good fit to the data (Hosmer & Lemeshow Goodness of Fit, $\chi^2_{(6)}=$ )
1.82, p>0.05). The model correctly predicted 80.43% of engaging in hugging and prolonged kissing. A one unit change in intention will lead to a greater chance of engaging in hugging and prolonged kissing. The results of this analyses are in Table 6.19.

Table 6.19: Direct logistic regression of hugging and prolonged kissing as a function of PBC and intention

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Wald test</th>
<th>R</th>
<th>Odds ratio</th>
<th>95% CI for Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>PBC</td>
<td>0.96</td>
<td>1.92</td>
<td>0.00</td>
<td>2.61</td>
<td>0.67</td>
</tr>
<tr>
<td>Intention</td>
<td>1.37</td>
<td>4.02*</td>
<td>0.20</td>
<td>3.93</td>
<td>1.03</td>
</tr>
<tr>
<td>Constant</td>
<td>-8.09</td>
<td>4.55*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The fourth logistic regression examined the degree to which PBC and intention predicted engaging in breast petting. As can be seen in Table 6.20, PBC was not a significant contributor to the prediction of engaging in breast petting. Intention (Wald test = 7.39, p<0.01) did contribute significantly, and a one unit change in intention results in a 3.50 times greater chance of having engaged in the behaviour.

The model was a significant improvement on the constant alone model ($\chi^2_{(2)} = 13.83$, p>0.01), and although PBC did not contribute to the solution, the model had good fit to the data (Hosmer & Lemeshow Goodness of Fit, $\chi^2_{(6)} = 3.18$, p>0.05). The model correctly predicted 73.91% of engaging in breast petting.

Table 6.20: Direct logistic regression of breast petting as a function of PBC and intention

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Wald test</th>
<th>R</th>
<th>Odds ratio</th>
<th>95% CI for Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>PBC</td>
<td>0.72</td>
<td>1.55</td>
<td>0.00</td>
<td>2.07</td>
<td>0.66</td>
</tr>
<tr>
<td>Intention</td>
<td>1.25</td>
<td>7.39**</td>
<td>0.30</td>
<td>3.50</td>
<td>1.42</td>
</tr>
<tr>
<td>Constant</td>
<td>-7.02</td>
<td>6.78**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The fifth logistic regression examined the degree to which PBC and intention predicted engaging in genital petting. As can be seen in Table 6.21, PBC was not a significant contributor to the prediction of engaging in breast petting. Intention (Wald test = 6.66, p<0.01) did contribute significantly, and a one unit change in intention led to a change in the likelihood of engaging in the behaviour of 3.09 times. The model
was a significant improvement on the constant alone model ($\chi^2_{(2)} = 12.81$, $p > 0.01$), and although PBC did not contribute to the solution, the model had good fit to the data (Hosmer & Lemeshow Goodness of Fit, $\chi^2_{(6)} = 9.35$, $p > 0.05$). The model correctly predicted 69.57% of engaging in genital petting.

Table 6.21: Direct logistic regression of genital petting as a function of PBC and intention

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Wald test</th>
<th>R</th>
<th>Odds ratio</th>
<th>95% CI for Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBC</td>
<td>0.43</td>
<td>0.48</td>
<td>0.00</td>
<td>1.52</td>
<td>0.46, 5.01</td>
</tr>
<tr>
<td>Intention</td>
<td>1.13</td>
<td>6.66**</td>
<td>0.27</td>
<td>3.09</td>
<td>1.31, 7.28</td>
</tr>
<tr>
<td>Constant</td>
<td>-5.78</td>
<td>6.26**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The sixth logistic regression examined the degree to which PBC and intention predicted engaging in intercourse. As can be seen in Table 6.22, PBC was not a significant contributor to the prediction of engaging in intercourse. Intention (Wald test = 6.12, $p < 0.01$) did contribute significantly, and a one unit change in intention led to a 2.49 times change in the likelihood of engaging in intercourse. The model was a significant improvement on the constant alone model ($\chi^2_{(2)} = 8.30$, $p > 0.01$), and although PBC did not contribute to the solution, the model had good fit to the data (Hosmer & Lemeshow Goodness of Fit, $\chi^2_{(8)} = 2.43$, $p > 0.05$). The model correctly predicted 78.26% of engaging in intercourse.

Table 6.22 Direct logistic regression of intercourse as a function of PBC and intention

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Wald test</th>
<th>R</th>
<th>Odds ratio</th>
<th>95% CI for Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBC</td>
<td>0.10</td>
<td>0.04</td>
<td>0.00</td>
<td>1.10</td>
<td>0.41, 3.00</td>
</tr>
<tr>
<td>Intention</td>
<td>0.91</td>
<td>6.12**</td>
<td>0.28</td>
<td>2.47</td>
<td>1.21, 5.09</td>
</tr>
<tr>
<td>Constant</td>
<td>-4.35</td>
<td>4.77**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The overall findings for each behaviour of the analyses related to hypotheses seven are shown in Figure 6.3 (A-F), below, in terms of the unique variance ($sr^2$) of each predictor (on the arrow) and the total explained variance ($R^2$) of the dependent variable (in brackets underneath the variable).
Figure 6.3 Semi partial squared correlations for six sexual behaviours (NB: ***p<0.001, **p<0.01, *p<0.05)

A. Hand holding

B. Light kissing

C. Prolonged kissing
As can be seen from these results, there were mixed findings in terms of the hypothesis that the model adapted from the TPB would account for the prediction of
intention and behaviour. Firstly, normative beliefs were very important in the prediction of behaviour. In all six behaviour conditions, normative beliefs were the main predictor. In the three more intimate behaviours, normative beliefs were also the only significant predictor of intention. Behavioural belief was consistent in that it was not a predictor of intention in any of the conditions. This will be discussed in more detail in the discussion section. The utility of PBC as a predictor of intention was also challenged by these findings. It predicted intention for the less intimate behaviours, however it did not have any predictive significance for intention to engage in the more intimate behaviours.

The perceived norms of parents' and peers' were predictors of normative beliefs for all behaviours, except intercourse, where only the peers' perceived norm predicted the normative belief. It was also found that the influence of the peers' perceived norm grew stronger as the behaviour became more intimate, and concurrently the influence of parental perceived norms became less strong.

With respect to the prediction of actual behaviour in all behaviours except hand holding, intention was a predictor, more so for the more intimate behaviours. Perceived behavioural control was only a predictor for light kissing. However, in only accounting for three percent of the variance in light kissing, it was not a very good predictor.

A discussion will now follow which will go into greater depth in interpreting these results.

Discussion

The discussion which is to follow will consist of three sections. The first will be a more in depth consideration of the results presented above, and will interpret them with reference to the literature upon which the hypotheses were based. The second will be a general consideration of this study including the factors which limit the interpretability of the results. The third part of this discussion will summarise and conclude the study.

Before considering the results of this study, there exists a serious limiting factor which warrants mention prior to the rest of the discussion. This concerns the
operationalisation of the factors predicting intention, in particular the subjective norm and attitude factors. These factors were operationalised in a way that was not consistent with previous studies which have utilised the TPB. As was mentioned in Chapter 5, subjective norms according to the TPB are the perceived norms of significant others multiplied by a measure of the individuals motivation to comply with these perceptions. In this study however, the factor referred to as the subjective norm was actually the participants own normative belief about the behaviour. Although this was assumed to be influenced by the perceived attitudes of parents and peers, it is not the same as the subjective norm typically seen in TPB literature. Likewise the operationalisation of attitude differed in that it only measured behavioural outcome beliefs, and did not make an attitudinal evaluation of engaging in the behaviour. Because of this, the interpretation of these results as a reflection of the utility of the TPB in the prediction of factors possibly influencing male adolescent sexual decision making is limited. So as not to cause any confusion, the term normative belief will replace the term subjective norm in the discussion as it more closely reflects the measured factor. In the same way behavioural beliefs will replace the term attitude. Bearing these limiting factors in mind, the results will now be discussed.

Discussion of Results

The results pertaining to the first hypothesis show that this hypothesis was partially supported by the data in that parents and peers were perceived by participants to hold different attitudes towards sexual behaviours. These differences were magnified at the more intimate behaviour levels (i.e. breast petting, genital petting and intercourse). These findings were in accord with the studies which had looked at the influence of parents and peers on adolescent’s behaviour (Emmerich, 1978; Owuamanam, 1983; Shah & Zelnik, 1981). These studies had shown that there was a difference in the way that parents’ and peers’ opinions were perceived and that this difference in perception led to different types of behaviour.

The first hypothesis also stated that there would be a difference between parents’ and peers’ perceived norms and the normative beliefs of the participants’, due to the participants being in an age group in between those who had been found to be parent and peer influenced in other studies (Emmerich, 1978; Owuamanam, 1983).
This was not found to be so for all behaviours. For hand holding and light kissing, the participants' normative beliefs were no different from either their peers' or their parents' perceived norms. It may be that this is because these behaviours were viewed as relatively "innocent" and so would not be subject to perceived parental disapproval.

It was interesting that peers' perceived views of these behaviours were significantly different from parents' perceived views. For the behaviours, prolonged kissing, genital petting and intercourse, participants' normative beliefs were only different from their parents' perceived norms. For the behaviour, breast petting, participants' normative beliefs were significantly different from parents' and peers' perceived norms. These differences would tend to suggest that the change from being parent influenced to being peer influenced, at least in regard to norms, has to a large degree, already occurred for this group. The fact that normative beliefs toward breast petting does not fit into this picture may be explained by the observation that breast petting is the first of the more intimate behaviours. At this point the perceived approval of peers and normative beliefs of participants drops, although the drop in perceived parental approval is greater than that for peers' perceived opinion. The participants' normative beliefs also decrease, however, at a rate that is faster than their peers' perceived opinions, but slower than their parent's.

Hypothesis two was concerned with the influence of normative beliefs on intention, hypothesis three with the influence of behavioural beliefs on intention, hypothesis four with the influence of perceived behavioural control on intention, hypothesis five with the influence of intention on behaviour and hypothesis seven with the way that all of these components fitted together as the model proposed by the TPB.

Hypothesis six which examined the role of past behaviour in predicting future behaviour found that there was a significant relationship between having engaged in a behaviour at time one and engaging in that behaviour between time one and time two. Drake and McCabe (1999) suggested that past behaviour needed to be included into the TPB as a separate predictor of behaviour, and this finding suggests that there may be a role for it to play in such a prediction.

The results from hypotheses two, three, four and five indicated that the hypotheses were supported by the data and that there were relationships between behavioural beliefs and intention, PBC and intention and normative beliefs and
intention. There was also a relationship between intention and behaviour. The interesting part of these findings can be seen when the results of hypothesis seven are also considered. This hypothesis looked at how well the individual parts of model adapted from the theory of planned behaviour came together to explain sexual intention and behaviour. While all the individual components had a good relationship with intention, when they were combined the picture was quite different.

Behavioural belief in the combined model, was not a significant predictor of intention for any of the behaviours under consideration. An explanation for this result is the fact that the way in which the behavioural beliefs score was calculated may have meant that the score was near zero. Another reason is that the behavioural beliefs score was ascertained by asking participants, how likely was it that a range of positive and negative consequences would occur to them as a result of "having sex". In this population very few of the participants had actually engaged in sex and so it is likely that this question was one which was not particularly relevant to them. However, it is also likely that the way in which behavioural beliefs was operationalised in this study (i.e. as behavioural beliefs without an evaluative component concerning the behaviour) contributed to the non-significant finding.

Perceived behavioural control was seen to be a significant predictor of intention for the less intimate behaviours in the combined model. However, as the behaviours became more intimate, PBC was seen to have no significant role in the prediction of intention. This is contrary to expectations. Ajzen (1985) included PBC in the TPB to allow the theory to be applied to those areas of behaviour that were not under complete volitional control. As sexual behaviour becomes more intimate, it would have been thought that it becomes less under the volitional control of one person and thus the construct of PBC would become more, rather than less, important. In addition, Bagozzi (1992), found that PBC consistently added to the explanatory power provided by subjective norms and attitude alone in the TRA. Thus this finding is unexpected.

In seeking to explain this result, the most obvious reason is to do with the sexual experience of the sample. Because their experience lay mainly in the less intimate domain, it is reasonable to suppose that their PBC over these behaviours were somewhat based in experience. However, the majority of the sample had not engaged in the more intimate behaviours, and thus their PBC over these behaviours is
less likely to be based on their own experience. An alternative explanation might be that there was some misunderstanding over the questions relating to PBC. In this study PBC was operationalised in the question “Imagine yourself in a situation with a person you had been going out with for (amount of time). They want to engage in the activities below. How comfortable would you feel about your participation? Would you feel completely in control of whether or not you participated? Circle the level of control you would feel over each behaviour”. Thus it was a passive question in that it did not ask how difficult but instead the degree of control over regulating their involvement. It is possible that the participants, with little past experience to base their answers on, and believing that they possessed the ability to stop a behaviour proceeding, answered uniformly that they had a high level of control over the behaviour. This is suggested by the fact that the means for control did not change according to relationship level or behaviour (see Table 6.3). This suggests that these participants felt that they had as much control over whether or not they would participate in more intimate behaviours with someone they were attracted to but not going out with, and participating in the same behaviours with someone that they had been going out with for a long time.

Normative beliefs were significant predictors of intention for all behaviours. In fact it was seen that as the behaviours became more intimate, the variance in intention that was accounted for by normative beliefs increased. If, as is assumed, normative beliefs are influenced by the perceived norms of parents and peers, this finding implies that social considerations are taken more into account as behaviour becomes more intimate. Further, if this is true, then it is the influence of peers which is becoming more important, as these increased as behaviour became more intimate. According to Terry and Hogg’s (1996) argument this would indicate that the participants were identifying more with the peer group with respect to sexual normative beliefs than they were to their parents.

Intention was predictive of behaviour for all behaviours except hand holding. While it was significant, intention did not account for a majority of the variance in predicting behaviour. In fact, it only accounted for between 12% and 20% of the variance. PBC was also predicted by the TPB to make some contribution to the prediction of behaviour. However, this was not found to be so in this sample. Again, the way in which PBC was operationalised, the lack of sexual experience and the low
numbers of participants may explain why there was not a stronger link between
intention and behaviour.

General discussion

The main purpose of this part of the discussion will be to draw attention to
other limiting factors which affect the interpretation of the results of this study. It is
important that these are borne in mind, as it is likely that they will be relevant to the
generalisability of these results.

An important limiting factor of this study is the number of participants. This is
also related to another of the limiting factors which is the number of schools involved.
As described earlier in the chapter there were many difficulties involving schools in
this project. The refusal of the Department of Education and the Catholic Education
Office (CEO) in Victoria, to allow students to be asked questions relating to sexual
behaviour severely curtailed this study. One hundred and twenty schools in the private
system were approached to participate in this study. Of this number all declined to
participate. Finally, one school was located which was willing to participate. This
school then sent letters home with students to all the parents of students in Years 9,
10 and 11, inviting them to allow their sons to participate in this study. This was
approximately 550 students. Of this only 58 student's parents returned their consent.
This possibly says more about the method of letters reaching the parents than the
parent's approval of the study or otherwise. However, the fact remains that because
of these numbers the results of this study cannot be seen as being much more than
exploratory.

A further limiting factor of this study is that all respondents were males. This
was more a result of chance than design. Initially it was intended that this study
examine sexual attitudes and behaviour in adolescent males and females. However,
because of the sampling problems detailed above, this was not possible. Thus, while
this study addresses certain questions about adolescent sexual attitudes and behaviour,
it does so only in the male population.

The fact that this sample was drawn from a Catholic school meant that there
was very little variance in having a religion. In fact 53 out of 58 participants had a
religion. As religious influences have been found in other studies to be of some importance to decisions regarding sexual behaviour (Beck, 1991; Jensen, Newell & Holman, 1990) it would have been good to see if this was so in this population. However, this was not possible as there were not enough people in the “no religion” group.

Finally, it can be assumed that all of the participants in this sample are from middle class backgrounds on the basis of their parents affording to send their sons to a private school. This is further reinforced when it is seen that 26 of the mothers and 31 of the fathers in the sample were professionals. That these participants are representative of only one social strata also severely limits the degree to which the findings of this study can be interpreted.

While these limiting factors impose restrictions on the degree to which this study may be generalised, the findings of this study are still important and useful. As was mentioned in the introduction, much of the earlier work on adolescent sexual attitudes and behaviour has not considered males as much as it has females. This study used an adapted theoretical framework in an effort to redress this imbalance. This study was also different from many other studies that examine adolescent sexual attitudes and behaviour in that it took context (i.e. relationship level) and level of intimacy of behaviour into account, whereas many other studies only consider intercourse.

Summary

In considering the use of an adaptation of the TPB as the basis for a model explaining the relationship between adolescent male sexual normative beliefs, behavioural beliefs, intention and behaviour, there is some evidence to suggest that the components of the model overlap in the variability in intention that they explain. The reason for this is that each of the components individually was related significantly to intention, but when combined, only normative beliefs remained as constant predictors of intention. Given the failure of this adaptation of the TPB to adequately explain behaviour, and to a lesser extent, intention, it would seem that there are grounds for experimenting with different components to this model for this
behaviour in this population. Such an additional component could be an explicit measure of past behaviour as suggested by Drake and McCabe (1999).
CHAPTER 7
SEXUAL DECISION MAKING OF YOUNG ADULTS: RELATIONS BETWEEN ATTITUDES, NORMS, CONTROL, INTENTION AND BEHAVIOUR

The present chapter describes the results of a longitudinal study of the role of attitudes, norms, control, and intentions upon a variety of sexual behaviours. This chapter extends the investigation reported in Chapter 6 by considering the role that these factors play in the sexual decision making of young adults aged between 18 and 21 years. As described in Chapter 6, there were six behaviours considered.

This study was also based upon the model of the TPB (see Figure 6.1). This theory predicts that in any human behaviour which is not entirely under volitional control, three factors (subjective norms, attitude towards outcome of behaviour and perceived behavioural control) will be predictive of intention. Intention in turn, according to the theory, will be predictive of behaviour. This model has not been used in the past to examine sexual behaviour, although it has been used to explore sex related behaviour such as condom use (eg Jamner, Wolitski, Corby & Fishbein, 1998). Therefore, one of the aims of the current study was to examine the predictive validity of the TPB in predicting sexual behaviour among a population of young adults.

Background to hypotheses

Literature reviewed in earlier chapters and again in Chapter 6 describes the basis for the hypotheses that are to be tested. As the study reported in this chapter tests the same hypotheses - which incorporate past empirical findings, as well as the components and totality of the TPB, the same information will not be reviewed again. However, as this study considers a sample that is different in two main ways from Study one (i.e. it includes females and is an older group), literature which impacts on the hypotheses as a result of those differences will be briefly reviewed. In addition two new hypotheses are considered in this study.

In the previously reported study, there were only male participants, and thus a comparison between genders was not possible. The first prediction in this study is that
there will be some difference between males and females in relation to beliefs about sexual behaviours. This prediction is made on the basis of some of the previous literature showing such a difference (e.g. Christopher & Cate, 1984; Gerrard et al., 1990).

Several studies have shown that as people become older, they are more influenced by peers than parents (Daugherty & Burger, 1984; Emmerich, 1978; Owuamanam, 1983; Shah & Zelnik, 1981). Based on this, in Chapter 6 the first prediction was that parents would be perceived to hold more conservative norms than peers, and that participants’ subjective norms would be between their peers’ and their parents’ norms. Since the sample for the current study is older, it is more likely that participants will have subjective norms which are more aligned with their peers’ perceived norms than their parents’ perceived norms. Therefore, in the present study the second prediction is that parents will be perceived to hold more conservative norms than peers. Participants’ norms will be more similar to their peers’ perceived norms than to their parents’ perceived norms.

Most of the remaining predictions test various assumptions of the TPB. The rationale for these is the same as in study one. The third prediction is that having subjective norms which are more permissive, will lead to a greater intention to engage in sexual behaviour. The fourth prediction is that having an attitude that suggests that positive outcomes of sexual behaviour are more likely than negative outcomes, will lead to a stronger intention to engage in sexual behaviour. The fifth prediction is that having more perceived control over involvement in sexual behaviour is likely to be related to the level of intention to engage in those behaviours. The sixth prediction is that intention to engage in a behaviour will predict whether or not that behaviour occurred between time one and time two. The seventh prediction is that past experience of sexual behaviour at time one will be related to sexual behaviour at time two. The eighth prediction is that the variables in the model of the TPB will account for most of the variance in the prediction of both intention and behaviour. Because there are sufficient numbers in study two, a ninth prediction was added. This was based on a number of articles in the literature which have suggested that there is a need for some other variables to be added to the model of the TPB, as separate predictors. These include past behaviour, religion and opportunity.
Study two: Young adults

The idea that past behaviour needs to be considered as a separate variable, instead of assumed as part of PBC has received some attention (Drake & McCabe, 1999; Maticka, Herold & Mewhinney, 1998). It was therefore decided to include it as a separate predictor at all three stages of the model. Religion was a factor which received mixed support for its influence on sexual decision making in previous studies (Beck, et al. 1991; Daugherty & Burger, 1984; Jensen, et al. 1990). Thus it was also decided to include the importance of religion to the participant in the regression at all three stages. There has also been focus on the literature about the difference in intending to conduct a behaviour, and the carrying out of such an intention. In their work on this issue Sheeran and Orbell have found that implementation intentions are a better predictor of behaviour than intention alone (Orbell, Hodgkins & Sheeran, 1997; Sheeran & Orbell, 1999). Implementation intentions are a measure that asks the respondent to not only state their intention, but where, when and how they intend to implement the intention. In terms of sexual behaviour, it could be argued that the idea of implementation intentions, is somewhat similar to opportunity. For example, a person may intend to engage in sexual behaviours, but having no partner, lacks the opportunity. Alternatively, a person with a partner, already has an important component, opportunity. Therefore, in the revised model, it was proposed to limit the sample to those who were in pre-existing long relationships at time one, as it was assumed that these people would have more opportunity than most to implement their intentions. Thus the ninth prediction of study two was that a model based on the TPB, but with additional variables would provide a better model than the TPB alone.

Before considering the specific hypotheses for this study, as was mentioned earlier, subjective norm and attitude factors were operationalised as normative beliefs and behavioural beliefs respectively. Because of this, the interpretation of results rising from the testing of the above predictions must be seen as a reflection of the utility of an adaptation of the TPB in the prediction of factors possibly influencing young adult sexual decision making. So as not to cause any confusion, the term normative belief will replace the term subjective norm henceforth as it more closely reflects the measured factor. In the same way behavioural beliefs will replace the term attitude.
Thus the nine hypotheses were as follows:

1. That there is a difference between females and males in regards to the variables measured concerning sexual behaviour.

2. That there are differences between the perceived norms of parents and peers, and that the normative beliefs of participants are closer to their peers’ perceived norms than their parents’ perceived norms.

3. That having normative beliefs that are more permissive will lead to a greater intention to engage in sexual behaviour.

4. Having a behavioural belief that suggests that positive outcomes of sexual behaviour are more likely than negative outcomes will lead to a greater intention to engage in sexual behaviours.

5. Having more perceived control over involvement in sexual behaviours is likely to be related to a greater level of intention to engage in those behaviours.

6. Intention to engage in a behaviour at time one will predict whether or not that behaviour occurred between time one and time two.

7. Past experience of sexual behaviour at time one will be related to sexual behaviour at time two.

8. The model adapted from the TPB will be able to account for most of the variance in the prediction of both sexual intention and sexual behaviour.

9. That a model, adapted from the TPB, with the addition of past behaviour, religion and opportunity, will provide better predictions than the model adapted from the TPB alone.

Method

Participants

Time one

There were 194 participants in the study at Time One. Of the 194, 38 were male and the remaining 156 were female. Participants in the study were aged between 18 and 21 years at time one (M = 19.34 years SD = 1.03). Participants were recruited in a variety of ways. The main method employed was an article in one of Melbourne’s daily papers (See Appendix C1). Other methods included recruitment of university
students, and recruitment of participants who had heard about the study through third parties.

The majority of the sample were living at home at time one. Most lived with both parents (120). Of those living with one parent, the majority lived with their mother (34) as opposed to their father (6). Seven of the participants lived with their partners, and 26 had some other living arrangement, which was usually either college or sharing with friends. One participant did not respond to this item.

Although participants in this study came from all socio-economic areas of Melbourne, the majority had parents who were professionals. Table 7.1 shows the breakdown of the occupational areas of mothers and fathers of participants.

<table>
<thead>
<tr>
<th>Table 7.1 Frequency of occupations of parents of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother’s occupation</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Home duties</td>
</tr>
<tr>
<td>Unemployed</td>
</tr>
<tr>
<td>Secretarial</td>
</tr>
<tr>
<td>Retail</td>
</tr>
<tr>
<td>Trade</td>
</tr>
<tr>
<td>Professional</td>
</tr>
<tr>
<td>Service/hospitality</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Missing</td>
</tr>
</tbody>
</table>

Nearly all of the participants had siblings. There were 181 participants who had siblings, and 13 who did not. The number of siblings ranged from one, which was the modal response, to 13. There were 72 participants with one sibling, 65 with two siblings, 29 with three siblings, and 17 participants with four or more siblings.

Participants were also asked where they came in the family order. There was a near bimodal distribution in response to this question. There were 74 participants who were the oldest (this figure included those 13 who had no siblings), 42 who were somewhere in the middle of their family, and 78 who were the youngest in their family.
Study two: Young adults

Participants were also asked three questions about religion. Firstly they were asked if they had a religion. One hundred and twenty-one indicated that they did have a religion and 73 indicated that they did not. The participants were then asked how often they attended religious services. Eighteen participants attended religious services weekly, 17 monthly, 62 yearly and 37 never. There were 60 people who did not answer this question, and these were all accounted for as part of the group which claimed to not have a religion. The final question pertaining to religion asked how important religion was to the participants. Twenty-three found it to be very important, 35 important, 59 not too important and 30 not important at all. There were 47 people who did not answer this question and again they are accounted for in the group which claimed not to have a religion.

At time one 111 of the participants were in relationships which they considered steady. These relationships ranged in length from 2 weeks to 72 months. The mean length of these relationships was 18.92 months (SD = 12.57 months). The modal length was 19 months.

Time two

At time two, 155 of the original participants responded to the second survey. This represented a 79.90% retention rate. There were 131 females and 24 males participating in the second data collection. The mean age of the sample at time two was 19.57 years (SD = 1.07 years). There were 88 people who were in relationships at time two, and the mean length of relationship was 18.92 months (SD = 12.58 months, range = 1 - 55 months). The proportion of people in relationships was no different at time two (56.77%) than at time one (57.22%). There were no other significant differences in the demographic composition of the sample between time one and time two.

Differences were found between those who completed the questionnaire at both times and those who only completed it at time one on the following variables. There was a difference in the duration of relationships (F(1,106) = 8.24, p<0.01), with those only completing time one having longer (Mean 24.02 months SD = 16.24) relationships than those who completed both questionnaires (Mean 15.86 months SD =
11.43). There was also a difference in the perceived norms of friends in regards to more intimate behaviour (breast and genital petting, and intercourse) in a long term relationship (F(1,191) = 4.69, p<0.01) with those staying in the study perceiving their friends to be more permissive (Mean = 4.67, SD = 0.49) than those who only completed the time one questionnaire (Mean = 4.46, SD = 0.70). Finally, there was also a difference on the intention to engage in more intimate behaviour (breast and genital petting, and intercourse) with someone to whom there is an attraction but no relationship (F(1,192) = 6.22, p<0.05). Those who filled in the questionnaires at time one were more likely to engage in such behaviour (Mean = 2.80, SD = 1.09) than those completing at both time points (Mean = 2.32, SD = 1.09).

**Materials**

The same materials were used in this study as in the study reported in Chapter 6. There were however some changes made to the Sexual Attitude Questionnaire. These changes were made, due to either the different age group which was being targeted, or due to revisions made on the basis of the results produced from study one.

The changes due to the different age group mainly affected the demographic section of the questionnaire (see Appendix A7). The word partner was substituted for boyfriend/girlfriend. In the question asking where participants lived, an additional option of “With Partner” was given. Age did not affect the rest of the questionnaire in any way.

In Study One, it was found that perceived behavioural control was not a predictor of intention or behaviour. It was suggested that one of the reasons for this may have been that there was some misunderstanding over the meaning of the question. Alternatively one of the reasons may be that there is two ways of interpreting control. The first is to be in control of a decision to participate in an activity initiated by another person. This was the meaning that was used in Study One. The second meaning is the degree to which one feels control over one’s ability to successfully initiate behaviour. To see if this interpretation of control was a better measure of control, a new set of questions was designed for section four (see Appendix A8). In these new questions, participants were asked how easy they thought it would be to
engage in the stated behaviour. This question was asked once at each relationship level. For example, “You want to engage in intercourse with someone whom you are attracted to but not going out with. How easy do you think it would be to engage in the behaviour? Responses were then given on a five point scale from Very difficult to Very easy. At time one in Study Two, both forms of this section were given. As shall be discussed below, the measurement provided by the revised measure produced a more accurate measure of the type of concept of control that was being considered. Thereafter, only the revised section four was used in analyses.

One question was added to the questionnaire (see Appendix A9). This question asked participants how long they believed that a relationship had to last before it was considered a long relationship. The reason for asking this was that in the questionnaire, participants were asked about attitudes and behaviour at three relationship levels, attracted to but not going out, going out for a short time, and going out for a long time. It could be assumed that by definition there is no length of relationship at the first level. The length of a long relationship was asked because it was considered that a short relationship would also be defined by the length of a long relationship. That is, a short relationship would be any relationship which was started but did not, or had not yet, lasted as long as the definition of a long relationship. This question was the final question of the questionnaire.

Procedure

Approval for the project was obtained from the University Ethics Committee. Following this, a journalist was approached to write a story for one of the daily newspapers in Melbourne about the issue of young adults and sexual behaviour. The article included reference to the study and a contact number (Appendix C1). This produced a number of responses. Further participants were recruited to the study from community groups, universities and through word of mouth.
Participants were then mailed a package which contained a plain language statement (Appendix C2), a questionnaire and a reply paid envelope. The plain language statement explained the study and formally invited respondents to participate. They were told that completing the questionnaire would indicate their consent to participate. Participants then completed the questionnaire, sealed it in the reply paid envelope and posted it back to Deakin University.

The time one data were collected between December 1998 and March 1999. Approximately six months later (June 1999 - Late August 1999), another package was sent to participants. This second package contained a letter reminding participants about the study, the second questionnaire and another reply paid envelope. The letter thanked participants for their involvement, and asked them to continue that involvement through the completion of the second questionnaire (Appendix C3). Participants then completed the questionnaire and posted it back in the reply paid envelope. The length of the period between the two time points was sufficient to allow for the impact of the variables at time one on the variables at time two to be assessed and was also dictated by practical considerations to do with the length of the clinical psychology course of the author.

Time one and two data were matched using an identity code. This was a combination of participants birth dates and the last four digits of their phone number. After time two data were entered, this identity code was erased from the data file. At both time points a phone number was given if participants wanted to ask further questions or seek clarification of issues related to completing the questionnaire. This was only accessed by three participants in the two data collections, all of whom were seeking clarification on minor issues.

Results

The data were screened and then the hypotheses were tested. Results of both sections of analyses will be reported. All the data analyses were conducted using SPSS 8.0 (SPSS, 1997), unless otherwise indicated.
Data screening

There was a very small amount of missing data throughout the data set. However, there was no pattern to these missing data. As the amount of missing data was less than one percent of the total data set, it was decided that the default option for dealing with missing data in SPSS (pair wise deletion) would be satisfactory. This method is one of the recommended ways of dealing with non-systematic missing data (Tabachnik & Fiddell, 1989).

Normality was tested using the skewness and kurtosis indices, and the quotient of division by their respective standard errors. Where this value was in excess of three, transformations were used as described by Tabachnik and Fiddell (1989) to correct the variables. A number of analyses were then run to compare the effect of transformed and untransformed variables. There was no significant difference in the results and so the non-transformed data were used throughout.

The correlation matrix produced by the variables was carefully examined to check for multicollinearity and singularity. There was no perfectly correlated variables and thus singularity was not a problem. However, there were several variables which were highly correlated. Typically these correlations were in the 0.7 - 0.9 range. Fortunately a pattern was observed. The pattern was that the correlations were between those variables which were measuring perceived or subjective norms for various behaviours. Thus, for example, a parent's perceived norms for hand holding, light kissing and prolonged kissing at a given relationship level, were all highly correlated with each other. The parent's perceived norms for breast petting, genital petting and intercourse at a given relationship level, were also highly correlated with each other. This pattern was found for the perceived norms of parents and peers, the subjective norms of participants, intentions of participants, and perceived behavioural control of participants. This justified the collapsing of data into more and less intimate behaviour categories. Therefore variables related to hand holding, light kissing and prolonged kissing were collapsed into a category labelled less intimate. Variables related to breast and genital petting, and intercourse were collapsed into a category labelled more intimate. Therefore new variables were generated such as parental norms for more intimate behaviours, and parental norms for less intimate behaviours. These
variables were calculated by summing the three contributing variables, and dividing the total by three.

The correlation matrix also showed that the questions which contributed to the attitude score correlated in appropriate directions. That is the negative items all correlated negatively with the positive items and positively with each other. The positive items correlated negatively with the negative items and positively with each other.

**Descriptive statistics**

The descriptive statistics (see Appendix D2) give a brief picture of the sample in terms of their responses to the questions on the questionnaire. In general perceived attitudes of parents towards behaviours become less approving as the behaviour becomes more intimate. This was tempered only slightly by the length of the relationship. A similar, although generally more permissive picture was seen for the perceived attitudes of peers towards the various behaviours. Respondents own attitudes followed the same pattern, but lay between the perceived attitudes of their parents and peers.

Intention to engage in a behaviour decreased as behaviours became more intimate, but increased across relationship levels, so that there was no difference between intention to engage in hand holding and intercourse in a long term relationship.

Perceived behavioural control increased across relationship levels, but decreased as behaviours became more intimate.

In terms of past behaviour, it was more likely that people had engaged in less intimate behaviours. The mean age at which people had first engaged in a specific behaviour increased as the behaviour became more intimate. So for holding hands, the mean age at first experience was 13.81 years and for intercourse the mean age at first experience was 17.08 years. For all behaviours the mean age of partner at first experience of the behaviour was older than the respondents' mean age.
Hypothesis testing

The hypotheses were tested using the data set as described above.

Hypothesis one
That there is a difference between females and males in regards to the variables measured concerning sexual behaviour.

This hypothesis was considered because of the findings in the literature which suggested that males and females may differ on variables which measure sexual attitudes and behaviour. This hypothesis was tested using a MANOVA. Sex was the independent variable, and all of the other non-demographic variables were the dependent variables. The MANOVA found that there was no main effect of gender ($F(1, 96) = 1.17, p > .05$). Therefore it was concluded that there was no difference between males and females in terms of the variables measured.

Hypothesis two
That there are differences between the perceived norms of parents and peers, and that the normative beliefs of participants are closer to their peers’ perceived norms than their parents’ perceived norms.

This hypothesis was tested using a mixed design MANOVA, with Person, Relationship level and Behaviour as within subject factors, and sex as a between subjects factor. The latter was included to highlight any male-female differences should they occur. The factor Person had three levels (Parent, Peer, and Self), Relationship level had three levels (attracted but not going out, going out a short time, and going out a long time). The behaviour factor had six levels (hand holding, light kissing, prolonged kissing, breast petting, genital petting and intercourse). It should also be noted that because Mauchly’s test of sphericity was significant, the Greenhouse-Geisser correction was used. This of course results in degrees of freedom which are
not whole numbers, but are instead a decimal (having been multiplied by the value of the correction).

The within subjects analyses found that there were significant main effects of Person \( (F(1.83, \ 350.16) = 146.327, \ p < 0.000, \ \eta^2 = 0.43) \), Relationship level \( (F(1.51, \ 287.37) = 335.04, \ p < 0.000, \ \eta^2 = 0.64) \) and Behaviour \( (F(1.72, \ 327.87) = 254.57, \ p < 0.000, \ \eta^2 = 0.57) \). There was an interaction effect of Person by Behaviour \( (F(4.178, \ 798.01) = 63.18, \ p < 0.000, \ \eta^2 = .25) \). There were also interactions between Person and Relationship level \( (F(3.26, \ 623.19) = 10.48, \ p < 0.000, \ \eta^2 = 0.05) \), Relationship level and Behaviour \( (F(3.71, \ 708.48) = 43.04, \ p < 0.000, \ \eta^2 = 0.18) \), and a three way interaction between Person, Relationship level and Behaviour \( (F(7.81, 1492.24) = 12.06, \ p < 0.000, \ \eta^2 = .06) \). Table 7.2 below shows the means and standard errors of these factors. While all of the interactions are significant, with the exception of the interaction between Person and behaviour, the eta squared values of these interactions demonstrate that they do not increase their explanatory power through inclusion of more variables. Again there were no differences found between males and females.

<table>
<thead>
<tr>
<th>Table 7.2 Means and standard errors of factors in MANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td><strong>Person</strong></td>
</tr>
<tr>
<td>Parent</td>
</tr>
<tr>
<td>Peer</td>
</tr>
<tr>
<td>Self</td>
</tr>
<tr>
<td><strong>Relationship</strong></td>
</tr>
<tr>
<td>Attracted but not going out</td>
</tr>
<tr>
<td>Going out a short while</td>
</tr>
<tr>
<td>Going out a long while</td>
</tr>
<tr>
<td><strong>Behaviour</strong></td>
</tr>
<tr>
<td>Holding hands</td>
</tr>
<tr>
<td>Light kissing</td>
</tr>
<tr>
<td>Prolonged Kissing</td>
</tr>
<tr>
<td>Breast petting</td>
</tr>
<tr>
<td>Genital petting</td>
</tr>
<tr>
<td>Intercourse</td>
</tr>
</tbody>
</table>

NB: The means were all of scales which had a range of 1-5. Factor names are bolded.
Importantly for the hypothesis under consideration, there was a difference found between the various levels of the Person factor, and also in the Person by Behaviour factor. To further explore these differences, planned contrasts were carried out between the levels of the Person factor to see which people were differing.

There was a significant difference between the perceived norms of parents and normative beliefs of participants (F(1, 191)=155.067, p<0.000, η² = .45). There was also a significant difference between the perceived norms of peers and the normative beliefs of participants (F(1,191)=9.923, p<0.05, η² = .05). As can be seen however, this was a much weaker difference. There was also a very strong significant difference in the perceived norms of peers and parents (F(1,192)=342.019, p<0.000, η² = .64).

Therefore the hypothesis that there would be differences between the perceived norms of peers and parents and the normative beliefs of participants is supported. The proposition that participants would be more similar to peers is upheld, although, there is still a difference between the normative beliefs of participants and the perceived norms of peers.

**Hypothesis three**

*That having normative beliefs that are more permissive will lead to a greater intention to engage in sexual behaviour.*

This hypothesis was tested using bivariate correlation analysis. In order to test the hypothesis, the normative beliefs of participants regarding various categories of behaviour were correlated with their intention to engage in those categories of sexual behaviour. As detailed above, the data were collapsed in this analysis.

There were significant correlations between having more approving normative beliefs concerning a particular behaviour and having an intention to engage in this behaviour. The correlation between normative beliefs and intention for less intimate behaviours (hand holding, light kissing, prolonged kissing) with a person to whom the participant was attracted but not going out was 0.36 (p<0.01). The correlation between normative beliefs and intention for more intimate behaviours (breast petting, genital petting, intercourse) with a person whom the participant was attracted to but not going out was 0.67 (p<0.01). The correlation between normative beliefs and
intention for less intimate behaviour with a person in a short term relationship was 0.45 (p<0.01). The correlation between normative beliefs and intention for more intimate behaviour with a person in a short term relationship was 0.72 (p<0.01). The correlation between normative beliefs and intention for less intimate behaviours in a long relationship was 0.43 (p<0.01). Finally, the correlation between normative beliefs and intention for more intimate behaviours in a long relationship was 0.64 (p<0.01). These correlations show that there is evidence to support hypothesis three.

**Hypothesis four**
Having a behavioural belief which suggests that positive outcomes of sexual behaviour are more likely than negative outcomes will lead to a greater intention to engage in that behaviour.

This hypothesis was tested using bivariate correlation analyses. The results of these analyses were similar to the results of the corresponding analyses in Study 1. In the present study there were correlations between behavioural belief and intention to engage in more intimate behaviours at all three relationship levels; attracted but not going out (r = 0.37, p<0.000), going out for a short time (r = 0.39, p<0.000), and going out for a long time (r = 0.40, p<0.000). Of the less intimate behaviours there was less correlation between intention and behavioural belief. The only significant correlation was between behavioural belief and intention to engage in less intimate behaviours in a short term relationship (r = 0.17, p<0.05). However, even this is a noticeably weaker correlation and achieves a much lower level of significance than the correlations between behavioural belief and more intimate behaviours.

The results of these analyses provide partial support for the fourth hypothesis. They suggest that behavioural belief has a relationship with intention to engage in more intimate behaviours but not less intimate behaviours.
**Hypothesis five**
*Having more perceived control over involvement in sexual behaviours is likely to be related to a greater level of intention to engage in those behaviours.*

This hypothesis was tested using bivariate correlational analysis. It was found that the data supported the hypothesis. There were relationships between having a higher perceived level of control and having a greater intention to engage in the behaviour. This is shown in Table 7.3 below.

**Table 7.3 Correlations between perceived behavioural control and intention by sexual behaviour and relationship level.**

<table>
<thead>
<tr>
<th>Behaviour and relationship level</th>
<th>Correlation</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less intimate behaviour with someone attracted to but not going out.</td>
<td>0.34</td>
<td>&lt;0.000</td>
</tr>
<tr>
<td>More intimate behaviour with someone attracted to but not going out.</td>
<td>0.66</td>
<td>&lt;0.000</td>
</tr>
<tr>
<td>Less intimate behaviour in short relationship.</td>
<td>0.40</td>
<td>&lt;0.000</td>
</tr>
<tr>
<td>More intimate behaviour in short relationship.</td>
<td>0.70</td>
<td>&lt;0.000</td>
</tr>
<tr>
<td>Less intimate behaviour in a long relationship.</td>
<td>0.36</td>
<td>&lt;0.000</td>
</tr>
<tr>
<td>More intimate behaviour in a long relationship.</td>
<td>0.80</td>
<td>&lt;0.000</td>
</tr>
</tbody>
</table>
Hypothesis six

Intent to engage in a behaviour at time one will predict whether or not that behaviour occurred between time one and time two.

This hypothesis was tested using bivariate correlation analyses. In this case the correlations were between the intention variables and the items which asked whether or not participants had engaged in the behaviour between time one and time two.

Hand holding was not found to be related to intention to engage in hand holding if the opportunity arose at any of the three relationship levels. This was also true for light kissing.

Having engaged in prolonged kissing between time one and time two was correlated with intention to engage in prolonged kissing with someone whom one had been going out with for a long while ($r = 0.15$, $p < 0.05$).

A correlation was found between intending to engage in breast petting if the opportunity arose in a long relationship, and having engaged in the behaviour between time one and time two ($r = 0.24$, $p < 0.001$).

Having engaged in genital petting between time one and time two was also correlated to having intended to engage in this behaviour in a long term relationship if the opportunity arose ($r = 0.24$, $p < 0.001$).

Intercourse was the only behaviour which was correlated to intention at two relationship levels. It was correlated with intention to engage in it with a person in a short relationship ($r = 0.22$, $p < 0.01$), and with the same intention in a long relationship ($r = 0.41$, $p < 0.000$).

A separate correlation was conducted with all the collapsed intention variables to determine if intention to engage in one category of behaviours at time one, would predict engaging in other behaviours in the period between time one and time two. The only intention variable which correlated consistently with other behaviours at time two was intention to engage in more intimate behaviours with someone whom one had been going out with for a long time. This was correlated with having engaged in light kissing in the last six months ($r = 0.16$, $p < 0.05$), prolonged kissing in the last six months ($r = 0.19$, $p < 0.01$), breast petting in the last six months ($r = 0.25$, $p < 0.001$), genital petting in the last six months ($r = 0.24$, $p < 0.001$), and having engaged in intercourse in the last six months ($r = 0.32$, $p < 0.000$). Intention to engage in more
intimate behaviours with someone whom one had been going out with for a short time
was correlated to having engaged in intercourse in the last six months ($r = 0.18$, p<0.01).

Therefore, these data lend partial support to the hypothesis. They reveal that
there is a relationship between intention to engage in a sexual behaviour and actually
engaging in it, particularly when the relationship has lasted a long while.

**Hypothesis seven**
*Past experience of sexual behaviour at time one will be related to sexual behaviour at
time two.*

This hypothesis was tested using bivariate correlation analysis. In general the
results supported the hypothesis that having engaged in a behaviour prior to time one
was related to engaging in that behaviour between time one and time two. However,
the results, shown in Table 7.4 below, also indicated that the behaviours at either
extreme were only predictive for the behaviours in their realm of intimacy. Thus
engaging in light kissing prior to time one did not predict engaging in the more intimate
behaviours (breast and genital petting, and intercourse) in between time one and time
two. At the same time having engaged in intercourse prior to time one did not predict
engagement in the less intimate behaviours (hand holding, light kissing, and prolonged
kissing) between time one and time two.
Study two: Young adults

Table 7.4 Correlations and significance levels between time one and time two behaviours

<table>
<thead>
<tr>
<th>Time One Behaviour</th>
<th>Time Two Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hand Holding</td>
</tr>
<tr>
<td>Hand Holding</td>
<td>r = .40**</td>
</tr>
<tr>
<td>Light Kissing</td>
<td>r = .33**</td>
</tr>
<tr>
<td>Prolonged Kissing</td>
<td>r = .34**</td>
</tr>
<tr>
<td>Breast Petting</td>
<td>r = .30**</td>
</tr>
<tr>
<td>Genital Petting</td>
<td>r = .24**</td>
</tr>
<tr>
<td>Intercourse</td>
<td>.09</td>
</tr>
</tbody>
</table>

NB * = .05 ** = .01

Therefore hypothesis seven was found to be supported by the data.

**Hypothesis eight**

That the model adapted from the TPB will predict both intention to engage in, and actually engaging in, the six sexual behaviours.

This hypothesis was examined using structural equation modelling (SEM) under the AMOS 3.62 program (Arbuckle, 1997). A separate model was tested for each behaviour. The proposed model is shown in Figure 7.1
Figure 7.1 Model, adapted from the TPB and used as basis for structural equation modelling. (NB: NB = Normative beliefs, BB = Behavioural beliefs)

In this model perceptions of peers' and parents' norms were used to predict normative beliefs (NB), which in conjunction with behavioural beliefs (BB) and perceived behavioural control (PBC) were used to predict intention. Intention and PBC were then used to predict the occurrence of the six behaviours; hand holding, light kissing, hugging and prolonged kissing, breast petting, genital petting, and intercourse.

The first behaviour examined was hand holding. The correlations between the variables for hand holding are shown in Table 7.5 below, as are the means and standard deviations of each of the variables.
Table 7.5 Correlations among variables and their means and standard deviations in the prediction of hand holding

<table>
<thead>
<tr>
<th></th>
<th>Parent norms</th>
<th>Peer norms</th>
<th>NB</th>
<th>BB</th>
<th>PBC</th>
<th>Intention</th>
<th>Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent norms</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer norms</td>
<td>0.58***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NB</td>
<td>0.57***</td>
<td>0.62***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BB</td>
<td>-0.05</td>
<td>-0.04</td>
<td>0.01</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>-0.06</td>
<td>0.00</td>
<td>-0.02</td>
<td>0.30***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>0.10</td>
<td>0.02</td>
<td>0.05</td>
<td>-0.04</td>
<td>0.12</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Behaviour</td>
<td>-0.04</td>
<td>-0.06</td>
<td>-0.07</td>
<td>0.06</td>
<td>0.11</td>
<td>-0.09</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>4.19</td>
<td>4.48</td>
<td>4.47</td>
<td>0.73</td>
<td>4.66</td>
<td>4.81</td>
<td>1.74</td>
</tr>
<tr>
<td>SD</td>
<td>0.58</td>
<td>0.54</td>
<td>0.61</td>
<td>1.10</td>
<td>0.40</td>
<td>1.02</td>
<td>0.44</td>
</tr>
</tbody>
</table>

NB: *** = p<0.000

The model shown in Figure 7.1 was then tested for hand holding using SEM. The Independence Chi square ($\chi^2_{(21)} = 227.53, p = 0.000$) confirmed the presence of intercorrelations in the data and therefore its suitability for SEM analysis.

The model predicted 45% of the variance in normative beliefs and the fit of the data to the model was acceptable ($\chi^2_{(1)} = 5.31, p = 0.87$, Goodness of Fit (GFI) = 0.99; Adjusted Goodness of Fit (AGFI) = 0.98; Normative Fit Index (NFI) = 0.98; R-- Fit Index (RFI) = 0.95; Comparative Fit Index (CFI) = 1.00; Root Mean Square Error of Approximation (RMSEA) = 0.000, significance of RMSEA (PCLOSE) = 0.970) (Figure 7.2). However, the model did not successfully predict either intention or behaviour.

Parent’s perceived norms ($\beta = 0.32^1$) and peer’s perceived norms ($\beta = 0.43$) accounted for 45% of the variance in normative beliefs. PBC was a significant predictor of intention ($\beta = 0.15$). Behavioural belief ($\beta = -0.09$) was a significant predictor of intention using a one tailed test. However, these variables accounted for only 2% of the variance in intention. PBC ($\beta = 0.12$) was also a significant predictor of behaviour using a one tailed test.

Because there was no significant relationship between normative beliefs and intention, and intention and behaviour, there are no indirect effects of either PBC or behavioural beliefs on behaviour.

---

1 All reported β weights are standardised
Study two: Young adults

Figure 7.2 Standardised $\beta$ weights and covariances for relationships between variables for hand holding (NB: NB = Normative beliefs, BB = Behavioural beliefs; * = significant at $p<0.05$ [two tailed]; $^b$ = significant at $p<0.05$ [one tailed]; Dashed lines indicate non-significant relationships)

The second behaviour considered was light kissing. The Independence Chi square ($\chi^2_{(21)} = 257.24, p = 0.000$) indicated that there were sufficient intercorrelations in the data to use SEM for this analysis. The correlations, means and standard deviations of the variables involved in the analysis are shown in Table 7.6

Table 7.6 Correlations among variables and their means and standard deviations in the prediction of light kissing

<table>
<thead>
<tr>
<th></th>
<th>Parent norms</th>
<th>Peer norms</th>
<th>NB</th>
<th>BB</th>
<th>PBC</th>
<th>Intention</th>
<th>Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent norms</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer norms</td>
<td>0.55***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NB</td>
<td>0.54***</td>
<td>0.62***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BB</td>
<td>-0.03</td>
<td>-0.04</td>
<td>0.01</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>-0.05</td>
<td>0.00</td>
<td>-0.02</td>
<td>0.30***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>0.10</td>
<td>0.02</td>
<td>0.05</td>
<td>0.26***</td>
<td>0.40***</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Behaviour</td>
<td>0.05</td>
<td>-0.07</td>
<td>-0.07</td>
<td>0.06</td>
<td>0.12</td>
<td>0.13</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>4.03</td>
<td>4.46</td>
<td>4.42</td>
<td>0.73</td>
<td>4.63</td>
<td>4.68</td>
<td>1.75</td>
</tr>
<tr>
<td>SD</td>
<td>0.63</td>
<td>0.53</td>
<td>0.62</td>
<td>1.10</td>
<td>0.40</td>
<td>0.40</td>
<td>0.43</td>
</tr>
</tbody>
</table>

NB: *** = $p<0.000$

The model predicted 46% of the variance in normative belief and 18% of the variance in intention. The fit of the data to the model was acceptable ($\chi^2_{(10)} = 8.41, p = 0.84; GFI = 0.99; AGFI = 0.97; NFI = 0.97; RFI = 0.93; CF1 = 1.00; RMSEA = 0.00, PCLOSE = 0.86)(Figure 7.3).
Parent's perceived norms ($\beta = 0.27$) and peer's perceived norms ($\beta = 0.49$) accounted for 46% of the variance in normative beliefs. PBC ($\beta = 0.35$) and behavioural belief ($\beta = 0.15$) were significant predictors of intention. For the behaviour of light kissing, normative beliefs ($\beta = 0.00$) did not predict intention. PBC and intention failed to achieve significance in the prediction of behaviour.

Because there was no significant relationship between normative beliefs and intention, and intention and behaviour, there are no indirect effects of either PBC, behavioural beliefs, or perceived norms of parents and peers on behaviour.

![Diagram showing standardized beta weights and covariances for relationships between variables for light kissing](image)

**Figure 7.3 Standardised Beta weights and covariances for relationships between variables for light kissing (NB: NB = Normative beliefs, BB = Behavioural beliefs; *= significant at p<0.05; Dashed lines indicate non-significant relationships)**

The third behaviour analysed was hugging and prolonged kissing. The correlations between the variables, the means and standard deviations of the variables in this analysis are shown in Table 7.7.
Table 7.7 Correlations among variables and their means and standard deviations in the prediction of hugging and prolonged kissing

<table>
<thead>
<tr>
<th></th>
<th>Parent norms</th>
<th>Peer norms</th>
<th>NB</th>
<th>BB</th>
<th>PBC</th>
<th>Intention</th>
<th>Behav.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent norms</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer norms</td>
<td>0.47***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NB</td>
<td>0.48***</td>
<td>0.66***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BB</td>
<td>-0.04</td>
<td>-0.04</td>
<td>-0.07</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>-0.02</td>
<td>0.08</td>
<td>0.02</td>
<td>0.34***</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>-0.04</td>
<td>-0.02</td>
<td>-0.02</td>
<td>0.31***</td>
<td>0.63***</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Behaviour</td>
<td>0.02</td>
<td>0.00</td>
<td>-01</td>
<td>0.08</td>
<td>0.19**</td>
<td>0.10</td>
<td>1.00</td>
</tr>
<tr>
<td>Mean</td>
<td>3.71</td>
<td>4.34</td>
<td>4.29</td>
<td>0.73</td>
<td>4.41</td>
<td>4.51</td>
<td>1.74</td>
</tr>
<tr>
<td>SD</td>
<td>0.74</td>
<td>0.62</td>
<td>0.68</td>
<td>1.10</td>
<td>0.52</td>
<td>0.58</td>
<td>0.44</td>
</tr>
</tbody>
</table>

NB: *** = p<0.000 ** = p<0.01

The Independence Chi square ($\chi^2_{(21)} = 305.90$, $p = 0.000$) indicated that there were sufficient intercorrelations in the data to use SEM for this analysis.

As for hand holding and light kissing, the model for hugging and prolonged kissing predicted 47% of the variance in normative beliefs. The model also explained 41% of the variance in intention. The fit of the data to the model was acceptable ($\chi^2_{(10)} = 4.31$, $p = 0.93$; GFI = 0.99; AGFI = 0.98; NFI = 0.99; RFI = 0.97; CFI = 1.00; RMSEA = 0.00, PCLOSE = 0.99).

Parent's perceived norms ($\beta = 0.21$) and peer's perceived norms ($\beta = 0.56$) accounted for 47% of the variance in normative beliefs. PBC ($\beta = 0.59$) and behavioural belief ($\beta = 0.11$) were significant predictors of intention. For the behaviour of hugging and prolonged kissing, normative beliefs ($\beta = -0.03$) did not predict intention. PBC ($\beta = 0.21$) was a significant predictor of behaviour. However, intention did not predict behaviour.

Because there was no significant relationship between normative beliefs and intention, and intention and behaviour, there are no indirect effects of either PBC, behavioural beliefs, or perceived norms of parents and peers on behaviour. The diagram of the relationships in the model is shown in Figure 7.4.
Figure 7.4 Standardised Beta weights and covariances for relationships between variables for hugging and prolonged kissing (NB: NB = Normative beliefs, BB = Behavioural beliefs; * = significant at p<0.05; Dashed lines indicate non-significant relationships)

The fourth behaviour considered was breast petting. The correlations between the variables, the means and standard deviations of the variables in this analysis are shown in Table 7.8

### Table 7.8 Correlations among variables and their means and standard deviations in the prediction of breast petting

<table>
<thead>
<tr>
<th></th>
<th>Parent norms</th>
<th>Peer norms</th>
<th>NB</th>
<th>BB</th>
<th>PBC</th>
<th>Intention</th>
<th>Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent norms</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer norms</td>
<td>0.58***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NB</td>
<td>0.53***</td>
<td>0.76***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BB</td>
<td>0.01</td>
<td>-0.06</td>
<td>-0.04</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>-0.07</td>
<td>0.00</td>
<td>-0.03</td>
<td>0.36***</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>-0.05</td>
<td>-0.07</td>
<td>-0.06</td>
<td>0.37***</td>
<td>0.70***</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Behaviour</td>
<td>-0.08</td>
<td>-0.01</td>
<td>-0.03</td>
<td>0.08</td>
<td>0.27**</td>
<td>0.14</td>
<td>1.00</td>
</tr>
<tr>
<td>Mean</td>
<td>2.72</td>
<td>3.90</td>
<td>3.78</td>
<td>0.73</td>
<td>3.75</td>
<td>3.85</td>
<td>1.66</td>
</tr>
<tr>
<td>SD</td>
<td>0.92</td>
<td>0.89</td>
<td>0.86</td>
<td>1.10</td>
<td>0.81</td>
<td>0.90</td>
<td>0.47</td>
</tr>
</tbody>
</table>

NB: *** = p<0.000 ** = p<0.01

The Independence Chi square ($\chi^2 = 436.76$, p = 0.000) indicated that there were sufficient intercorrelations in the data to use SEM for this analysis.

For the behaviour breast petting, the model predicted 59% of the variance in normative belief and 50% of the variance in intention. The fit of the data to the model was acceptable ($\chi^2 = 6.38$, p = 0.78; GFI = 0.99; AGFI = 0.97; NFI = 0.98; RFI =
0.97; CFI = 1.00; RMSEA = 0.00, PCLOSE = 0.94). Parent's perceived norms (β = 0.13) and peer's perceived norms (β = 0.69) accounted for 59% of the variance in normative beliefs. PBC (β = 0.65) and behavioural belief (β = 0.14) were significant predictors of intention. For the behaviour of breast petting, normative beliefs (β = -0.03) did not predict intention. PBC (β = 0.33) was a significant predictor of behaviour. However, intention did not predict behaviour.

Because there was no significant relationship between normative beliefs and intention, and intention and behaviour, there are no indirect effects of either PBC, behavioural beliefs, or perceived norms of parents and peers on behaviour. The diagram of the relationships in the model is shown in Figure 7.5.

![Diagram](image)

**Figure 7.5 Standardised Beta weights and covariances for relationships between variables for breast petting (NB: NB = Normative beliefs, BB = Behavioural beliefs; * = significant at p<0.05; Dashed lines indicate non-significant relationships)**

The fifth behaviour analysed was genitalic petting. The correlations between the variables, the means and standard deviations of the variables in this analysis are shown in Table 7.9.
Table 7.9 Correlations among variables and their means and standard deviations in the prediction of genital petting

<table>
<thead>
<tr>
<th></th>
<th>Parent norms</th>
<th>Peer norms</th>
<th>NB</th>
<th>BB</th>
<th>PBC</th>
<th>Intention</th>
<th>Behav.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent norms</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer norms</td>
<td>0.51***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NB</td>
<td>0.51***</td>
<td>0.69***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BB</td>
<td>-0.02</td>
<td>-0.07</td>
<td>-0.06</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>-0.09</td>
<td>-0.03</td>
<td>-0.09</td>
<td>0.39***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>-0.08</td>
<td>-0.05</td>
<td>-0.09</td>
<td>0.41***</td>
<td>0.67***</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Behaviour</td>
<td>-0.10</td>
<td>0.02</td>
<td>-0.03</td>
<td>0.12</td>
<td>0.18*</td>
<td>0.09</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>2.41</td>
<td>3.69</td>
<td>3.54</td>
<td>0.73</td>
<td>3.41</td>
<td>3.47</td>
<td>1.65</td>
</tr>
<tr>
<td>SD</td>
<td>0.93</td>
<td>0.92</td>
<td>0.86</td>
<td>1.10</td>
<td>0.84</td>
<td>0.96</td>
<td>0.48</td>
</tr>
</tbody>
</table>

NB: *** = p<0.000  * = p<0.05

The Independence Chi square ($\chi^2_{(df)} = 366.49$, p = 0.000) indicated that there were sufficient intercorrelations in the data to use SEM for this analysis.

The model predicted 51% of the variance in normative belief, and 48% of the variance in intention. The fit of the data to the model was acceptable ($\chi^2_{(10)} = 7.13$, p = 0.71; GFI = 0.99; AGFI = 0.97; NFI = 0.98; RFI = 0.96; CFI = 1.00; RMSEA = 0.00; PCLOSE = 0.92).

Parent’s perceived norms ($\beta = 0.22$) and peer’s perceived norms ($\beta = 0.58$) accounted for 51% of the variance in normative beliefs. PBC was a significant predictor of intention ($\beta = 0.60$), as was behavioural belief ($\beta = 0.17$). For the behaviour of genital petting, normative beliefs ($\beta = -0.02$) did not predict intention. PBC ($\beta = 0.22$) was a significant predictor of behaviour. However, intention ($\beta = -0.06$) did not predict behaviour.

Because there was no significant relationship between normative beliefs and intention, and intention and behaviour, there are no indirect effects of either PBC, behavioural beliefs, or perceived norms of parents and peers on behaviour. The diagram of the relationships in the model is shown in Figure 7.6.
Figure 7.6 Standardised Beta weights and covariances for relationships between variables for genital petting (NB: NB = Normative beliefs, BB = Behavioural beliefs; * = significant at p<0.05; Dashed lines indicate non-significant relationships)

The final behaviour analysed was intercourse. The correlations between the variables, the means and standard deviations of the variables in this analysis are shown in Table 7.10.

Table 7.10 Correlations among variables and their means and standard deviations in the prediction of intercourse

<table>
<thead>
<tr>
<th></th>
<th>Parent norms</th>
<th>Peer norms</th>
<th>NB</th>
<th>BB</th>
<th>PBC</th>
<th>Intention</th>
<th>Behav.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent norms</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Peer norms</td>
<td>0.44***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NB</td>
<td>0.52***</td>
<td>0.60***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BB</td>
<td>-0.08</td>
<td>-0.04</td>
<td>-0.03</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>-0.11</td>
<td>-0.05</td>
<td>-0.17*</td>
<td>0.38***</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>-0.15*</td>
<td>-0.14</td>
<td>-0.21**</td>
<td>0.42***</td>
<td>0.67***</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Behaviour</td>
<td>-0.10</td>
<td>-0.05</td>
<td>-0.06</td>
<td>0.23***</td>
<td>0.38***</td>
<td>0.09</td>
<td>1.00</td>
</tr>
<tr>
<td>Mean</td>
<td>2.16</td>
<td>3.30</td>
<td>3.17</td>
<td>0.73</td>
<td>2.93</td>
<td>2.91</td>
<td>1.52</td>
</tr>
<tr>
<td>SD</td>
<td>0.90</td>
<td>0.92</td>
<td>0.85</td>
<td>1.10</td>
<td>0.91</td>
<td>1.01</td>
<td>0.50</td>
</tr>
</tbody>
</table>

NB: *** = p<0.001 ** = p<0.01 * = p<0.05

The Independence Chi square ($\chi^2_{(21)} = 356.26, p = 0.000$) indicated that there were sufficient intercorrelations in the data to use SEM for this analysis.

The model predicted 44% of the variance in normative belief, 48% of the variance in intention and 15% of the variance in behaviour. The fit of the data to the
model was acceptable ($\chi^2_{100} = 6.22$, $p = 0.80$; GFI = 0.99; AGFI = 0.97; NFI = 0.98; RFI = 0.96; CFI = 1.00; RMSEA = 0.00; PCLOSE = 0.95).

Parent's perceived norms ($\beta = 0.31$) and peer's perceived norms ($\beta = 0.46$) accounted for 44% of the variance in normative beliefs. PBC was a significant predictor of intention ($\beta = 0.58$), as was behavioural belief ($\beta = 0.20$). For the behaviour of intercourse, normative belief ($\beta = -0.11$) was also a significant predictor of intention. PBC ($\beta = 0.34$) was a significant predictor of behaviour. However, intention ($\beta = 0.06$) did not predict behaviour.

Because there was a significant relationship between normative beliefs and intention, the indirect effects of perceived parent and peer norms on intention can be calculated. Perceived parent norms had an indirect impact on intention through normative beliefs ($\beta = 0.03$) and peer norms had an indirect effect on intention to engage in intercourse through normative beliefs also ($\beta = 0.05$). Because there was no relationship between intention and behaviour, there are no indirect effects of either PBC or behavioural beliefs on behaviour. The diagram of the relationships in the model is shown in Figure 7.7.

![Diagram](image)

**Figure 7.7 Standardised Beta weights and covariances for relationships between variables for intercourse (NB: NB = Normative beliefs, BB = Behavioural beliefs; * = significant at $p<0.05$; Dashed lines indicate non-significant relationships)**

The main findings of the analyses investigating hypothesis eight were that some aspects of the model function more effectively than others. In particular the link between intention and behaviour did not prove to be significant in these analyses for any of the behaviours. There was also little support for the link between normative
beliefs and behaviour, except when the behaviour under consideration was
intercourse. Normative beliefs however, were well accounted for by the perceived
norms of parents and peers. It is also interesting to note that the proportion of
variance accounted for by each of these two predictors of normative belief, varies
according to behaviour, with the greatest difference in the degree of influence coming
for the middle behaviours. PBC was found to be important in the prediction of
intention, and also, more importantly perhaps, in the prediction of behaviour. This is
particularly so given the failure of intention to contribute to the prediction of
behaviour. Behavioural beliefs also contributed to the prediction of intention. These
results will be discussed in more depth in the discussion following.

Hypothesis nine
That a model, based on an adaptation of the TBP, with the addition of past
behaviour, religion and opportunity, will provide better predictions of behaviour
than the model adapted from the TBP alone.

This hypothesis examined the impact on the ability to predict behaviour of the
model adapted from the TBP of making a number of changes, via the addition of
certain variables and conditions to the prediction of engaging in intercourse. The
variables added were importance of religion to the participant, and the past behaviour
of the individual. The condition added was that the analyses were conducted on those
who were in long term relationships at time one, and thus were presumed to have
greater opportunity to act on their intentions, than those not in a relationship. In the
questionnaire, a number of questions had referred to long term relationships, without
defining the length of such a relationship. Instead participants were asked how long
they thought a relationship needed to last before it could be considered a long
relationship. The mean time given in response was 9.1 months. Thus, these analyses
only included those who had been in relationships longer than 9 months at time one.
There were 78 such people, 19 males and 59 females, with a mean age of 19.58 years
(SD = 1.04 years).

It was decided in these analyses to only examine intercourse. Part of the
reason for this was that in the prediction of behaviour, among this group there were
not enough people who had not engaged in the other behaviours (hand holding, light kissing, prolonged kissing, breast petting and genital petting) in the last six months, for the regressions to be purposeful. Further, multiple regressions were used. This was considered justified as Tabachnik & Fiddell (1996) suggested that as long as the ratio of the number of cases in the dichotomous variables is not more split than 25/75, multiple regression onto a dichotomous variable is valid. For the behaviour of intercourse the ratio of responses in the dichotomous dependent variable is 37/63. In addition it was not possible to conduct SEM for this hypothesis. Ding and Harlow (1995) reviewed numerous studies and found that 100-150 subjects is the minimum sample size required for SEM.

The analysis therefore considered the regression of intention, PBC, past behaviour, and importance of religion onto the behaviour of intercourse, for those who had been in a long relationship at time one. The results of this analysis are presented in Table 7.11, below.

### Table 7.11 Regression of PBC, intention, past behaviour and importance of religion onto behaviour for intercourse, for those in a long relationship.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Behaviour (DV)</th>
<th>PBC</th>
<th>Intention</th>
<th>Past</th>
<th>Religion</th>
<th>B</th>
<th>β</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBC</td>
<td>0.64</td>
<td>0.54</td>
<td>0.78</td>
<td></td>
<td></td>
<td>0.14**</td>
<td>0.42</td>
<td>0.13</td>
</tr>
<tr>
<td>Intention</td>
<td></td>
<td>0.25</td>
<td>0.26</td>
<td></td>
<td></td>
<td>0.03</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>Past Beh.</td>
<td>0.46</td>
<td>-0.33</td>
<td>-0.20</td>
<td>-0.23</td>
<td></td>
<td>0.22**</td>
<td>0.27</td>
<td>0.13</td>
</tr>
<tr>
<td>Religion</td>
<td>-0.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.06*</td>
<td>-0.25</td>
<td>0.11</td>
</tr>
<tr>
<td>Means</td>
<td>1.88</td>
<td>3.00</td>
<td>2.94</td>
<td>1.78</td>
<td>2.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD's</td>
<td>0.33</td>
<td>0.99</td>
<td>1.00</td>
<td>0.41</td>
<td>1.38</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Intercept 1.13

Means

NB. *** p<0.000, ** p<0.01, * p<0.05; ' Unique variability = 0.37, Shared variability = 0.19

As can be seen in the table, the addition of these variables, greatly increased the degree to which behaviour was predicted. Compared with results presented in Figure 7.7 there was an increase of 41% in variance accounted for (R²) in the new model. Additionally, past behaviour and the importance of religion to the individual were significant contributors to this result. This finding suggests that with regard to
the prediction of behaviour, past behaviour and societal influences (in this case the influence of the importance of religion) can have a direct effect.

In summary, the analysis conducted with respect to hypothesis nine, found that there is a large increase in the variance in behaviour that is accounted for through the addition of these variables.

These, and the findings of the other analyses, will be discussed in more detail in the discussion section below.

Discussion

This discussion will consist of three sections. The first will be a consideration of the results presented above, and will interpret them with reference to the literature upon which the hypotheses were based. The second part of the discussion will consider some of the issues which limit the interpretability of the results. The final section will summarise and conclude the study.

The term normative belief will replace the term subjective norm in the discussion as it more closely reflects the measured factor. In the same way behavioural beliefs will replace the term attitude.

Discussion of results

The first hypothesis was not supported by the data. There was no evidence that the participants in this sample, differed in the variables measured according to gender. Reasons for this may be to do with the type of males who participated in this study, the fact that they were only a small group in comparison to the larger female group, or that there is genuinely no difference. However, further research with a more representative sample would be needed to further clarify this issue. In the context of the present study the result of the first hypothesis meant that data was dealt with as a single group for the remaining analyses.

The results relating to the second hypothesis show that this hypothesis was generally supported by the data. Participants perceived that their parents held more conservative views than their peers regarding all forms of sexual behaviour. It was felt that in accordance with the literature (Emmerich, 1978; Owuamanam, 1983), because
these participants were older, that their normative beliefs were more likely to be aligned with their peers' perceived norms rather than their parents'. While the normative beliefs of participants were closer to their perception of their peers' norms, they were still significantly different. It is possible to infer from these results, that there is a bias towards believing that peers are more permissive than one's self. This would serve the purpose of allowing young adults to justify their normative beliefs and behaviour by believing that their peers were more permissive than they were. At the same time, participants' normative beliefs are not as different from their parents' perceived norms as they believe their peers' were. This may allow young adults to feel that their normative beliefs originate in their family’s belief system. An alternative explanation is that young adult’s normative beliefs are formed through a mixture of both their parents’ and their peers’ norms. The resultant normative beliefs are therefore different from, but fall between, the perceived norms of parents and peers.

Hypotheses three, four, five, six and eight all made predictions relating to sub-components of the TPB, or to the way that the theory would function as a whole. Hypothesis three was concerned with the influence of normative beliefs on intention, hypothesis four with the influence of behavioural beliefs on intention, hypothesis five with the influence of perceived behavioural control on intention, hypothesis six with the influence of intention on behaviour and hypothesis eight with the way that all of these components fitted together as the model proposed adaptation of the TPB through the substitution of normative beliefs and behavioural beliefs for subjective norms and attitude respectively.

Hypothesis seven, stands alone from this group. It considered the influence of past behaviour on the prediction of behaviour in between time one and time two. Although Ajzen (1985, 1988) considered that past behaviour would be accounted for by perceived behavioural control, others have found evidence that past behaviour needs to be considered separately (Drake & McCabe, 1999). The results of analyses supported the hypothesis. This supports the idea that it may be worth considering further, the role that past behaviour may have to play as a separate variable in the prediction of young adult sexual behaviour.

Hypothesis three, that having more permissive normative beliefs would be related to a greater intention to engage in sexual behaviours was supported by the data. Hypothesis four found that behavioural beliefs were related to intention to
engage in sexual behaviour. The analysis of data for hypothesis five also supported the prediction of that hypothesis. The results of the analysis of data in relation to hypothesis six did not overwhelmingly support that hypothesis. Instead, partial support was found which linked intention to behaviour, under the condition of that intention being in the context of a long term relationship. Further, the correlations which were found, although significant, were not strong ones. Thus, these hypotheses which examined the individual parts of the model adapted from the TPB, generally found support, albeit limited at times. These components were then all tested together in hypothesis eight.

The results of the analyses for hypothesis eight can be considered in three stages according to the predicted variable at that stage.

In the first stage it was found that parents’ and peers’ perceived norms were predictive of the normative beliefs of the participants. To a degree this replicates the findings of hypothesis two. Further to this, it allows for an examination of the relative influence of these perceived norms. It is seen that the influence of peers’ perceived views is greater than that of parents’ perceived views. In conjunction with the finding that normative beliefs fell in between, but separately from, parents’ and peers’ perceived norms, the finding that peers’ perceived norms have a greater influence, suggests that young adults do not have a point at which their views about sexual behaviour suddenly switch from being parent influenced to peer influenced. Instead, it would seem that the relative influence between parents and peers changes. The result is that the young person creates a view of the world in which the perceived norms of parents and peers are negotiated and renegotiated to keep the young adults normative beliefs from belonging to either their parents or their peers.

The next step of the analysis considered the contribution of behavioural beliefs, perceived behavioural control and normative beliefs on intention to engage in behaviour. These results were interesting, because if the results of analyses for hypotheses three, four and five were to be taken as a guide, it would be expected that these three variables would combine to make a good predictive set for intention. This was partially true. While perceived behavioural control and behavioural beliefs did contribute significantly to the prediction of intention for all behaviours, normative beliefs were not related to intention to engage in any behaviour, except intercourse. In seeking to understand this, the first obvious point of examination is to look at the
variable normative beliefs. Normative belief was not skewed or kurtotic. There was a
good spread across the range of the variable. It is unlikely that there is a measurement
reason for normative beliefs not being related to intention in the regression. It may be
that normative beliefs for these behaviours in this sample are unrelated to intention.
That is, having an opinion about the appropriateness of a behaviour does not of
necessity lead to an intention as to whether or not to engage in that behaviour. Thus it
does not contribute to intention or behaviour when combined with behavioural beliefs
and perceived behavioural control. Normative beliefs, may also be subsumed by one
of the other variables, and therefore not have any contribution of its own. However, it
is likely that the way in which normative beliefs was operationalised in this study (i.e.
as the participants normative beliefs about the behaviours, as opposed to the more
conventional subjective norm) contributed strongly to this finding.

Perceived behavioural control and behavioural beliefs were very good
predictors of intention and between the two of them accounted for most of the
variability of intention. This suggests that it is likely that young adults have a set of
beliefs about their control and opinions of the outcome of sexual behaviour, that
combine to produce an intention which is consistent with these.

The third section of the analyses examined the way that intention and
perceived behavioural control predicted behaviour. The simplest way to describe these
results is that they were not supportive of the proposed model. Intention was not a
significant predictor of behaviour between time one and time two for any of the
behaviours. Perceived behavioural control, significantly predicted behaviour for all
behaviours, although weakly for hand holding and light kissing. Despite PBC being
significantly related to behaviour, the variance accounted for by the model was
minimal, with intercourse being the best predicted behaviour with 15% of the variance
accounted for, against an average of 5.5% across all six behaviours. Perceived
behavioural control and intention may not as important as opportunity to the
prediction of behaviour. It is also possible that the way in which PBC was
operationalised, although an improvement from the study reported in Chapter 6, still
did not accurately measure the degree of control participants felt they had. It may also
be that while Ajzen (1991) assumes that PBC will be a measure of actual control, in
some behaviours, such as the sexual ones, that may not be so. Another possibility is a
need for a greater degree of specification on the component parts of PBC as
suggested by White et al. (1994). It is also possible that variability in obtaining an opportunity and a consenting partner to engage in sexual behaviour, results in intention being a small part of the determinant of this type of behaviour.

Hypothesis nine considered the degree to which the TPB may be improved in its ability to predict the behaviour of intercourse by the addition of two extra variables. These were past behaviour and influence of religion. In addition, the analysis was restricted to those who were in a long term relationship, and would therefore be expected to have the opportunity to act on their intentions. This was in response to suggestions in the literature that the TPB from which the model tested was adapted may be improved upon by the addition of such variables (Drake & McCabe, 1999; Sheeran & Orbell, 1999). There was a large increase in the prediction of intercourse through the inclusion of these variables. The variability that they accounted for in behaviour, was distinct from that accounted for by the variables previously in the model. This suggests that they are important predictors in their own right and therefore need to be included in a model of the factors influencing young adult sexual decision making.

**Limitations**

Apart from the limitation mentioned above, the most obvious limitation of this study is that in common with many studies of young adult sexual behaviour there is an over-representation of females. The reasons for this are not easy to explain, and any attempts are speculative. Females may be more open to responding to requests to participate in survey research. It may more specifically be that females have a greater interest in the type of issues that this research explores. A letter sent by one of the participants accompanying the return of her time two questionnaire provides some anecdotal evidence for this. She wrote ‘I wanted to do this questionnaire after reading the short article in The Age and disagreeing with it. I thought it was full of traditional stereotypes which don’t represent the majority of people. Of course these thoughts came only from my own experience and the people I know. I’m curious as to what most young people do think about sex. After reading the article I was really glad to have the opportunity to have my say by participating in the questionnaire’
Study two: Young adults

(Anonymous participant - personal correspondence, July 1999). There is also a well known reserve on the part of Australian males to be involved in discussions of personal issues. This may work against achieving a high level of male participation. Whatever the reason, the result is that the application of these findings to a more general male population needs to be done cautiously. As mentioned in relation to hypothesis one, there is a need for further research to clarify gender issues associated with sexual behaviour.

A possible limiting factor of the study is the socio-economic status of the participants. While the study contained participants from all areas of Melbourne, there was a large proportion of the sample who had professional parents. There was also several sub-groups who were not represented in the sample. These include those who are homeless, as a postal address was required to send the survey, those who are unable to read, those who do not read The Age newspaper, and those from cultural backgrounds that would frown upon participation in such a study. Each group which is not included diminishes the extent to which the findings of this study can be generalised.

Another limiting factor that should be mentioned is the self-selected nature of the sample. All of the participants chose to participate. They were also free to request the withdrawal of their data at any time (though thankfully no-one did). The problem with the self-selective nature of the study is that it will possibly bias the sample towards those with a greater interest in the question at hand, as was indicated by the participant's letter above. However, as it is unethical to force people to participate in research, this is a problem that all psychological research must be faced with. As a result there is always going to be an element of uncertainty about this aspect of the sample. Despite the omnipresent nature of this issue, it still needs to be borne in mind.

Summary and Conclusion

This study found little support for the use of a model adapted from the TPB as a mean of predicting the sexual behaviour of young adults. However, the study did find strong support for the ability of this model to predict intention to engage in sexual behaviour. Further, there was evidence that a significant proportion of the variability of participants' normative beliefs concerning sexual behaviours, was
accounted for through the influence of the perceived norms of parents and peers. However, normative beliefs were not found to be an important variable in the prediction of intention.

The present study, as an initial study utilising a model adapted from the TPB to understand the factors influencing sexual decision making in young adults, has found partial support for the use of this model. However, a number of limitations and some inconclusive findings suggest that there is a need for further exploration of the utility of this model in the sexual decision making of young adults.
CHAPTER 8
DISCUSSION

This chapter will focus attention on the broader implications of the findings of the studies reported in this thesis. The chapter will start with a review of the initial aims of the project. It will reiterate the basis in past empirical and theoretical literature for these aims. The next part of the chapter will provide an overview of the findings of the two studies on adolescent and young adult sexual decision making. The issue of whether or not the findings of the studies supported the use of a model adapted from the TPB in this area will then be discussed. Finally, there will be a consideration of the way in which the findings of these studies flow from and extend the literature.

The second half of the discussion will look at the implications of the findings of these studies. In particular the contribution of the findings to the understanding of adolescent and young adult sexual behaviour and decision making will be considered. Another point that will be discussed is the contribution that these findings can make to sexual education programs.

Finally, the limitations of the studies will be reviewed, and suggestions made concerning directions of future research.

Aims of the project

There were a number of specific aims in this thesis. These were developed from more general aims, which in turn arose from the deficits that were found in the literature. The first general aim was to conduct a study which explored factors that were important to sexual decision making in adolescents and young adults. The second general aim was to conduct this study in an empirical way, but with a theoretical basis, which would guide the execution of the study and also make it more amenable to replication and evaluation than much of the previous work on adolescent and young adult sexual decision making.

These general aims led to the development of a set of specific aims for this thesis. The first was to identify an existing theoretical model of behaviour that would incorporate the majority of factors which had been found to be important in past empirical research into adolescent and young adult sexual decision making. This aim
was achieved through the identification of, modification, and subsequent implementation of the TPB (Ajzen, 1985, 1988). This was a theory which had been used to investigate decision making for a number of behaviours such as smoking (Maher & Rickwood, 1997), condom use (Jamner, Wolitski, Corby & Fishbein, 1998; Kashima, Gallois & McCannish, 1993), safe sex behaviour (Terry, Galligan & Conway, 1993; White Terry & Hogg, 1994), and extra-relationship involvement (Drake & McCabe, 1999). While the TPB had been used in regards to sex related behaviours (e.g. condom use) it had never been used to investigate the decision making process in regards to actually engaging in sexual behaviour.

The second specific aim was to use an adaptation of the TPB to extend the knowledge of factors that are important in the sexual decision making process for adolescents and young adults. This was achieved by putting factors identified in previous empirical research into the theoretical framework of the modified model, thus allowing for an examination of their relative importance.

As there had been some suggestion in the literature that factors in the TPB did not fully account for intention or behaviour (Drake & McCabe, 1999; Kashima, Gallois & McCannish, 1993), a third specific aim of this thesis was to see if there were other factors which added to the usefulness of the model adapted from that theory.

The fourth specific aim of the thesis was to use the structure of the model to examine possible gender differences in the predictions derived from it. This was not possible in the adolescent study, due to the use of an all male sample. In the young adult sample, results were examined for evidence of a difference due to gender.

These aims were used as guides, in conjunction with the appropriate literature, and the constraints of the TPB in the planning of hypotheses to be tested in the studies which have been reported in Chapters 6 and 7. A brief review of the main findings of those studies now follows.

Findings of the studies

As the two studies considered essentially the same hypotheses, but with different samples, where appropriate, they shall be discussed, hypothesis by hypothesis, together. The first study of this thesis was a study of sexual decision
making among adolescent males using the TPB as a basis for an adapted model. Three of the four specific aims were represented in this study. The fourth aim, concerning gender differences was not relevant to this study as it was not possible to obtain female participants. The second study, while identical in theoretical basis, considered the same questions but with an older sample, and one in which both genders were represented. In the second study, all four of the specific aims were examined. From specific aims, seven hypotheses for study one, and nine hypotheses for study two were generated. These hypotheses were then tested on the participants in the respective studies. A summary of the findings of the investigation into each hypothesis will be provided, and then the findings of the studies will be considered with respect to the specific aims, and also the more general aims from which they derived.

The first hypothesis of study two sought to find a difference between males and females on the variables measured. No difference was found. This is contrary to previous research which has found differences between males and females in regard to these types of attitudes concerning sexual behaviour (Christopher & Cate, 1984; DeGaston et al., 1996; Gerrard et al., 1990). It may be that the low numbers of males or some bias in the type of males who responded, led to this result. As mentioned, it will require more research to further clarify the role of gender, if any, in sexual decision making.

The first hypothesis of study one and hypothesis two of study two, predicted that parents will be perceived to hold more conservative norms than peers, and that participants’ normative beliefs will fall between parents’ and peers’ perceived norms. In the first study the first part of this hypothesis was found to be supported by the data. Parents were perceived to hold more conservative norms regarding all of the sexual behaviours, than peers. The second study also found that parents were perceived to hold more conservative norms than peers. That parents should be perceived as having more conservative norms comes as no surprise. Several studies have found that when compared to peers, parents are perceived to hold more conservative views with regards to sexual and other behaviours (Daugherty & Burger, 1984; Emmerich, 1979; Owuamanam, 1983; Whitbeck, Conger & Kao, 1993). The second part of this hypothesis was based on literature which suggested that as adolescents moved through adolescence and into young adulthood, the degree to which they would be influenced in normative beliefs and behaviour by parents would
diminish. At the same time it was proposed that there would be an increase in the relative influence of peers (Emmerich, 1978, Owuamanam, 1983; Smith, Udry & Morris, 1985), although this may just be selection of peers with normative beliefs more similar to the individual’s (Werner-Wilson, 1998). The first study examined these differences on a behaviour by behaviour basis. The first study found that participants’ normative beliefs were different from their parents’ perceived norms for prolonged kissing, breast and genital petting, and intercourse. However, there was only a difference between participants’ normative beliefs and perceived peer norms for breast petting. Thus, instead of being in the middle of parents’ and peers’ perceived norms, the participants in this sample, were more aligned with the perception they had of their peers’ norms towards sexual behaviour. This suggests that those comprising this sample, had moved from being parent oriented to peer oriented. In order to further explore this it may be necessary to conduct research with a sample that included younger participants. However, the ethical difficulties may make this an unenviable task. In the second study with the older sample, a similar but slightly different pattern was found. In this study it was revealed that there was a difference between the perceived norms of parents and the normative beliefs of participants. There was also a difference between the perception of peers’ norms and the normative beliefs of participants, although this was a much weaker difference. The implication of this is that as subjects get older, they maintain differences in their perception of their parent’s and peer’s norms, but in this sample, they also maintain their independence from being fully aligned on these behaviours with either group.

The second hypothesis of study one, and the third hypothesis of study two was that having normative beliefs which were more permissive will lead to a greater intention to engage in sexual behaviour. The analyses of both studies found that there was support for this hypothesis. Given the age differences between the samples of the two studies, it would seem that the relationship between normative beliefs and intention is one which is not affected by development. What may be affected, and was not considered in this study, is the degree to which normative beliefs themselves change over time, and what prompts these changes, if indeed any changes occur.

The third hypothesis of study one and the fourth hypothesis of study two, was that having a behavioural belief that suggests positive outcomes of sexual behaviour are more likely than negative outcomes, will lead to a stronger intention to engage in
sexual behaviours. There was a good deal of concordance between the two studies in relation to this hypothesis also. They both found a relationship between behavioural beliefs and intention only for more intimate behaviours at all relationship levels. Study one found that there was a relationship between behavioural beliefs and intention to engage in less intimate behaviours in a long relationship. Study two found a relationship between behavioural belief and intention to engage in less intimate behaviours with someone with whom there had been a relationship for a short while.

Very few of the studies based on the TPB have considered the context of behaviour. In these studies behaviour was placed (for most analyses) into one of three relationship contexts. The findings of these studies, based on an adaptation of the TPB, suggest that there is an interaction between behavioural belief and the context in which a behaviour occurs, in this case, the length of a relationship in which the sexual behaviour is occurring. Further research is possibly needed to explore the extent to which context bears on relationships between component parts of this model and the TPB.

The fourth hypothesis of study one and the fifth hypothesis of study two, was that having more perceived behavioural control over involvement in sexual behaviours would be related to the level of intention to engage in those behaviours. The two studies measured perceived behavioural control (PBC) in two different ways, so that comparison between these findings will not be possible. In study one the question was framed in a passive way, as opposed to study two where, as has been described in chapter 6, the question was framed in an active way. Despite this, both studies found significant correlations between PBC for more and less intimate behaviours at all relationship levels and intention to engage in sexual behaviours. This is in accordance with previous studies utilising the TPB, which have found a relationship between PBC and intention in the study of sex related and other behaviours (Beck & Ajzen, 1991; Drake & McCabe, 1999; Reinecke, Schmidt & Ajzen, 1996, Terry, Galligan & Conway, 1993).

The fifth hypothesis of study one and the sixth hypothesis of study two, predicted that intention to engage in a behaviour at time one will predict whether or not that behaviour occurred in between time one and time two. This hypothesis was examined behaviour by behaviour. Neither study found any support for the hypothesis with respect to holding hands. There was no support for the hypothesis with regard to
light kissing in study two, but there was in study one. Analyses involving all other
behaviours supported the hypothesis. Once again though there appeared to be an
effect of context. That is, that for some behaviours the relationship between intention
and present behaviour was only evident at certain relationship levels.

The sixth hypothesis of study one and the seventh hypothesis of study two,
was that past experience of sexual behaviour will be related to whether or not sexual
behaviour occurred between time one and time two. Both studies found that having
engaged in a sexual behaviour prior to time one was significantly correlated with
engaging in the same behaviour in between time one and time two. Further, there
were correlations between having engaged in a sexual behaviour prior to time one and
engaging in other behaviours at time two. Although past behaviour is meant to be one
of the factors taken into account in PBC, some studies have suggested that it needs to
be considered as a separate factor in the prediction of behaviour (e.g. Drake &
McCabe, 1999). This finding provides evidence of a relationship between past and
current behaviour, but does not invalidate the claim that PBC “contains” past
behaviour.

The seventh hypothesis of study one and the eighth hypothesis of study two,
was that the variables in the model adapted from the TPB would account for most of
the variance in the prediction of both intention and behaviour. In study one, intention
to engage in all behaviours was significantly predicted. However, behavioural belief
was not a significant predictor for any behaviour and PBC was only a predictor for
less intimate behaviours. Despite this an average of 52% of the variance in intention
was predicted in study one. In study two, variance in intention to engage in hand
holding was not significantly accounted for despite two of the three predictors being
significantly related to intention for hand holding. However, for the five other
behaviours, intention was significantly predicted, albeit with normative belief being an
insignificant predictor for all behaviours. PBC and behavioural belief did however,
account for an average 34.5% of the variance in intention across all behaviours. For
behaviour the results were not as good. In study one, an average of only 21.16% of
the variance in behaviour was predicted by intention and PBC (the latter only being
significant for light kissing). In study two, where PBC was measured differently, PBC
and intention only accounted for an average of 5.5% of the variance in behaviour.
Although the average amount of variance in behaviour accounted for by the TPB is
26.1% (Ajzen, 1991; Orbell, Hodgkins & Sheeran, 1997), the amount accounted for in these studies is below that, in the case of study two, substantially so. This difference between the prediction of intention and behaviour suggests that for sexual behaviour, other factors, not covered in this adaptation of the TPB play a role. It is also possible that the operationalisation of PBC did not accurately portray this factor.

There has been some discussion in the literature about the value of measuring implementation intentions (ie ascertaining exactly when and how the individual will implement the intended behaviour) as a means of improving the performance of behaviours (Orbell, Hodgkins & Sheeran, 1997; Sheeran & Orbell, 1999). However, sexual behaviour is not similar to several other forms of behaviour in that it requires opportunity, which adolescents and young adults may not have in abundance. Thus opportunity may be the important factor, the addition of which would increase the predictive validity of the model for sexual behaviour. The TPB arose because Ajzen saw a need to extend the TRA into the areas where individuals did not have complete volitional control, hence the inclusion of PBC. However, while the TPB has been used to look at sex related behaviour, most notably safe sex behaviour such as condom use, these are still behaviours which presuppose the agreement of another person to engage in sexual behaviour with the individual. Thus opportunity is automatically assumed. With sexual behaviour however, while intention may be relatively accurately measured, the conversion of intention to behaviour relies upon opportunity. It may be that in these samples, opportunity for sexual behaviours was not forthcoming in the period between the measurement of intention and behaviour. It could therefore be argued that opportunity is the variable that would account for much of the missing variance. In addition there have been suggestions that past behaviour needs to be considered in the prediction of intention (Drake & McCabe, 1999). Along with this several studies have investigated the role that religious belief may play in influencing sexual behaviour. It was on this basis that hypothesis nine of study two considered the influence of the addition of these three factors on the prediction of intercourse from the model adapted from the TPB. Hypothesis nine was only conducted in study two, and produced interesting results. There was a large impact of the addition of these variables, on the degree to which actually engaging in the behaviour was predicted. Among those who had opportunity, the addition of past behaviour and importance of religion, were significantly related to engaging in the behaviour. In addition, the
addition of past behaviour and importance of religion, and the consideration of the prediction of behaviour among those with opportunity, increased the amount of variance explained in behaviour from 15% to 56%, an increase of nearly four times. This suggests that the prediction of behaviour is complex, and requires the consideration of more factors than suggested by the model adapted from the TPB.

The discussion shall now proceed to an examination of whether or not these results support the use of the model adapted from the TPB as a theoretical basis for the exploration and understanding of adolescent and young adult sexual decision making.

Is this adaptation of the TPB a good theory for this area?

The TPB was designed to be applicable to the prediction of a wide range of behaviours. As has been discussed, evidence of its predictive ability has been gathered from a diverse set of behaviours, by researchers working in several different countries. These behaviours include weight loss (Schifter & Ajzen, 1985), exercise behaviour (Kerner & Grossman, 1998) medication compliance in psychiatric populations (Conner, Black & Stratton, 1998), road safety behaviour (Evans & Norman, 1998) recycling behaviour (Boldero, 1995) and ecstasy use (Conner, Sherlock & Orbell, 1998) among others. It has also been used to look at a number of sex related behaviours, most notably condom use (Boldero, Moore & Rosenthal, 1992; Conner & Graham, 1993; Rannie & Craig, 1997, Richardson, Beazley, Delaney & Langille, 1997; Sutton, McVey & Glanz, 1999). However, the use of the TPB as a theoretical basis for developing an understanding of adolescent and young adult sexual behaviour has not previously been considered.

While there has been much research carried out into the reasons why adolescents and young adults engage in sexual behaviour, much of it has been carried out independent of a theoretical structure (Goodson, Evans & Edmundson, 1997). The lack of a theoretical structure presents many difficulties in the future use of results. These include an inability to develop intervention programs, and difficulty in
replicating results, thus slowing the consolidation and development of knowledge about sexual behaviour. This study took several of the factors which had been found to be important in exploratory research into the reasons why adolescents and young adults engage in sexual behaviour and sought to fit them into a model. The TPB was chosen as a basis for these studies due to the ability of the model to be able to accommodate the factors which the empirical literature had identified as being important. In its use of a model adapted from the TPB, this study sought to overcome these limitations on the use of the results.

In deciding whether or not the TPB is a good theory to guide research into the sexual decision making of young adults and adolescents, consideration will be made of the way that the theory performed in the reported studies. This will include discussion of which factors “performed” well, which didn’t, and which factors were added to the model and how these enhanced the model. Consideration will be given as to why factors did well or otherwise.

Aspects of the model tested which performed well

There are two areas that need to be discussed in the evaluation of whether the adapted TPB is a good model to use for studying adolescent and young adult sexual decision making. The first is a consideration of the positive aspects of the model. That is the topic of this section of the discussion. The second part, which will be dealt with following the present section, is a consideration of the parts of the model which did not work as well.

Several factors were identified in the introduction which had all been found to be related to adolescent and young adult sexual decision making. Important among these were factors such as the perceived normative values of certain groups such as family (usually meaning parents) and peers, the individual’s own ideas about sexual behaviour and the consequences that the behaviour was perceived to hold. It was suggested by some researchers that the gender of the decision maker effected the relevant factors involved in making the decision.

The first way in which the model adapted from the TPB appears to be a good model to base further research in this area on, is that it is inclusive of the above
mentioned factors in its structure. It posits that these factors do not directly affect decision making, but contribute to factors which do. In this way, a role is found for nearly all of the variables that have previously been identified as being involved in adolescent and young adult sexual decision making.

The second way in which the model performed well was in the prediction of both normative beliefs, and in the prediction of intention. In both studies, and with respect to both normative beliefs and intention, the model accounted for up to 60% of variance in those variables. This suggests that the model should continue to be developed to further increase the degree of prediction provided. While on a global level, this is indicative of a successful model, on a more specific level, there were parts of the theory which did not work as well. These will be considered below.

**Aspects of the model tested which did not perform well**

Despite the fact that portions of the model performed well, there were some areas of the model which did not perform well. These can be broken down into two main sections. Specific facets of the model which did not perform as expected, and predictions which were not as good as those found in other research which has utilised the TPB.

One of the main differences between study one and two was the role of behavioural beliefs. In study one, behavioural beliefs had no relation to intention. However, in study two, there was a significant amount of relation between behavioural beliefs and intention. The opposite pattern was observed for the role of normative beliefs. There may be a number of reasons for this difference in results. The most obvious explanation is the differences between the participants in the two studies. If this difference in results, resulted from differences between the two samples in respect to age, then it would suggest that experience causes behavioural beliefs to have more of an impact on intention. Concurrently, it could also be suggested that experience reduces the degree to which intention is affected by either the perceived norms of others, or by the normative beliefs that one holds about the behaviour. In this way as age increases, intention to engage in a behaviour comes more from the individuals beliefs about the outcome, which are more likely to be based on experience. Alternatively, it is possible that these different results are artefacts of the
different techniques used to analyse the data. This could be resolved by collecting data on enough adolescents to conduct SEM on that sample.

The second notable facet was the failure of PBC to be a significant predictor of intention for the prolonged kissing and the more intimate behaviours (breast petting, genital petting and intercourse) in study one. There are a number of possible explanations as to why this was the case, especially when PBC performed so well in study two. The first possible explanation would be to do with the sexual experience of the two groups. In study one, the proportion of participants who had experienced the more intimate behaviours was far less than the proportion who had done so in study two. Thus, it would be expected that their perceived control over the behaviour would be less informed by experience. The second possible explanation is to do with the different nature of the measures used in study one and study two. In study two a more active question concerning PBC was asked, as opposed to the more passive question in study one. This difference may have resulted in a more accurate measure of PBC in study two, and thus a greater relationship to both intention and behaviour. A third alternative explanation is that some combination of the two previous explanations resulted in this finding. The increased relationship found in study two between PBC and both intention and behaviour, suggests that the use of more active questions would be advisable for further research into this area.

The prediction of behaviour, although significant, was poor in comparison with other studies based on the TPB. Ajzen (1991), reviewed a number of studies and found that on average 26% of the variance in behaviour was accounted for through the model of the TPB. The two studies reported here found a much lower level, 21.16% in study one and 5.5% in study two. This suggests that for sexual behaviours, the model of the TPB is not, by itself, adequate to explain these behaviours, and that other factors influence participation in such behaviour. When other factors were considered for the behaviour of intercourse, the proportion of variance in behaviour which was explained, increased from 15% to 56%. The implication of this is that future research needs to explore the benefit of including other variables in the prediction of behaviour.

Another aspect that needs to be considered in evaluating the usefulness of the TPB as a basis for models exploring this area, is the way in which it can build on the
findings of past research. The ways in which the findings of this thesis, relate to the past research will now be discussed.

Relation of the current study to past research

The literature on the factors effecting adolescent and young adult sexual decision making could be described as existing in two separate spheres, which rarely have contact with each other. The first is the empirical sphere which has identified a number of factors which are described as being important to adolescent and young adult sexual decision making. The second sphere is that of the theoretical literature. This thesis sought to bridge these two spheres, using a theoretical model in an empirical investigation of the factors which may effect adolescent and young adult sexual decision making. The degree to which this can be shown to flow from and extend the literature will be another measure by which the utility of this adaptation of the TPB can be measured.

In the last thirty years there has been a number of theories proposed to explain adolescent and young adult sexual behaviour (D’Augelli & D’Augelli, 1977; Gordon, 1996; Juhasz & Sonnenshein-Schneider, 1980, 1987; Jurich & Jurich, 1985; Lock & Vincent, 1995, Pinkerton & Abramson, 1992; Reiss, 1967). However, to greater and lesser degrees, these theories have not fared well when exposed to rigorous empirical evaluation. One of the reasons which might explain such a finding is that many of these theories were developed specifically to explain sexual behaviour. Consequently, as time has passed, it is possible to look back on some of them, and see that implicit in these theories are value judgements about young people engaging in sexual intercourse. These value judgements are likely to have reduced the possibility of an objective and scientific examination of sexual behaviour. However, all of the theories have in common, the concept that the best way to understand sexual behaviour is to approach it from a theoretical perspective. There are two ways of doing this. The first is to develop a theory about sexual behaviour. However, as mentioned, there are dangers associated with this, such as imposing prevailing moral or cultural standards onto the model. The second way is to take a generic model of behaviour and apply it to the behaviour in question. This has been an approach used in the last few years in
particular (Lock & Vincent, 1995; Pinkerton & Abramson, 1992). The benefits of this approach are that the model is concerned with generic behaviour, and thus there are no implicit value judgments. The next step in this way of approaching theory selection, is to choose a theory which is relevant to the behaviour, and which can encompass much of the relevant past empirical research. The TPB is such a theory. In this way the use of the TPB can be seen in a continuum of theoretical development that has moved away from behaviour specific theories, to the use of generic theories applied to specific behaviours. The results of the studies support the use of the theory in the sense that theories inform empirical work, and then, on the basis of the results of that work, may need to be revised themselves. Thus the use of an adaptation of the TPB as a basis for research into sexual decision making can be said to have bridged the theoretical sphere of past adolescent and young adult sexual decision making research. A consideration of whether it has achieved the same end with respect to past empirical results now follows.

It could be argued that any theory can be added to the end of a list of theories that have gone before it and be said to succeed them. The important question is, whether a theory can not only be seen to add to the theoretical background, but also incorporate and explain the existing empirical literature. With respect to influences on sexual decision making, several factors have been demonstrated in the empirical literature to have a role. The most consistently demonstrated of these are religion, gender and influence of family and peers. The model adapted from the TPB is able to easily incorporate these. In addition, it is possible to add to the theory results from empirical findings. The results of the studies reported in this thesis show that the adaptation of TPB is a useful model as a base from which to explore influences on adolescent and young adult sexual decision making. For example, empirical research of the past which was atheoretical would possibly have found that importance of religion, opportunity and past behaviour, along with influence of family and peers were important to a young person making a decision about whether to engage in sexual behaviour or not. However, lacking the theoretical structure provided by the TPB, would not have been able to show where in the decision making process, that the variables were important.

Thus the use of an adaptation of the TPB as a theoretical base, allows for the empirical findings of past research to be incorporated, explored, explained, and
expanded upon. At the same time, this adaptation of TPB can be seen to fit into a
developmental continuum of theoretical thought attempting to explain adolescent and
young adult sexual decision making.

**Summary and a modified model**

The adaptation of the TPB is not a sufficient model on its own to adequately
predict engaging in sexual behaviour among adolescent males and young adults.
However, this adaptation of TPB is a promising model for the exploration of this area.
Firstly, the degree to which both normative beliefs and intentions were predicted by
the model was very good. Secondly, the model effectively bridges the gap between
empirical research and theoretical literature, a bridge which has been largely missing
from past research (Goodson et al., 1997). Thirdly, the model adapted from the TPB
allows for an appreciation of the way in which different factors contribute to a
decision to engage in sexual behaviour, or to an intention to do so. Finally, the model
adapted from TPB has a structure which can be added to in the light of empirical
testing. This allows the model to be developed, and as its development occurs,
become more accurate in the prediction of sexual behaviour. With these
considerations, it is possible to say that the adaptation of the TPB is a promising
model upon which to base empirical exploration of adolescent and young adult sexual
decision making.

As mentioned, the structure of the model allows for development in the light
of empirical findings. Figure 8.1, below, presents the modification of the model used
in the studies reported in the light of the findings of the present thesis. This evolved
model incorporates opportunity, past behaviour and importance of religion. The
model presented is not offered as a final answer, but as a model to be explored in
order to further the evolution towards a more accurate model.
Broader implications

This discussion has focused on the issue of whether or not the adaptation of the TPB is a suitable theoretical base to use in the examination of adolescent and young adult sexual decision making. However, while this has been necessary, some consideration must also be given to the broader implications of this research, and the way in which the knowledge gathered can be applied to beneficial ends.

In their review of research relating to onset of sexual intercourse in females, Goodson et al. (1997) discussed the fact that in order for interventions to be assessed, the research which produces them needs to be theoretically based. With this in mind, the discussion will now consider some of the implications of the results reported in this thesis.

One of the most interesting results which has not yet received attention in this discussion is the perceived norms of peers, and the degree to which these had influence on normative beliefs. There was a common belief that participants' peers had more permissive beliefs than the participants themselves did. This trend, although not always significant, was evident in both studies. Direct peer pressure may not be important here, but pressure to restore a perceived level of experiential equality may possibly be leading some adolescents towards premature sexual activity. An
intervention which focuses on exposing this distortion may be beneficial, particularly to younger adolescents.

As the model is further developed to increase understanding of adolescent and young adult sexual decision making, it is to be hoped that the increased understanding of the processes involved, will allow for the design and implementation of intervention strategies. These strategies would aim to educate adolescents, and possibly younger children, in order that they make more informed decisions about their sexual behaviour, both in terms of becoming involved, and in being safe should they choose to do so.

Limitations

There are a number of limitations which need to be borne in mind with regard to the findings reported in this thesis. The limitations cause restrictions in the degree to which the findings can be generalised.

Foremost among the limitations that need to be considered, and as has been previously mentioned, that due to the operationalisation of some of the factors, this study did not test some components of the TPB. Instead the model of the TPB was adapted using two other factors, normative beliefs and behavioural beliefs.

The next limitation is the nature of the participants in study one. These were all males from a single school. Thus any generalisation of the findings beyond adolescent males at that school is speculative. While this is a limitation, it may also be seen as a first step in the use of this model for this purpose. Future research would need to use a broader sample, which included participants from more backgrounds, and of both genders. It is hoped however, that the speculative evidence found in a study such as this, will be able to be used by future researchers to obtain a greater level of cooperation from educational authorities in allowing access to adolescents.

The sample in study two was far more representative, in that it was drawn from a diverse number of sources in the community. However, it was biased in terms of the number of females represented in it. While there were no gender differences found in the analyses conducted, it may be that these exist but were missed because of the small number of males in the sample. Thus it cannot be said that the same factors
and the same structure based on this adaptation of the TPB, are equally applicable to males and females. Further research with a representative community sample is needed to clarify this issue.

Another limiting factor is the fact that all of the participants in these studies chose to participate. This in itself might have biased the sample, and thus limited its generalisability, towards those who have a specific interest in sexual issues.

**Conclusion**

**General summary**

This thesis has reported on a theoretically driven exploration of factors influencing adolescent and young adult sexual decision making. It has utilised the TPB as a theoretical basis for this purpose. The results of longitudinal studies reported in the thesis suggest that a model adapted from the TPB is adequate in predicting intention to engage in behaviour, but that other variables, such as past behaviour, influence of religious beliefs and opportunity need to be added to the theory to provide a more robust prediction of behaviour. Further investigation and refinement of measures is now required to develop this model.

**Future research**

This thesis has provided a basis for further theoretically based research into adolescent and young adult sexual behaviour. There are a number of areas into which this research could initially expand, as the factors which best explain adolescent and young adult sexual decision making are identified, evaluated, and fitted into the model. The first area would be to more closely examine the utility of the model in the adolescent population. This would include the participation of females. The second area of research would be to examine the influence of culture on sexual decision making, via the model. It would also be interesting to conduct a study which followed the development of a group of participants through high school and into the first years of post secondary life. This would allow for an examination of the role of development in sexual decision making. It may also allow for an answer to the
question of whether individuals find friends with similar attitudes, or whether the
friendship group influences attitudes.

This thesis has provided an initial investigation of a model derived from the
TPB as a theoretical basis for exploring factors influencing adolescent and young
adult sexual decision making. It found that the model was a useful basis for such a
study, but in the prediction of behaviour additional factors need to be considered. This
provides a basis for the further exploration of factors involved in adolescent and
young adult sexual decision making using this model. Results of such investigations
could be utilised in designing sexual education programs, through developing an
understanding of which factors are important to an adolescent or young adult in
making a decision as to whether or not to engage in sexual behaviour.
REFERENCES


References


SPSS. (1997). SPSS 8.0 (Computer software).


APPENDICES
Appendix A1 - Questionnaire Section One

Instructions: For each of the following statements please circle the response which you most agree with. For example if your parents would approve of you holding hands with someone then circle approve in the list below the first statement. Continue to mark each statement with the level of approval that you think your parents would have for each behaviour.

1. What level of approval do you think your parents would have of you doing the following things with a person you were attracted to but not going out with.
A) Hand holding: holding hands or locking arms, generally while walking.
B) Light kissing.
C) Hugging and prolonged kissing.
D) Breast petting.
E) Genital petting.
F) Intercourse.

2. What level of approval do you think your parents would have of you doing the following things with a person you had been going out with for a short time.
A) Hand holding: holding hands or locking arms, generally while walking
B) Light kissing.
C) Hugging and prolonged kissing.
D) Breast petting.
E) Genital petting.
F) Intercourse.
3. What level of approval do you think your parents would have of you doing the following things with a person you had been going out with for a long time.

A) Hand holding: holding hands or locking arms, generally while walking.

B) Light kissing.

C) Hugging and prolonged kissing.

D) Breast petting.

E) Genital petting.

F) Intercourse.
Appendices

Instructions: For the next statements, circle what you think would be your friend’s level of approval of you doing the activities described.

4. What level of approval do you think your friends would have of you doing the following things with a person you were attracted to but not going out with.
   A) Hand holding: holding hands or locking arms, generally while walking.
   B) Light kissing.
   C) Hugging and prolonged kissing.
   D) Breast petting.
   E) Genital petting.
   F) Intercourse.

5. What level of approval do you think your friends would have of you doing the following things with a person you had been going out with for a short time.
   A) Hand holding: holding hands or locking arms, generally while walking.
   B) Light kissing.
   C) Hugging and prolonged kissing.
   D) Breast petting.
   E) Genital petting.
   F) Intercourse.
6. What level of approval do you think your friends would have of you doing the following things with a person you had been going out with for a long time.
A) Hand holding: holding hands or locking arms, generally while walking.
B) Light kissing.
C) Hugging and prolonged kissing.
D) Breast petting.
E) Genital petting.
F) Intercourse.
Instructions: For the following statements indicate your level of approval for somebody of your age engaging in the following behaviours.

7. What level of approval would you have for a person of your age doing the following things with somebody that they were attracted to but not going out with.
   A) Hand holding: holding hands or locking arms, generally while walking
   B) Light kissing.
   C) Hugging and prolonged kissing.
   D) Breast petting.
   E) Genital petting.
   F) Intercourse.

8. What level of approval would you have for a person of your age doing the following things with somebody that they **had been going out with for a short time**.
   A) Hand holding: holding hands or locking arms, generally while walking
   B) Light kissing.
   C) Hugging and prolonged kissing.
   D) Breast petting.
   E) Genital petting.
   F) Intercourse.
9. What level of approval would you have for a person of your age doing the following things with somebody that they had been going out with for a long time.
A) Hand holding: holding hands or locking arms, generally while walking.
B) Light kissing.
C) Hugging and prolonged kissing.
D) Breast petting.
E) Genital petting.
F) Intercourse.
Appendix A2 - Questionnaire Section Two

Section Two

Instructions: For the following statements indicate if you would engage in the different behaviours for the different levels of relationship.

1. If the opportunity arose to engage in the following behaviours, would you do so with someone you were attracted to but not going out with?
   A) Hand holding: holding hands or locking arms, generally while walking.

   B) Light kissing.

   C) Hugging and prolonged kissing.

   D) Breast petting.

   E) Genital petting.

   F) Intercourse.

2. If the opportunity arose to engage in the following behaviours would you do so with someone you had been going out with for a short time?
   A) Hand holding: holding hands or locking arms, generally while walking.

   B) Light kissing.

   C) Hugging and prolonged kissing.

   D) Breast petting.

   E) Genital petting.

   F) Intercourse.
3. If the opportunity arose to engage in the following behaviours would you do so with someone you **had been going out with for a long time**?

A) Hand holding: holding hands or locking arms, generally while walking.

B) Light kissing.

C) Hugging and prolonged kissing.

D) Breast petting.

E) Genital petting.

F) Intercourse.
Appendix A3 - Questionnaire Section Three

Instructions: For the following statements, if you have engaged in the behaviour mentioned, put a circle around the type of relationship you had with your partner at the time. For example if you had engaged in genital petting with someone you had been going out with for a long time, circle going out for a long time. If you have never engaged in the behaviour circle not engaged in the behaviour. You can circle more than one response if necessary.

A) Hand holding: holding hands or locking arms, generally while walking.
   1. Attracted but not going out
   2. Going out for a short time
   3. Going out for a long time
   4. Not engaged in the behaviour

B) Light kissing.
   1. Attracted but not going out
   2. Going out for a short time
   3. Going out for a long time
   4. Not engaged in the behaviour

C) Hugging and prolonged kissing.
   1. Attracted but not going out
   2. Going out for a short time
   3. Going out for a long time
   4. Not engaged in the behaviour

D) Breast petting.
   1. Attracted but not going out
   2. Going out for a short time
   3. Going out for a long time
   4. Not engaged in the behaviour

E) Genital petting.
   1. Attracted but not going out
   2. Going out for a short time
   3. Going out for a long time
   4. Not engaged in the behaviour

F) Intercourse.
   1. Attracted but not going out
   2. Going out for a short time
   3. Going out for a long time
   4. Not engaged in the behaviour
Section Three (time two)

Instructions: For the following statements, if you have engaged in the behaviour mentioned in the last six months, put a circle around the type of relationship you had with your partner at the time. For example if you had engaged in genital petting with someone you had been going out with for a long time, circle going out for a long time. If you did not engage in the behaviour in the last six months circle Not engaged in the behaviour. You can circle more than one response if necessary.

A) Hand holding: holding hands or locking arms, generally while walking.
1. Attracted but not going out
2. Going out for a short time
3. Going out for a long time.
4. Not engaged in the behaviour

B) Light kissing.
1. Attracted but not going out
2. Going out for a short time
3. Going out for a long time.
4. Not engaged in the behaviour

C) Hugging and prolonged kissing.
1. Attracted but not going out
2. Going out for a short time
3. Going out for a long time.
4. Not engaged in the behaviour

D) Breast petting.
1. Attracted but not going out
2. Going out for a short time
3. Going out for a long time.
4. Not engaged in the behaviour

E) Genital petting
1. Attracted but not going out
2. Going out for a short time
3. Going out for a long time.
4. Not engaged in the behaviour

F) Intercourse.
1. Attracted but not going out
2. Going out for a short time
3. Going out for a long time.
4. Not engaged in the behaviour
Appendix A4 - Questionnaire Section Four (Study one)
(Only given to participants in study one)

Section Four

1. In this section imagine yourself in a situation with a person you are attracted to but not going out with. They want to engage in the activities below. How comfortable would you feel about engaging in each activity? Would you feel completely in control of whether or not you participated? Circle the level of control you would feel over each behaviour.

A) Hand holding: holding hands or locking arms, generally while walking.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

B) Light kissing.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

C) Hugging and prolonged kissing.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

D) Breast petting.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

E) Genital petting.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

F) Intercourse.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.
2. Imagine yourself in a situation with a person you had been going out with for a short time. They want to engage in the activities below. How comfortable would you feel about your participation? Would you feel completely in control of whether or not you participated? Circle the level of control you would feel over each behaviour.

A) Hand holding. holding hands or locking arms, generally while walking.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

B) Light kissing.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

C) Hugging and prolonged kissing.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

D) Breast petting.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

E) Genital petting.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

F) Intercourse.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.
3. Imagine yourself in a situation with a person you had been going out with for a long time. They want to engage in the activities below. How comfortable would you feel about your participation? Would you feel completely in control of whether or not you participated? Circle the level of control you would feel over each behaviour.

A) Hand holding: holding hands or locking arms, generally while walking.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

B) Light kissing.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

C) Hugging and prolonged kissing.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

D) Breast petting.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

E) Genital petting.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.

F) Intercourse.
1. I would be completely in control of my decision whether or not I participated
2. Although I may feel pressure I would still feel as if I was in control of deciding whether or not I participated
3. I would not be in full control of deciding whether or not I participated
4. I would participate even though I did not feel comfortable about it.
Appendix A5 - Questionnaire Section Five

Section Five

Instructions: Rate how likely you feel the following things would be as a consequence of having sex. For example if you think it is very likely that you would feel better about your body if you had sex, circle extremely likely for that statement.

Having sex would generate positive feelings for me

Having sex may result in an unwanted pregnancy

If I had sex I would feel more loved

I would feel better about my body if I had sex

I may catch a sexually transmitted disease if I have sex

Sex would be a physically pleasurable experience

Sex would complicate a relationship

I may feel used if I had sex

I would feel more embarrassed about my body if I had sex
If you have engaged in any of the following activities, please state how old you were and how old your partner in the behaviour was the first time that you did them.

A) Hand holding: holding hands or locking arms, generally while walking.
   My age_________     Partners age_________

B) Light kissing.
   My age_________     Partners age_________

C) Hugging and prolonged kissing.
   My age_________     Partners age_________

D) Breast petting.
   My age_________     Partners age_________

E) Genital petting.
   My age_________     Partners age_________

F) Intercourse.
   My age_________     Partners age_________
Appendix A6 - Questionnaire Demographic Section - Study One

Birthdate:

Sex: Male Female

Last four digits of your phone number: _____ (This is necessary so that your data from next year can be added to your data from this year. This information cannot identify you as an individual.)

Parent's occupations: Mother Father

Do you currently have a girlfriend: Yes No

If yes, how long have you been going out with them: _____________________

How often do you see them: 1. Every day
2. 3 - 6 times per week
3. 1 - 2 times per week
4. Less than once a week

How often do you talk on the phone with them: 1. More than once a day
2. Once a day
3. 3 - 6 times per week
4. 1 - 2 times per week
5. Less than once a week

Do you live with: 1. Both Parents
2. Mother
3. Father
4. Other

Do you have any brothers or sisters? Yes No
If yes, how many? Which number child are you?

Do you have a religion? Yes No
If yes, how often do you attend religious services?
1. Weekly
2. Monthly
3. Yearly
4. Never

How important is religion to you?
1. Very important
2. Important
3. Not too important
4. Not important at all
Appendix A7 - Demographics for study two

Birthdate:

Sex: Male   Female

Last four digits of your phone number: _ _ _ _ (This is necessary so that your data from next year can be added to your data from this year. This information cannot identify you as an individual.)

Parent's occupations: Mother ___________ Father ___________

Do you currently have a steady partner: Yes   No

If yes, how long have you been going out with them: ______________________________________________________________________

How often do you see them: 1. Live with them
2. Every day
3. 3 - 6 times per week
4. 1 - 2 times per week
5. Less than once a week

How often do you talk on the phone with them: 1. More than once a day
2. Once a day
3. 3 - 6 times per week
4. 1 - 2 times per week
5. Less than once a week

Do you live with: 1. Both Parents
2. Mother
3. Father
4. Partner
5. Other ______________________________________________________________________

Do you have any brothers or sisters? Yes   No.
If yes, how many? ___________ Where in the family are you? (eg 1st) ___________

Do you have a religion? Yes   No
If yes, how often do you attend religious services?
1. Weekly
2. Monthly
3. Yearly
4. Never

How important is your religion to you?
1. Very important,
2. Important
3. Not too important
4. Not important at all
Appendix A8 - Questionnaire Section Four (Study Two)

Section Four
1. In this section imagine yourself in a situation with a person you are attracted to but not going out with. You want to engage in the activities below. How easy do you think it would be to engage in the behaviour? Circle the level of difficulty you would feel over being able to engage in each behaviour.

A) Hand holding

B) Light kissing.

C) Hugging and prolonged kissing.

D) Breast petting.

E) Genital petting.

F) Intercourse.

2. Imagine yourself in a situation with a person you had been going out with for a short time. You want to engage in the activities below. How easy do you think it would be to engage in the behaviour? Circle the level of difficulty you would feel over being able to engage in each behaviour.

A) Hand holding

B) Light kissing.

C) Hugging and prolonged kissing.

D) Breast petting.

E) Genital petting.

F) Intercourse.
3. Imagine yourself in a situation with a person you had been going out with for a long time. They want to engage in the activities below. How comfortable would you feel about your participation? Would you feel completely in control of whether or not you participated? Circle the level of control you would feel over each behaviour.

A) Hand holding

B) Light kissing.

C) Hugging and prolonged kissing.

D) Breast petting.

E) Genital petting.

F) Intercourse.
Appendix A9 - Question about length of relationship

Throughout this questionnaire, you have been asked about behaviours at different lengths of relationships. These lengths were not defined. How long do you think a relationship has to last before you could say that the people in it “had been going out a long time”?
Appendices

Appendix B1 - Ethics Approval

DUEC Subcommittee - Health & Behavioural Sciences
Faculty of Health & Behavioural Sciences
Geelong Campus, Geelong, Victoria 3217
Telephone 03 5227 2844 Facsimile 03 5227 2469 email: barnesj@deakin.edu.au

6 May, 1998

Professor M McCabe
School of Psychology
Burwood

Dear Marita,

DSCH139/97 A Theoretical Understanding of Adolescent Sexual Decision Making

The application, submitted by Eoin Killackey has now been recommended for approval. The application is proceeding to the Deakin University Ethics Committee for ratification and, in the absence of any further advice, may commence.

Good luck with the project!

Yours sincerely,

Signature Redacted by Library

Jennifer Barnes for
Andrew Crowden
Chair,
DUEC Subcommittee - Health & Behavioural Sciences

c.c. Eoin Killackey 32 Aurum Crescent, Ringwood, 3134
Appendix B2 - Letter to Principals

Dear Principal,

My name is Eoin Kilackey and I am enrolled in a Doctor of Psychology (Clinical) degree at Deakin University. As part of my degree I am undertaking a research project under the supervision of Professor Marita McCabe. The aim of the project is to develop an understanding of what influences an adolescent when they are thinking about whether or not to have sex, and the extent of these influences. The rationale for this is that there is a poor understanding of the way that adolescents make decisions about whether or not to have sex. A recent Australia-wide study found that by the time students reached year 12, over half have had sexual intercourse. There are a number of negative consequences for adolescents engaging in sexual behaviour, such as unwanted pregnancy, the spread of STDs, abortion and its emotional sequelae, poor self esteem, and potential problems with intimate relationships later in life. This study is one of the first studies to systematically examine this decision making process. It is hoped that knowledge gained in this study will be of use in constructing personal development and sex education programs, allowing them to more specifically address factors identified as influencing decisions about engaging in sexual behaviour.

I would like to invite your school to participate in this research. This project has been approved by the Deakin University Ethics Committee.

Participation will involve students currently in years 9, 10 and 11, filling out a questionnaire at two points in time. The first assessment would be this year, and the second assessment would be at the start of the 1999 school year. The questionnaire will ask questions about the student’s attitude towards a variety of sexual behaviours. These activities span a range of behaviours from hand holding to intercourse.

An example of one of these questions is,

What level of approval would you have for a person of your age doing the following things with somebody that they were attracted to but not going out with.

Hand Holding
Light kissing
Hugging and prolonged kissing
Breast petting
Genital petting
Intercourse
It will also ask questions about what they think both their peers and their parents think about the same behaviours.

Finally it will ask about their sexual behaviour by asking them to circle activities that they have engaged in, and the nature of the relationship with the person that they did this with.

The questionnaire will take between 10 and 15 minutes to complete on each occasion and could thus be completed in home rooms if this would be less disruptive. The questionnaire is completed anonymously and it is completely confidential. Information from individual questionnaires will not be given to teachers, parents or friends. There will be no information on the questionnaire sheet from which anyone will be able to identify an individual student (in order to match time one and two data, we are proposing that students put the last four digits of their phone number on the questionnaire. However, this information will not be able to identify individuals). Results will only be reported in the form of group data. We would however be able to provide feedback to you about how students as a group at your school responded. 

The data collected in this study has the potential to be of great use to your school in planning personal development courses. It is useful because it provides you with accurate information about the attitudes and beliefs of your students with regard to sexual behaviour. In addition the demographic data that is collected includes items on the importance and practice of religion, which could also be useful to your school.

A summary of the results would be provided to your school at the conclusion of the study. In addition, if you would like me to come and speak to students and/or parents about adolescent sexuality and relationships, I would be happy to do this at the conclusion of the research. At one school involved in this research I have also spoken to their year 11 psychology class about abnormal psychology. I would be happy to do this again, or to talk about how to become a psychologist and the types of work that they do.

If a student decides to participate, and at a later date feels that they would like to remove their data from the study, they are perfectly entitled to do so. Data used in the study will be stored in a locked cabinet for two years after being collected. After this it will be destroyed.

If you would like to discuss the project with either Eoin Killackey or Professor McCabe, they can be contacted on 98707315.

As you would be aware, issues around sexuality and sexual behaviour are some of the most difficult that adolescents face. I hope you will agree to your school’s participation in this study, and perhaps help shed some light on these processes.

Thankyou for your time.
Sincerely,

Eoin Killackey
Appendix B3 - Letter to Parents

Dear Parents,

My name is Eoin Killackey and I am enrolled in a Doctor of Psychology (Clinical) degree at Deakin University. As part of my degree I am undertaking a research project under the supervision of Professor Marita McCabe. The aim of the project is to develop an understanding of what sorts of things influence an adolescent when they are thinking about whether or not to enter into a sexual relationship, and the extent of these influences. The rationale for this research is that there is virtually no understanding of the way that adolescents make decisions about whether or not to enter into a sexual relationship. A recent Australia-wide study found that by the time students reached Year 12, over half have had sexual intercourse. There are a number of negative consequences for adolescents engaging in sexual behaviour. These include unplanned pregnancy and transmission of sexually transmitted infections. In addition to these there is the less tangible, but possibly more damaging emotional harm that can result from engaging in premature sexual relationships. This emotional harm can potentially have major consequences both in the long and short term. It is hoped that knowledge gained in this study will be of use at the college in designing programs to specifically address the needs of the boys.

Your son’s school recognises the importance of this research and has agreed to participate. I would like to ask your permission for your son to become involved in this research as a participant. There is of course no suggestion in the survey that your son either is or should be having intercourse.

Your son’s participation will involve filling out a questionnaire at two points in time. This questionnaire will ask questions about your son’s attitude towards a variety of sexual behaviours.

For example: What level of approval would you have for a person of your age doing the following things with somebody that they had been going out with for a short time.

A) Hand holding
B) Light kissing
C) Hugging and prolonged kissing
D) Breast petting
E) Genital petting
F) Intercourse

It will also ask questions about what your son thinks you and his peers think about the same behaviours.

The questionnaire which will be administered once this year and once next year should take no more than 20 minutes to complete on each occasion. The answers your son provides will be completely confidential. Information from individual questionnaires will not be given to teachers, parents or friends. There will be no information on the questionnaire sheet from which anyone will be able to identify the student who filled it in.
If at a later date your son feels that they would like to remove their data from the study, they are entitled to do so. For ethical reasons data used in the study will be stored in a locked cabinet for five years after being collected. At the end of this time it will be destroyed.

A summary of the results of this study will be provided to your son's school after the study has been completed.

If you would like to discuss the project with either Eoin Killackey or Professor McCabe, they can be contacted by leaving a message on 98707315 or via e-mail at killacke@deakin.edu.au

To give permission for your son to participate please return the form below. Otherwise I thankyou for supporting this research, and I look forward to your son's participation.

Eoin Killackey

Professor M.P. McCabe
Girls want love and commitment; boys just want sex.

Teenage sexuality is still the emotional minefield it has always been, but what really makes young people decide to "do it" or not?

By MARIE CURTIS

It's a tricky thing, says Phillips. If you haven't loved, you wouldn't be here. But what goes on behind the scenes, you wouldn't understand. You think you just have to have someone to love you, but it's not like that.

"What girls want is love, not just sex," says Phillips. "They want someone to care for them, to listen to them, to talk to them. And they want to feel wanted."

"I think it's the same for boys," says Phillips. "They want to feel wanted, too. But they also want to feel important."
Appendix C2 - Plain Language Statement to Study Two Participants

Hi,
My name is Eoin Killackey, and as part of a Doctorate of Psychology degree at Deakin University, I am carrying out research that is examining the way in which young adults make decisions about their sexual behaviour. This is important research because while a lot of research has been carried out on married people’s sex lives, and even more on safe sex practices, very little research exists on what influences young adults in the decisions they make about engaging in sexual behaviour.

I would like to thank you for agreeing to participate in this research. I have enclosed a questionnaire that I would like you to fill out now. In about 6 months I will send you another, similar questionnaire. I would also appreciate you filling out that one as well. **Filling out and returning the questionnaire will indicate your consent to participate in the study.**

All the data that will be collected will be treated confidentially. It will be stored for a period of five years (this is an ethics committee requirement) and then it will be destroyed. There will be no way that any individual will be able to be identified from their data. You will notice that in one part of the questionnaire I need you to put the last four digits of your phone number. This will allow me to match your answers from the first questionnaire, with your answers from the second questionnaire. It will not be possible to identify you from this information. If at any time you decide that you do not want to complete the questionnaire, you are free to make that decision. In addition, should you wish to withdraw your data from the study at any time, that is also your right. In this situation, please contact me on the number below.

Thank you again for agreeing to participate in this research. If you have any questions please recontact me on 92446519, leaving your details so that I can answer any queries that you may have.

Sincerely

Eoin Killackey
Appendix C3 - Letter to Participants in Study Two at Time Two

Hi again,

A few months ago you received a questionnaire from me entitled the Sexual Attitudes Questionnaire. This was sent to you as part of the research that I am conducting as part of my Doctorate of Psychology (clinical) degree at Deakin University. At that time I informed you that I would be sending you a second questionnaire as part of the same study in about 6 months. Well the time has arrived, and I am now sending you the second questionnaire. It is similar to the first one, but slightly shorter, so it should take about 30 seconds less to fill in.

I would like to thank all the people who sent back the first questionnaire. I am really grateful to you all. I haven’t analysed that data yet, as I need the data from the second questionnaire for it to be interpretable. I would like also thank those people who wrote notes of encouragement on their questionnaires.

As I stated last time, all the data is anonymous and will continue to be treated confidentially. After the proscribed storage period (five years) it will be destroyed and the paper recycled. If you have any questions or comments, please leave a message on 92446519 and I will get back to you.

Thank you again for your continued participation. I know it sounds a bit trite, but it is true to say that without all the support that you have given me by doing these questionnaires, the goal of getting my doctorate would be nowhere in sight. I wish that there was a better way for me to express my gratitude and thanks, but all I can do is say thank you and hope that you understand how much I mean it.

Thanks

Eoin Killackey.
Appendix D1 - Descriptive Statistics For Study One (Male Adolescents)

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Own age at first time engaged in behaviour

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**PBC with someone going out with for a short while**

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**PBC with someone going out with for a long while**

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Appendix D2 - Descriptive Statistics For Study Two (Young Adults)

Descriptive statistics for study two

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**Intention to engage in behaviour if opportunity arose with someone with whom there was an attraction but not going out with**

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**Intention to engage in behaviour if opportunity arose with someone going out with a short while**

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<th>Max</th>
<th>Mean</th>
<th>SD</th>
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### Table continued

**PBC with someone going out with for a short while**

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**PBC with someone going out with for a long while**

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