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Predictors of young men's attitudes toward sexual health practices

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PREDICTORS OF YOUNG MEN'S ATTITUDES TOWARD SEXUAL HEALTH PRACTICES

Felicity C. Wright

A Thesis Submitted in Partial Fulfilment of the Requirements for the Award of
Bachelor of Arts (Psychology) Honours

Faculty of Community Studies, Education and Social Sciences

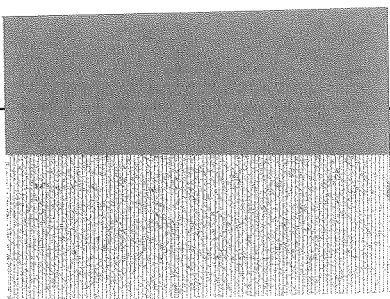
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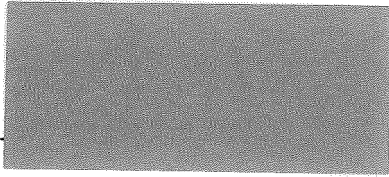
Abstract

The present study examined whether cognitive (beliefs), affective (emotions) and behavioural processes predicted young men's attitudes toward sexual health practices. For pragmatic reasons, most sexual health interventions are based on the provision of factual information, meaning most evaluations of these interventions have focused on the cognitive sources which may lead to behavioural change. However, the importance of emotional and behavioural influences has also been indicated, though rarely considered. The present study hoped to clarify this issue using Zanna and Rempel's (1988) model of attitude formation. The study also provided some methodological extensions to the attitude literature. It examined the use of the free response methodology (Eagly, Mladinic & Otto, 1994) in a new domain, and attempted to consolidate the inclusion of the behavioural component of Zanna and Rempel's model (Esses, Haddock & Zanna, 1993; Pooley, 1996). Sixty participants ($N = 60$) were asked to rate their attitudes toward six sexual health practices. They then reported and evaluated their own beliefs and emotions about the practices, and indicate the frequency with which they had previously engaged in each practice. Results from standard regressions indicated that emotions significantly predicted attitudes toward having many short-term partners and asymptomatic screening for sexually transmitted infections (STIs). Beliefs and past behaviour predicted attitudes toward carrying condoms and discussing STIs with a partner. Hierarchical regressions indicated that even after beliefs and emotions were taken into account, past behaviour could still significantly account for some of the variance in attitudes toward carrying condoms and discussing STIs with a partner. Several conclusions were drawn from the results. First, the free response method was adequate for the measurement of beliefs and emotions in the domain of sexual health practices. Second, Zanna and Rempel's (1988) proposal that past behaviours can provide unique information leading to an attitude was supported. Finally, this research indicated the importance of emotional and behavioural factors in the formation of attitudes toward sexual health practices, and therefore the need for interventions to include these factors in program development.

Declaration

I certify that this thesis does not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature: _____



Date: 29.10.01

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Predictors of Young Men's Attitudes Toward Sexual Health Practices

Introduction

International studies of sexual activity in secondary school students have indicated that the average age of first experience is approximately 16 years (Healy, 2000) however that figure appears to be decreasing steadily (Connolly, 1999; Lindsay, Smith & Rosenthal, 1997; Morrison, Baker & Gillmore, 1994). For example, in 1990, the average age of first intercourse amongst British teenagers was 21 years for females and 20 years for males. Present data indicates that figure has decreased to 17 years for both sexes, and is even lower amongst Australian youth at approximately 16 years (Healy, 2000). However, these trends are not a reflection of the cognitive or behavioural maturity of adolescents today.

The importance of social appearance remains particularly representative of the adolescent stage of cognitive development (Woolfolk, 1990). Thus, young people often engage in unwanted sexual behaviours because they perceive it to be expected of them (Connolly, 1999), or to gain status amongst their peers (Healy, 2000). As a result, these behaviours often occur under circumstances that produce further health risks. For instance, sexually active adolescents report a relatively high number of casual partners, and sexual behaviours often occur under the influence of alcohol or other drugs (Healy, 2000), conditions which have been identified as conducive to the failure to use contraceptives (Boyer, Tschann, & Schafer, 1999; Ericksen & Trocki, 1994). Additionally, adolescents have indicated a particular aversion to health promotion behaviours which may be detrimental to their social image, such as discussing sexually transmitted infection (STI) prevention with a partner: "if I talk about AIDS with a sex partner they might be

insulted” (Moore & Rosenthal, 1991); and carrying condoms, a practice deemed to imply promiscuity (Sieving et al., 1997).

Furthermore, the onset of sexual activity is rarely accompanied by accurate information concerning the various health risks inherent to that behaviour. Young people’s basic knowledge of sexual health issues has been repeatedly demonstrated to be lacking (Connolly, 1999; Morrison et al., 1994; Seiving, Resnick, Bearinger, Remafedi, Taylor, & Harmon, 1997), particularly with regard to sexually transmitted infections (STIs) beyond HIV/AIDS (Connolly, 1999; Moon, Meyer, & Grau, 1999).

Unlike other STIs, there is no known cure for HIV/AIDS and infection is characteristically chronic and terminal. Thus, sexual education campaigns have been designed with an emphasis on the prevention of HIV transmission, with the assumption that the transmission of other STIs would also decrease as a by-product of those practices which reduced the risk of HIV infection. Possibly this tactic has been partially successful, as the seroprevalence of HIV within this age group remains low (between 0.2% and 2.2% (Orr & Langefeld, 1993)).

However, the focus on the provision of HIV/AIDS relevant information has meant adolescents have little knowledge of the characteristics of other STIs. For instance, many are not aware that STIs are frequently asymptomatic, or exhibit symptoms that may indicate the early stages of infection. Therefore, many young people do not recognise the necessity of screening, as opposed to seeking treatment once an infection has been ascertained. As a consequence, the highest incidence of STIs occurs in the under 25 age group, with the highest rate of infection for males being between 20-24 years, and for females between 15-19 years (Watkins, Strickland, Read, Cunningham & Edwardes, 1992).

More specifically, documentation of notifiable STIs (Moon, Meyer, & Grau, 1999) has indicated that 60% of cases of chlamydia occur in the 12-24 age group, with the rate of infection in females being 2.4 times higher than the rate for males. Forty-two percent of cases of gonococcal infection are reported in that age group, with the rate of infection amongst males being 1.9 times higher than that of females. Finally, syphilis infection is also highest amongst females in that age group, at 1.3 times the rate of males (Moon, Meyer, & Grau, 1999; Morrison et al., 1994). Therefore, the incidence of these diseases may indicate first, the failure of educational programmes to provide information conducive to the practice of safe sexual behaviours, and second, the impact of typical adolescent sexual health practices, exacerbated by immature cognitive development, on the physical health of that population.

Health and the Male Population

A major concern of health professionals is the probability of statistical underrepresentation of males in the available data. Only recently have programmes begun to recognise the importance of the gender experience for sexual health behaviour (Forrest, 2001). Women access health services more frequently and consistently than men (Kandrack, Grant & Segall, 1993), leading to the assumption that the health of women is more fragile. Therefore, the segregation of services has been strongly biased toward the needs of women (Swanson & Forrest, 1987). However, recent reviews of the state of men's health (Huggins, Rouse, & Somerford, 1996; Strodl, 1993) have indicated that men are not as healthy as their behaviours would portray. It appears that men have been socially conditioned to distance themselves from the concept of preventative health. Huggins et al.'s (1996) investigation of the statistical and demographic characteristics of the male

population of Western Australia demonstrated the negative consequences this approach is having on men's health.

This socialisation process begins at a very young age; however, it becomes particularly evident following the period of developmental transition where boys learn to become men (McGrane & Patience, 1993). Huggins et al. (1996) found that a number of risk behaviours were more common amongst the 15-30 age group than other groups, including suicide, high risk drinking, excessive and poly-drug use, vigorous exercise, and behaviour leading to transport related injury. Males in that age group were also most likely to report having been injured by another person. Such behaviours are typical of the Australian concept of masculinity (McGrane & Patience, 1993; Strodl, 1993). Thus, this period during which young men are consolidating their masculine identities offers a condensed perspective of the consequences of the male perception of health.

Young Men's Sexual Health

Australian culture is dominated by a masculinist ideology that promotes men as aggressive, tough, sexually active and independent (McGrane & Patience, 1993; Ohehir, 1996). This perception is fundamental to the masculinist approach to health behaviour:

“Behaviour related to health is presumed to be incompatible with traditional male roles. Men therefore may feel constrained in defining a symptom as illness, performing adaptive behaviours when ill, or in being involved in preventative health behaviour. In addition, many behaviours which are hazardous to one's health are seen as compatible with the traditional male role. Men are therefore more likely to engage in them than women (Strodl, 1993, p. 15).”

Data concerning the effect of this perception of health on men's health in Western Australia for the year 1995-1996 (Huggins et al., 1996) indicated that men were reluctant to utilise health services in general, a trend borne out in international research (Kandrack et al., 1991). Where they did so, treatment was sought for problems which were generally so severe they resulted in hospitalisation or even death. This led Huggins et al. (1996) to surmise that ailments were evaluated for severity. Because men view their bodies as machines with which tasks are performed (Brand, 1993; Saltonstall, 1993), evaluation of health is based on the degree of impairment to regular bodily function. Ailments that have little impact on regular function could and should be ignored, until regular function is noticeably restricted. At that point it is appropriate to seek medical intervention. Thus, young men are not socially encouraged to adopt preventative health behaviours.

The noticeable absence of men, particularly young men, from reproductive health clinics (FPA Annual Report, 2000, Who visits FPO clinics? ¶ 1; Howard & Stodart, 1995) suggests that this principle applies equally with sexual health. Even the provision of a range of services specific to men's health issues has not helped override the socially dictated perception of health for men (Swanson & Forrest, 1987). For young men, the issue of principle importance is contraction and further transmission of STIs. However, many STIs do not display symptoms approaching an acceptable degree of severity that could be evaluated to require medical investigation. Preventative health behaviours, such as asymptomatic screening for STIs, are also considered 'unacceptable' according to the masculinist approach to health. Because adherence to the dictates of social norms is of inflated importance within this age group, young men may be particularly motivated to minimise situations pertaining to their health. Thus, although the absence of young males

from clinics suggests that they are more sexually healthy than females, health and risk behaviour statistics indicate that this is not the case.

Some research (Spencer, 1988; McGrane & Patience, 1993) also suggests that the masculinist approach to sexual health behaviours has been covertly institutionalised within Australian culture via various means of social reinforcement. For example, research concerning the psychological aspects of sexual health behaviour specific to young males has been limited in its scope. Due to the continued prevalence of HIV infection amongst homosexual men (National Centre in HIV Epidemiology and Clinical Research, 2000), a large portion of the research pertaining to young men's sexual health has investigated related issues (e.g., gender identity (Chng, 2000; Morton, 2000), non-heterosexuality and HIV/AIDS risk behaviour (Hart, 1998; Sonenstein, 1998)). In addition, there are noticeable differences in the provision of facilities (Swanson & Forrest, 1987), products [only 8% of the world contraceptive budget is spent on the development of male methods of contraception (Spencer, 1988)] and health promotion procedures (e.g., regular STI screenings) for young men when compared with young women. For example, it is a medical requirement to screen women for STIs as part of antenatal and pre-termination treatment (Ridolfo, Serafino, Somerford, & Codde, 2000), and in Australia, females are tested for chlamydia and gonorrhoea in conjunction with cervical cancer screens. Similar screening procedures do not exist for young males. In effect, sexual health has been promoted as a problematic issue for women and homosexuals, but not for heterosexual men (Pringle, 1992, cited in McGrane & Patience, 1993).

During adolescence, young men also experience a number of physical changes caused by the release of testosterone in the body, which is manufactured in the

testicles. This relationship between male physical development and the sexual organs is reiterated constantly in Australian culture (Ohehir, 1996), meaning that one's ability to perform sexual behaviour is the ultimate expression of 'manliness' (Browne & Fletcher, 1995). Thus, sexual activity is one behavioural medium through which young men express their successful physiological transition from boyhood to manhood. However, Spencer (1988) suggested that social mores dictate that *responsibility* for sexual health and reproduction rests with women. Her investigation of the reasons for men's limited involvement in family planning indicated that some common social motivations behind the development of contraceptive procedures often lead to men's abrogation of responsibility for birth control and planning. She found that women used birth control to protect themselves from the adverse consequences of excessive child-bearing, whereas men used it to allow them the pleasure of sexual intercourse whilst escaping the consequences of their actions. She concluded that this view of the function of sex and contraception is a result of the acceptance and encouragement of the insatiable male sexual appetite. Thus, the effects of sexual intercourse have been promoted as particularly relevant for females, and responsibility for sexual health and contraception a female issue. Conversely, young 'men' are expected to be sexually active and ever ready for sex (McGrane & Patience, 1993); however, issues pertaining to sexual health are not considered relevant to the masculine identity.

Although sexual education campaigns have only recently begun to address the issue of masculinity, a number of studies have identified its effect on the sexual health behaviour of young men particularly. For example, Pleck et al. (1993) examined the sexual health attitudes and behaviours of young men who identified with typically masculine traits. Young men who identified as 'masculine' had

more partners, less intimate relationships, less consistent use of condoms, more negative attitudes toward condom use (e.g., reduction of pleasure), were less likely to be concerned about their partners' wishes regarding contraception, and felt that prevention of pregnancy was the female's role.

Other studies have not specifically addressed the issue of masculinity, however they have illustrated the tendency amongst young men to perform (or report) the masculinist sexual practices identified by Pleck et al. (1993). For example, Lindsay et al. (1997) found that young Australian men in secondary institutions reported significantly more casual sexual liaisons than young Australian women, a trend also found amongst college age American youth (Forrest, 2001). Furthermore, Siegel, Klein, and Roghmann (1999) ascertained that college aged men engaged in communication about sex matters significantly less frequently than college aged women.

Attitudes to condoms also indicate a tendency toward behaviours congruent with the masculine image. Young men appear to be particularly negative about the practice of carrying condoms (Sieving et al., 1997), with the direct result being less consistent use with casual partners, particularly after drinking (Seage, Mayer, Wold, et al., 1998). A negative correlation has also been found between the relationship duration and the use of condoms (Ku, Sonenstein, & Pleck, 1994). The former practice indicates an assumption that the precautions are the responsibility of the female, and the latter that she should eventually take precautions, as per the masculine perspective of sexual health practices (Spencer, 1988). In conclusion, these studies have demonstrated behaviours that may be more frequent amongst young men due to socialisation according to masculinist principles of sexual health behaviour.

Predictive Models of Sexual Health Behaviour

The concept of masculinity is a cultural ideology based on behavioural trends rather than quantifiable entities, making it an impossible or impracticable intervention target. Until now, interventions have preferred to focus on those factors that may be accessed and manipulated at a microsystem level (e.g. school- or community-based programs). To that end, the majority of interventions are based on educational (i.e., information giving) models, mainly because informational interventions are relatively inexpensive, easy to deliver, and non-controversial. Conversely, interventions that teach skills to negotiate safer sex, increase self-efficacy with regard to safer sex, or that teach alternative sexual practices are costly, difficult and time consuming to deliver, and particularly in the case of youth, often politically unacceptable (Committee on AIDS research, 1990; Morrison et al., 1994). Thus, the psychological models that form the evaluative basis of such interventions have focused on creating a link between the input of information and the output of health protective behaviour.

The construct most frequently applied to the task is that of utilitarian beliefs. It is presumed that beliefs are items of knowledge an individual has acquired concerning a behaviour and its various elements (e.g., none of my friends use condoms, and condoms are uncomfortable). These beliefs are accessed preceding a behaviour, and influence the direction of that behaviour (e.g., whether an individual uses condoms during sex). Various models have been used to examine this knowledge-belief-behaviour progression in the context of sexual health behaviour with youth, including the Health Belief Model (e.g., Orr & Langefeld, 1993) and the Theory of Reasoned Action (Adler et al., 1990).

Kegeles et al. (1989) used a simple belief-behaviour model to determine which of adolescents' beliefs about condoms would determine their intention to use condoms in the future. The authors found that positive beliefs (e.g., condoms allow for spontaneous sex, they make the male responsible for contraception, they are easy to use, and they are popular with peers) could determine males intention to use condoms in the future. Furthermore, the negative belief that condoms were painful to use was associated with decreased intention to use condoms. Such studies provide support for the underlying principle of education based campaigns, (i.e., that the direction of an individual's beliefs is related to the direction of their reported behaviour). However, they do not necessarily indicate the *effectiveness* of such campaigns; indeed other studies have demonstrated that increased knowledge has little or no bearing on actual risk taking behaviour (Eisen, Zellman & McAlister, 1990; Howard & McCabe, 1990; Kirby, Barth, Leland & Fetro, 1991).

One explanation may be that the belief-behaviour model assumes that a sexual behaviour is preceded by an examination of an individual's beliefs regarding that behaviour. Yet over 25 years of research on adolescent contraceptive use attests to adolescents' ability to discount, depersonalise and otherwise ignore information about sexual risk taking behaviour (Morrison, 1985; Whitely & Schofield, 1985-88).

Another may be the oversimplification of the belief concept. Education programmes and their evaluation using the knowledge-belief-behaviour model assume that beliefs are primarily sourced from direct input (e.g., sex education). They fail to account for the myriad of passive sources from which individuals also glean information. Particularly with people in the adolescent stage of cognitive development, social cues (e.g., mass media) and peer behaviour have far more

influence on their beliefs than formal education. This situation is particularly relevant for young men, for whom academics take a distant second place socially to physical (and sexual) prowess (Browne & Fletcher, 1995).

In addition, males appear to learn best through action, a maxim that has been demonstrated in studies of sexual practices in young men. For instance, Sieving et al. (1997) examined the cognitive and behavioural predictors of STI risk behaviour in a group of adolescents aged between 14 and 21. Participants were asked to complete a multivariate survey indicating their risk behaviours and beliefs, which were then followed up with a repeat survey after a year. The researchers found that for both males and females, low risk behaviour indicated in the first survey was consistent with low risk behaviour reported at second survey. For females, a number of other behavioural variables such as the use of alcohol, appropriately timed communication with their partner regarding sex issues, and the length of the relationship preceding sex, were also related to the degree of sexual risk behaviour. However, for males, only STI risk behaviour (i.e., inconsistent condom use, multiple sexual partners, and high frequency of vaginal intercourse) was predictive of later risk behaviour. Health affirmative beliefs (e.g., condom use self-efficacy, fewer negative outcome expectations related to condom use) were also most common amongst participants who reported low risk behaviour. These results suggest that young men cognitise the activity of sex to a lesser extent than their female counterparts. Rather, they appear to organise their beliefs such that they are congruent with their past behaviours, thereby relying on their previous sexual habits to guide their present behaviours. Therefore, programmes that target beliefs are likely to have little effect on the actual behaviour of males.

Similarly, Adler et al. (1990) provided support for the suggestion that social cues affect behaviours more strongly than beliefs for males. The authors examined the decision-making process that preceded adolescents' intention to use four contraceptive methods: the oral contraceptive pill (the pill), condoms, diaphragms, or the withdrawal method. The cognitive processes leading to use were examined using the Theory of Reasoned Action, a model that incorporates both social influences and internal influences (i.e., beliefs) as possible sources of behavioural motivation. Actual contraceptive use was measured after one-year to determine whether intention to use contraception was related to actual use.

For male participants, social expectations were the best predictors of intentions to use the pill, condoms and the withdrawal method; beliefs also influenced intention to use the withdrawal method. Neither beliefs nor social expectations predicted intentions to use diaphragms. These results suggest that young men relied on social norms to determine their contraceptive behaviour, rather than the beliefs they had regarding that behaviour. Furthermore, the correlation between intention and actual use was found to be significant for the withdrawal method, followed by both condoms and diaphragms. Therefore, the social norms that directed young men's intentions to use condoms and diaphragms also lead to their use or non-use. The only practice in which beliefs played a role was the withdrawal method; however, social expectations were still more influential. Given that intention to use this practice was also most strongly related to actual use, this indicates that young men adapted their beliefs to fit with social expectations and thus subsequent use or non-use of this practice.

Therefore, studies such as those by Adler et al. (1990) and Sieving et al. (1997) suggest that young men use behavioural and social cues to guide their behaviour

and adapt their beliefs. However, as it is difficult to transform these variables into entities directly influenced by knowledge provision exercises, they are beyond the scope of traditional cognitive models, and thus have rarely been awarded the attention they deserve.

The role of emotional experiences in the formation of attitudes toward sexual health practices has also been largely overlooked. In particular, negative emotions such as fear (Moatti, Bajos, Durbec, Menard, & Serrand, 1991; Sieving et al., 1997), worry and regret (Richard, van der Pligt, & de Vries, 1995) appear to have a significant effect on sexual behaviour. The sexual health literature has commonly represented emotive responses in cognition-based terms (eg., self-perception of STI risk) (Sieving et al., 1997), which are conducive to incorporation in cognitive models. However, Richard et al.'s (1995) examination of the affective and cognitive predictors of AIDS-risk behaviour in young people (15-29 years) specifically identified the primacy of affective responses. The authors found that anticipated feelings such as worry and regret were predictive of safe-sex behaviour over and above cognitive influences. Nonetheless, few studies incorporate affective responses. The majority of studies (e.g., Moatti et al., 1991; Sieving et al., 1997) have incorporated and provided support for an emotional component in their design by default rather than intention.

Therefore, the dominant predictive model underpinning sexual health interventions requires further extension. It may be suggested that entities that do not easily lend themselves to psychological representation have been largely omitted from interventions for pragmatic reasons. A revised model must not only integrate the entities (ie., cognitive, behavioural and emotional) identified as

antecedent to sexual health behaviour, but must also represent those entities in a form which may be amenable through small-scale intervention.

The Formation Model of Attitude

A psychological construct that may accommodate this role is the 'attitude'. Attitudes have been defined variously as the consequence of cognitive input (e.g., "a special type of knowledge, notably knowledge of which content is evaluative or affective," Kruglanski, 1989, p.139), affective reactions to an entity (e.g., "the affect associated with a mental object," Greenwald, 1989, p.432), and behavioural predispositions (e.g., "a state of a person that predisposes a favourable or unfavourable response to an object, person or idea" Triandis, 1991, p. 485). Although each of these definitions conceptualise attitudes differently, they all include a common aspect: the implication that evaluation is a central and perhaps predominant aspect of attitude. Therefore, an attitude may generally be defined as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour" (Eagly & Chaiken, 1993, p. 1). However, whilst there is a general consensus regarding this aspect of the attitude concept, the means by which individuals arrive at an evaluation remains a topic much debated in the attitude literature (Zanna & Olson, 1995).

Cognition has traditionally been considered the primary informant to an attitude. This is a logical assumption, as the process of evaluation implies the need to bring forth salient information one has amassed concerning an entity or 'attitude object' (Zanna & Olson, 1995). Therefore, cognition-based models have sought to determine how that information is internalised so that it may affect one's attitudes toward the entity. It is assumed that the information gained as a result of experience with an entity contains factual properties, but is qualified by the subjective

perceptions of the experience. Therefore, items of knowledge relating to an entity that are accessed prior to an evaluation are more accurately termed one's utilitarian beliefs, that is, the properties one believes are true about the entity. The nature of the qualities ascribed to an entity (that is, whether they are positive or negative) are then presumed to influence the direction of one's evaluation of that entity.

This set of premises have provided the basis for several models of attitude formation such as Anderson's (1991) information integration theory and the expectancy-value model (Fishbein, 1967, cited in Eagly & Chaiken, 1993) upon which Fishbein and Ajzen (1975) based the Theory of Reasoned Action. Furthermore, studies addressing a variety of issues including exercise intention (Gatch, & Kendzierski, 1990), compliance with a cardiac rehabilitation program (Oldridge & Streiner, 1990), smoking behaviour (Godin, Valois, Lepage, & Desharnais, 1992) and music (Demorest, 1992) have provided empirical and applied validity for these and other cognition based models. However, questions have been raised about the extent to which people form (and inform) their attitudes by considering the attributes of attitude objects. Criticisms have mainly focused on the efficiency and ease of this process. For example, Zajonc (1980) outlined several studies that demonstrated that whilst initial experiences with an entity probably required a qualitative examination of its attributes prior to evaluation, the speed with which evaluations were accessed at subsequent exposures indicated a less resource intensive process. One explanation has been that evaluations are stored separately to beliefs, and therefore may be directly accessed upon encountering an entity (Fazio, 1986). Another interpretation has been that the least resource intensive and therefore the most immediate sources upon which evaluations can be gauged are affective (Zajonc, 1980).

The place of affect or emotional reactions in the scheme of attitude formation remains a contentious issue. The main concern of affective theories of attitude formation are conditions in which affect might be utilised over other sources of information. Affective theory is based on the premise of information processing models that people will exert as little cognitive energy as possible to achieve a judgement (Chaiken, 1987; Taylor & Fiske, 1978). It is suggested that exposure to an attitude object elicits a certain degree of affective response. As these responses are of a simpler construction than beliefs, they require less resource intensive processing and are therefore the most immediate responses elicited at subsequent exposures to the attitude object. Repeated exposure strengthens the association between some affective reactions and the object and weakens others (Zajonc, 1980). This process of priming is argued to be the most efficient means by which an individual might evaluate an attitude object. It also explains the conditions in which the process of evaluation may be conscious (i.e., belief-based), for example at first exposure to an entity, and when it may be automatic (affect-based).

However, some form of primary cognitive processing is inherent to the concept of attitude, therefore, it has been traditionally assumed that affective responses must be a product of utilitarian beliefs. Even affective theory posits that the functional properties of an entity must initially be considered, though they are not necessary for future evaluations. As a result, affect has been described as both a component of beliefs (Abelson, Kinder, Peters, & Fiske, 1982), and an aspect of the evaluation process itself (Pooley, 1996; Zanna & Rempel, 1988). Nonetheless, several studies have indicated the need to distinguish affect as a unique antecedent to attitude.

Regarding the former, Abelson et al. (1982) conducted a study looking at the affective reports and semantic judgements (beliefs) of people toward political candidates. The researchers found that affect significantly predicted evaluations (attitudes) toward candidates, and that both positive and negative affects made a significant contribution to the evaluation of each candidate. These results led Abelson et al. to conclude that affective responses were not subsumed by semantic judgements, but could inform attitudes in their own right. Regarding the latter, Breckler and Wiggins (1989) demonstrated that affects and evaluations both correlated uniquely with an attitude object (entity). In their study, participants were asked, using a series of bipolar adjective scales (e.g., good/bad, wise/foolish, etc) to rate once how an object made them feel (affect), and once their attitude toward the object. Evaluations and affects were each found to correlate uniquely to self-ratings of liking for the object. In addition, in some instances (e.g., the domain of blood donation), affect was found a better predictor of self-reported behaviours than evaluation. These results led Breckler and Wiggins (1989) to conclude that affect and evaluation are distinct attitude components. These studies therefore lend weight to the argument that affect can also be a primary antecedent to attitudes.

Some theorists have also suggested that evaluative responses may be heavily influenced by situational factors such as self-presentational concerns and social norms (Skinner & Cattarello, 1989). Bem (1972) proposed one of the most influential theories incorporating the effect of these forces on attitude expression. He suggested that behaviours could influence attitudes through self-perception of the source of a response. If attitude-related behaviour is perceived to be the result of external forces, then it is not considered an accurate reflection of one's actual attitude. Under those circumstances, attitude change will be minimal and weak.

However, if attitude-related behaviour does not appear to be caused by external forces, then it is assumed to be consistent with one's attitude and will induce behaviourally congruent attitude change. Inherent to Bem's theory is the suggestion that individuals possess limited concrete information concerning their attitudes and therefore must rely on information gleaned from their past behaviour with an entity to determine their judgement of that entity. This postulate has been qualified to suggest that past behavioural experiences with an attitude object must be sourced to determine an attitude when internal sources of information (emotions, beliefs) are weak or ambiguous (Olson & Zanna, 1995).

Recent studies have supported the utility of this model for the prediction of attitudes toward an attitude object. For example, Damrad-Frye and Laird (1989) conducted a listening task test during which participants were exposed to two either loud background noise or imperceptible background noise. A control group was not exposed to any background noise. Participants reported feeling bored when they were distracted from the listening task in which extraneous noise was not loud enough to be perceived as distracting; this did not occur for either the loud noise group or the control group. The researchers surmised that participants inferred that the task must be boring from their inability to pay attention.

Similarly, Olson (1992) examined the role of self-perception processes in evaluations of humour. All participants read two sets of jokes; a 'laugh track' was played through headphones during the reading of one set. Participants were informed that the laugh track would increase, decrease or have no effect on their mirth, thus inducing the inference of external control of attitude-expression. In a free period following the task, participants could access the two books from which the jokes were taken. Subjects who were told that the laugh track would increase

their mirth spent more time reading the book that did not contain the jokes they had heard – a discounting effect. Subjects who were told that the laugh track would decrease their mirth spent more time reading the book that did contain the jokes they had heard – an augmentation effect. Thus, self-perception theory can provide an explanation for situations where expressed attitudes are the result of behavioural experiences with an attitude object.

However, these models address just one means through which an attitude is formed (e.g., cognitive, affective or behavioural processes). Given that past research has supported each of these models, Zanna and Rempel (1988) proposed that single component theories of attitude formation oversimplify the construct. They proposed an alternative conceptualisation of attitude formation, that attitudes might be derived from three classes of information: cognitive information, affective information and information concerning past behaviours (see Figure 1). According to their model, the ‘action’ of an attitude is defined as the perception, identification and categorisation of an attitude object along an evaluative dimension. Essentially, this definition considers an attitude to be the result of a cognitive process, as the components leading to an attitude must necessarily be items of knowledge an individual has about an attitude object. However, the *operative content* of the cognition can also be primarily informed by an individual’s emotional or behavioural experiences with the item.

Converse to previous structural representations, these sources are not considered mutually exclusive; an attitude can be formed from any combination of the three components. Nonetheless, the operation of these sources is exactly as described by the single-component theories. That is, cognitive information is the product of beliefs an individual holds about the object or entity toward which the

attitude is directed (Fishbein & Ajzen, 1975). Affective information refers to the emotional experience activated following exposure to an attitude object (Zajonc, 1980). Finally, Bem's (1972) theory of self-perception describes the way information concerning past behaviour leads to an attitude. This conceptualisation effectively alleviates the restrictive assumptions that have limited the utility of previous theoretical models.

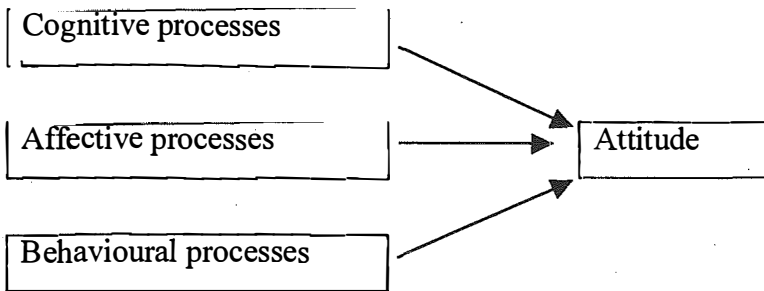


Figure 1. A diagrammatic representation of Zanna and Rempel's (1988) theory of attitude formation (Eagly & Chaiken, 1993, p.15)

Several recent studies have provided evidence for the validity of the model, with particular reference to the separation of affect and cognition. This is because traditional considerations of the role of affective processes have suggested affects can only occur once the functional properties of an object have been identified. Whilst they do not dispute that attitudes must represent basic cognitive activity in the form of perception and identification of an object, Zanna and Rempel (1988) suggested that this may not be the source from which the *attitudinal direction* is derived.

Esses, Mladinic, and Otto (1993) sought to consolidate this proposal in their examination of the degree to which people's attitudes toward social groups could be predicted by their emotions (affective processes) and symbolic beliefs (cognitive processes). The authors found that where a social group was perceived to be

favourable, that is, attitudinal evaluations were positive toward the group, those evaluations were based primarily on emotional responses toward the group. Where the evaluation of a social group was negative, and thus unfavourable, attitudes were only based on participants' symbolic beliefs about the group. These results indicated that affective responses could predict attitudes toward social groups independently of symbolic beliefs. Similar results occurred in Eagly et al.'s (1994) study concerning the role of beliefs and affects in participants' attitudes toward social groups and social issues. Beliefs were found to independently predict participants' attitudes toward men, women, democrats, allowing abortion on demand, affirmative action in employment and welfare assistance for the poor. Affective responses were found to independently predict attitudes toward republicans. Therefore, Eagly et al.'s study also supported Zanna and Rempel's proposal that affective processes may provide the sole impetus for an attitudinal evaluation.

The inclusion of behavioural processes has not received so much attention, as the utility of behavioural measurement for the purposes of understanding or validating attitudinal direction has long been out of favour with attitude theorists. Nonetheless, specific application of Zanna and Rempel's (1988) model to attitude objects has indicated some support for the inclusion of the past behaviour as a determinant of attitudes. Pooley (1996) used Zanna and Rempel's model for her investigation of the predictors of students' attitudes toward environmental issues. She found limited support for the role of past environment-focused activity on attitudes towards environmental issues. The factor was only important for the prediction of attitudes toward one environmental issue: the clearing of native forest for urban development. Furthermore, the inclusion of past behaviours only

accounted for 7% of the variance in attitude scores. Nonetheless, her results suggested that past behaviours could influence attitudinal direction over and above the effects of emotional and cognitive sources of information.

Issues Concerning the Measurement of Attitudes

Traditional measures of attitudes have mainly taken two forms: frequency checklists and bipolar rating scales. The former measure usually requires respondents to rate from a list of attributes the extent to which an entity may be described by each attribute. Evaluations are assumed from the positive or negative meaning ascribed to the words that designate each attribute (Eagly et al., 1994). The latter measure presents respondents with rating scales labelled by evaluative beliefs (e.g., warm/cold, clean/dirty, etc). Attitudes are assumed from the overall tendency to endorse favourable or unfavourable attributes to an entity. Both measures have demonstrated the psychometric viability of using standardised beliefs and affects to measure attitudes (Breckler & Wiggins, 1989; Himmelfarb, 1993; Stephan & Stephan, 1993).

However, Cronen and Conville (1975) argued that standardised scales did not measure participants' *own* salient beliefs or affects, and therefore attitudes derived from those scales did not accurately reflect participants' *own* attitudes. The researchers demonstrated the effect of this issue on correlations between beliefs and attitudes by asking participants to record their own beliefs about politicians and to complete an attitude scale. Subjects' own beliefs and attitudes were correlated at .77 ($p < .001$), which was significantly higher than other studies that used a bipolar scale measure. Therefore, this study demonstrated the importance of saliency, and provided further evidence for the probability of false responses induced by forced-choice measures.

Several studies have demonstrated this issue, and its effect on the meaning of results that utilise forced-choice measures. For example, Smith and Clark (1973, cited in Eagly et al., 1994) found that participants' attitudes toward blacks could be predicted by the congruence of their beliefs with attributes assigned by a pre-test group as stereotypical of blacks (e.g., tall, athletic). However, attitudes toward blacks could be equally predicted by participants' beliefs that blacks had attributes the pre-test group had assigned to Chinese Communists (e.g., short, malicious), attributes which did not confer with other attributes associated with blacks. Similarly, Eagly and Mladinic (1989) found participants' attitudes toward men and women could be predicted from the stereotypical beliefs they had concerning each of those groups. However, their attitudes toward Democrats and Republicans were better predicted by those same gender-stereotypical beliefs. These studies demonstrate the ability for forced choice measures to create artificial relationships between attitudinal antecedents and evaluations.

In order to overcome these methodological issues, Esses et al. (1993) created a measure of individual stereotypes, beliefs and emotions toward several social groups (English Canadians, Pakistanis, French Canadians, Native Indians and Homosexuals). Based on Cronen and Conville's (1975) self-report measure, participants were asked to list the characteristics they would use to describe typical members of each social group. They were then asked to assign a valence (--, -, 0, +, ++) to each characteristic, and to indicate the percentage of the social group (0% to 100%) to which each characteristic would apply. To transform these responses into numerical values, a multiplicative formula was applied giving a stereotype score. This measure was also adapted to elicit symbolic beliefs (e.g., customs and traditions) and emotions. The scores for each predictor (beliefs, emotions and

stereotypes) derived from this measurement technique were found to correlate with attitudes toward each social group. Multiple regressions also indicated that self-reported salient beliefs and affects could separately predict attitudes toward social groups, though this result did not occur for stereotypes. These results led Esses et al. (1993) to conclude that the individualised approach to the measurement of attitude predictors more realistically captured individuals' spontaneous reactions, thus presenting a more accurate measure of participants own beliefs, affects and attitudes toward an entity.

The viability of this 'free response' approach to the measurement of attitudes was examined by Eagly et al. (1994) in their study of the cognitive and affective bases leading to attitudes toward social groups (men, women, Republicans and Democrats) and social issues (allowing abortion on demand, affirmative action in employment, welfare assistance for the poor). Participants were asked to indicate their attitudes toward these attitude objects by rating them on five bipolar, seven-point (-3 to +3) scales: good-bad, positive-negative, valuable-useless, pleasant-unpleasant, nice-awful. Belief and affect measures replicated those of Esses et al. (1993), however, each belief or affect was also rated on a seven point (-3 to +3) good-bad scale. Measures of internal consistency were equal to those determined for semantic differential scales, coefficient alphas for beliefs ranged from .62 (women) to .93 (affirmative action); for affects they ranged from .61 (women) to .93 (abortion on demand, affirmative action). Multiple regressions indicated that beliefs were the strongest predictors of attitudes toward social groups and social issues, however, affects were also found to predict attitudes toward Republicans and abortion on demand. These results allowed Eagly et al. (1994) to conclude that the internal consistency of the free response

method was satisfactory and the method adequate for the measurement of attitude predictors.

However, Eagly et al. (1994) recommended the extension of this method to other domains of research, and Esses et al. (1993) identified the need to incorporate behavioural aspects to the measurement of attitudes. Considering these recommendations, Pooley (1996) conducted a study of the antecedents of attitudes toward environmental and social issues. Three environmental issues were examined, the logging of native forests, development of landsites, and restriction of vehicle emissions. Social issues were those examined by Eagly et al. (1994) and were included to cross validate results. Participants were 66 psychology students from a Western Australian university. Attitudes to the six issues were measured using a seven point (-3 to +3) scale. Endpoints were labelled 'opposed to' and 'in favour of', in accordance with the methodological recommendations of Zanna and Rempel (1988). Participants were then asked to report up to ten salient beliefs and emotions toward each issue, and to rate each belief and affect against a seven point (-3 to +3) bipolar (unfavourable-favourable) scale. The behavioural scale, adapted from Eagly (1995, cited in Pooley, 1996) was a general closed answer (yes/no) measure of past environmental behaviours. Beliefs and affects were found to correlate with attitudes toward all environmental issues, however, past environmental behaviours were only found to correlate with attitudes toward the development of landsites. Multiple regressions provided further support for the unique contribution of affective and cognitive sources to attitudes toward environmental issues; however, past environmental behaviour was only found to contribute to attitudes toward the development of landsites, a result forecast by the correlation analyses.

In light of these results, Pooley (1996) made several conclusions. First, her results extended the viability of the free response method as a measure of cognitive and affective bases of attitudes to include issues in the environmental domain. Second, past behaviour was identified to provide a unique contribution to attitudes toward the development of landsites, thereby indicating support for the inclusion of past behaviour in Zanna and Rempel's (1988) model of attitude formation.

However, some methodological limitations were identified as issues recommended for further investigation. Pooley (1996) recommended further replication of the free response technique as a measure of attitudes in other domains. Regarding the behavioural measure, she proposed that a general measure of environmental behaviour may have provided inadequate information to predict the formation of attitudes toward specific environmental issues. This reiterated a suggestion posited by Eagly and Chaiken (1993) that in order to predict an attitude-behaviour relationship, both measures should be general, or, both should be specific. Finally, Pooley suggested that generalisation of results was limited due to the eclectic nature of her sample.

The Present Study

Zanna and Rempel's model of attitude formation has been used to determine the predictors of attitudes toward social groups, social issues and environmental issues. The present study aims to extend this research into the area of sexual health practices. Research has indicated that sexual health practices can be influenced by behavioural, affective and cognitive factors. The tripartite model may provide a framework within which each of those elements are measured and accounted for, thus extending the vision of previous theoretical perspectives concerning young men's sexual health practices.

Also, whilst applications of Zanna and Rempel's (1988) model in other areas have supported the proposed segregation of affective and cognitive factors, the inclusion of behavioural processes requires further consolidation. Therefore, the present study aimed to further determine the role of behavioural processes in the formation of attitudes.

Finally, the present study aimed to address some of the methodological issues highlighted by Pooley (1996), including reconstruction of the behavioural measurement, further replication and extension of the free response technique in other domains, and examination of the utility of this method of attitude measurement with more diverse populations.

The design of the behavioural measure used the attitude variables as the items for the behaviour scale. Participants rated the frequency with which they practiced each behaviour and a summative score representing overall behavioural risk was determined. A composite measure of behaviour was considered appropriate as other studies have identified consistency of direction of sexual risk behaviour across behaviour types amongst adolescent and youth populations (Sieving et al., 1997; Forrest, 2001).

Therefore, this research aims to address two research questions:

1. *Are affects, beliefs and past behaviours significant predictors of attitudes to sexual health practices?*
2. *Do past behaviours uniquely contribute to attitudes when affects and beliefs have been accounted for?*

Method

Participants

Participants were 60 males aged between 18 and 30 years (mean age = 22.54, $SD = 3.94$) taken from the general metropolitan population of Perth, Western Australia. Of the total number of participants, 41 were aged between 18 and 24 years (mean = 20.27, $SD = .29$), representing 68.3% of the sample. The remaining 18 participants were aged between 25 and 30 years of age (mean = 27.72, $SD = .46$), representing 30% of the sample. Age groupings were designated to screen the data for sample bias toward one end of the age scale. Half the participants (i.e., 30) were young men who accompanied their partners to a sexual health clinic located in the central city area of Perth, Western Australia. These participants did not have an appointment at the clinic themselves, nor had they previously accessed the services of the clinic. The other half was selected at random from various naturally occurring groups within the general metropolitan population, including two educational institutions and a naval base.

Over half of the sample (51.7%) was single, and a further 31.7% were in a long-term or de-facto relationship. Three participants were married, one divorced, and five had indicated a response in the 'Other' category. One participant declined to indicate marital status. Twenty-nine participants had completed secondary education and 30 had completed tertiary education. One participant did not respond to the question. Approximately 63% of the population did not know of someone who had an STI.

Instrument Design

The instrument design was an adaptation of an instrument used by Pooley (1996). The study instrument measured participants' attitudes, beliefs and

emotional reactions towards six sexual health related practices identified in previous research as characteristic of the chosen population: using condoms, having many short-term partners (5+), talking about STIs with a partner, taking drugs and/or getting drunk then having sex, asymptomatic screening for STIs and the practice of carrying condoms. The study instrument was divided into six tasks (See Appendix A):

- Task one concerned overall attitude to the six attitude objects. These were measured using a six item, 7-point Likert scale; -3 (opposed to) to +3 (in favour of).
- Task two required participants to think about each practice and list the most important beliefs (up to eight) that came to mind about each practice. Each practice was headed on a separate page, with eight boxes below it, a box for each belief. In each box appeared a scale, -3 (unfavourable) to +3 (favourable), which participants used to rate each belief.
- Task three requested demographic information (i.e., age, educational status, marital status, type of employment, and personal knowledge of a person with an STI).
- Task four was identical to task two except participants were asked to list the most important emotions that came to mind about each practice.
- Task five measured participants' past behaviours using the six practices described in the previous scales. Participants were asked if they had ever engaged in the particular practice, and to rate the frequency of that behaviour: 1 (never) to 5 (always).
- Task six asked participants to decide which one of their responses (feeling, or belief) was most influential to their attitude toward each practice. They were

also asked to rate their past behaviour as important or unimportant for each practice.

Scores for the attitude scale were derived from the score the participant gave for each attitude variable (e.g., Using Condoms = -3; Many Short-term Partners (5+) = 2). Scores for beliefs and emotions were derived by summing all scores and dividing by the number of possible responses (i.e., eight). Scores for the behavioural scale were summed and divided by the number of practices (6). A score of 6 (accounting for reverse scoring of items two and three) indicated consistently safe sexual practice, and a score of 1 indicated consistently unsafe sexual practice.

Procedure

Half the participants were approached at random at a number of locations including the university campus, an adult education institution, and a naval base and in this manner, 125 surveys were distributed. The remaining 125 surveys were distributed to non-clients attending a sexual health clinic located in the central city area of Perth, Western Australia. All participants were provided with a brief description of the nature of the study. It was explained that participation was voluntary, that participants could withdraw from the study at any stage and refrain from answering any section of the survey. No identifying information was required. Participants were assured of complete confidentiality and the data would only be viewed by the academic supervisor of the study and the researcher. Participants either completed the survey at the time of contact or returned the completed survey via a reply-paid private postal box. In total, 60 surveys were returned, providing a response rate of 24%. Responses to surveys were coded and data was entered using SPSS version 10.

Ethical Considerations

The present study obtained ethical clearance from the School of Psychology Ethics Committee at Edith Cowan University.

1. The participants were informed that the study was anonymous and confidential in that no names were recorded.
2. Participants were made aware of their right to withdraw consent at any time during and after the study without academic penalty.
3. Participants could decline to answer any questions.

Results

Answers for the research questions were generated through correlations and a series of standard and hierarchical multiple regressions. For these tests, attitude toward a sexual health practice was the criterion and beliefs, affects and past behaviours were the predictor variables.

Data screening

Before proceeding, data were tested for violations of the assumptions underlying regression techniques. The sample size met the criteria outlined for this technique by Tabachnick and Fidell (1989). To evaluate the assumptions of regression, data were examined for univariate outliers by examining standardised scores and histograms. Extreme scores were reduced to the next highest value, and examination of the residual scatterplots indicated that all assumptions were satisfactorily met. Tabachnick and Fidell (1989) indicate that tolerance tests conducted by SPSS protect against violation of the assumption of multicollinearity. Multivariate normality was checked through a histogram of standardised residuals. The data was screened for the presence of multivariate outliers using Mahalanobis' distance ($p \leq .001$). No multivariate outliers were identified.

Pearson's product-moment correlation coefficients were calculated to determine paired relationships between attitude, affect, belief and past behaviour scores. Correlations between variables are shown in Table 1. The direction and strength of the correlations between pairs of variables varied considerably. Negative relationships between variables were weak, with significant relationships only being found for one pair -- attitude and reported past behaviour related to Taking Drugs and/or Getting Drunk Then Having Sex: ($r(58) = -.29, p < .05$). This relationship suggests that participants who favourably rated having sex under the

influence of drugs or alcohol also reported consistently unsafe past behaviours.

Positive relationships ranged from very weak (.05) through to moderate (.59).

Table 1.

Correlations between predictor variables and attitude scores for each sexual health practice

Health Behaviour	Mean Att <i>Sd</i>	B-Att	E-Att	PB-Att	E-B	E-PB	B-PB
Using Condoms	1.58 1.83	.364**	.302*	.391*	.249	.226	.423**
Many Short Term Partners (5+)	-.13 1.9	.321*	.582**	-.185	.507**	-.160	-.245
Talking About STIs With My Partner	1.93 1.44	.506**	.289*	.533**	.521**	.162	.283*
Taking Drugs and/or Getting Drunk then Having Sex	.22 1.88	.219	.274*	-.288*	.345**	-.199	-.125
Getting Tested for STIs When I Have No Symptoms	1 1.69	.345**	.587**	.275*	.317*	.291*	.047
Carrying My Own Condoms	1.7 1.53	.448**	.330**	.396**	.592**	.132	.206

N = 60. B = Beliefs, E = Emotions, PB = Past Behaviours, Att = Attitude

*, $p < .05$; **, $p < .01$

Multiple Regression Analyses

1. Do affects, beliefs and past behaviours significantly predict attitudes to sexual health practices?

A series of standard multiple regressions were performed for each variable, to determine whether beliefs, affects and past behaviours contributed to the attitudes towards different sexual health practices. Relevant results from the regressions are presented in Table 2. For two of the variables – Using Condoms and Taking Drugs and/or Getting Drunk Then Having Sex --, none of the predictors

significantly contributed to overall attitude formation. Affects alone were found to be very strong predictors of attitudes toward Having Many Short-term Partners (5+) and Getting Tested For STIs When I Have No Symptoms. Both past behaviour and beliefs contributed to attitudes toward Talking About STIs With My Partner, and Carrying My Own Condoms. Overall, the predictors explained a relatively small portion of the variance for each attitude variable, ranging from 15% for the Taking Drugs and/or Getting Drunk Then Having Sex variable, through to 42% for Talking About STIs With My Partner.

2. Do past behaviours uniquely contribute to attitudes when affects and beliefs have been accounted for?

To answer the second question hierarchical multiple regressions were performed with each sexual health practice. The utility of beliefs as a predictor of attitude has been consistently demonstrated in the literature, and other studies using Zanna and Rempel's model (e.g., Esses et al., 1995; Pooley, 1996) have determined the utility of affects as predictors of attitudes. Thus, in accordance with literary precedence, beliefs were entered into the equation first, followed by affects. Past behaviour was entered last, to determine whether that predictor could uniquely contribute to attitude formation beyond the contributions of the other predictors. Results for the regressions did not present any further information than had been ascertained through the standard regressions and thus were not tabulated. Past behaviour was found to explain a significant portion of the variance for only two of the attitude variables, Talking About STIs With My Partner and Carrying My Own Condoms. For Talking About STIs With My Partner, past behaviour contributed a further 17% to the variance, and 10% to the variance found for the attitude variable Carrying My Own Condoms.

Table 2.

Prediction of attitudes toward sexual health practices from beliefs, affects and past behaviours

Health Behaviour and Predictors	β	B	\underline{R}	R^2
Using Condoms				
Beliefs	.21	.60		
Affects	.19	.67	.49	.24
Past Behaviour	.26	.78		
[F(3,56) = 5.73, $p < .01$]				
Many Short Term Partners (5+)				
Beliefs	.01	.00		
Affects	.56***	1.59	.59	.35
Past Behaviour	-.09	-.29		
[F(3,56) = 9.93, $p < .001$]				
Talking About STIs With My Partner				
Beliefs				
Affects	.37**	.98		
Past Behaviour	.03	.00	.65	.42
[F(3,56) = 13.64, $p < .001$]				
	.42***	1		
Taking Drugs and/or Getting Drunk then Having Sex				
Beliefs				
Affects				
	.13	.29		
Past Behaviour	.18	.48	.38	.15
[F(3,56) = 3.19, $p < .05$]				
	-.24	-.73		
Getting Tested for STIs When I Have No Symptoms				
Beliefs				
Affects	.18	.64		
Past Behaviour	.49***	1.32	.62	.39
[F(3,56) = 11.78, $p < .001$]				
	.12	.34		
Carrying My Own Condoms				
Beliefs	.33*	1.14		
Affects	.09	.33	.55	.30
Past Behaviour	.32**	.80		
[F(3,56) = 8.12, $p < .001$]				

N = 60. *, $p < .05$; **, $p < .01$; ***, $p < .001$ *Subsidiary Analyses: Chi-Squares and Content Analyses*

Chi-square analyses: As a conceptual check for the regressions, Task Six of the instrument asked respondents to name either the emotional response or belief which they felt contributed most to their attitude. Participants were also asked to indicate whether they considered their past behaviour was important to their attitudes toward each sexual health practice.

One-way Chi-squares were conducted to determine whether participants reported beliefs or emotions as most important, and whether past behaviour was important to their present attitude for each variable. Results comparing response frequencies between beliefs and emotions are presented in Table 3 and results comparing response frequencies for the importance of past behaviour are presented in Table 4.

According to the results of the hierarchical regressions, participants should have rated past behaviour as 'important' more frequently than 'not important' for the variables Talking About STIs With My Partner and Carrying My Own Condoms. Conversely, past behaviour was reported to be important for all the variables except Getting Tested For STIs When I Have No Symptoms. This difference was significant for Using Condoms ($\chi^2 (1, N = 55) = 22.27, p < .05$).

The results of the hierarchical regressions also suggested that beliefs should have been rated as more important than affects for Talking About STIs With My Partner and Carrying My Own Condoms. This result was consistent only for the variable Carrying My Own Condoms ($\chi^2 (1, N = 52) = 7.69, p < .05$). A significant result was also found for the variable Getting Tested For STIs When I Have No Symptoms ($\chi^2 (1, N = 52) = 11.08, p < .05$). This result was contrary to those of the preceding analyses; affects had been previously determined to be the sole source of

attitude formation for this variable, yet respondents reported beliefs to be significantly more influential on attitudes than affects.

Table 3.

Frequency with which Beliefs or Affects were Rated as Most Important to Respondents' Attitudes to Each Sexual Health Practice.

Health Behaviour	Influence	Frequency	%	χ^2
Using condoms	Beliefs	34	56.7	3.07
	Affects	21	35	
	Missing	5	8.3	
Many Short Term Partners (5+)	Beliefs	27	45	.000
	Affects	27	45	
	Missing	6	10	
Talking About STIs With My Partner	Beliefs	33	55	3.77
	Affects	19	31.7	
	Missing	8	13.3	
Taking Drugs and/or Getting Drunk then Having Sex	Beliefs	32	53.3	2.77
	Affects	20	33.3	
	Missing	8	13.3	
Getting Tested for STIs When I Have No Symptoms	Beliefs	36	63.3	11.08*
	Affects	16	23.3	
	Missing	8	13.3	
Carrying My Own Condoms	Beliefs	35	60	7.69*
	Affects	17	26.7	
	Missing	8	13.3	

*, $p < .05$

Table 4.

Frequency with which Past Behaviour was Rated as Important or Not Important to Respondents' Attitudes to Each Sexual Health Practice

Health Behaviour	Influence	Frequency	%	χ^2
Using condoms	Important	45	75	22.27*
	Not important	10	16.7	
	Missing	5	8.3	
Many Short Term Partners (5+)	Important	33	55	2.67
	Not important	21	35	
	Missing	6	10	
Talking About STIs With My Partner	Important	33	55	2.67
	Not important	21	35	
	Missing	6	10	
Taking Drugs and/or Getting Drunk then Having Sex	Important	28	46.7	.02
	Not important	27	45	
	Missing	5	8.3	
Getting Tested for STIs When I Have No Symptoms	Important	25	41.7	.46
	Not important	30	50	
	Missing	5	8.3	
Carrying My Own Condoms	Important	33	55	3.19
	Not important	20	33.3	
	Missing	7	11.7	

*, $p < .05$

Content analyses: To determine which affects and beliefs were most frequently mentioned in Task Six by participants, responses were analysed for content, categorised, and frequency tables generated. Tables 5.1a to 5.1f consist of negative and positive belief responses that occurred more than four times. Tables 5.2a to 5.2f consist of emotions that represented more than two percent of responses (see Appendix B).

Discussion

Zanna and Rempel's (1989) conceptualisation of the tripartite model of attitude formation proposed that attitudes could be derived from three separate sources of information: (a) cognitive information, (b) affective information, and (c) information concerning past behaviours. Using this assumption as a guide, two research questions were generated for examination. First, *are affects, beliefs and past behaviours significant predictors of sexual health attitudes?* and second, *do past behaviours uniquely contribute to attitudes when affects and beliefs have been accounted for?*

The answers to each question provided by results of the study will be considered separately, followed by the implications present result have for attitude theory and the field of sexual health. Finally, the methodological limitations of the present study will be considered.

Are affects, beliefs and past behaviours significant predictors of sexual health attitudes?

Correlation analyses between each of the attitude variables and each of the information sources forecast affirmation of this question for four of the six attitude variables measured, namely Using Condoms, Talking About STIs With My Partner, Getting Tested for STIs When I Have No Symptoms, and Carrying My Own Condoms.

Contrary to traditional conceptualisations of attitude formation, participants' beliefs were found to have the strongest relationship with only one of the six practices, Carrying My Own Condoms. Emotions had the strongest relationship with two variables, Having Many Short-term Partners (5+), and Getting Tested For STIs When I Have No Symptoms. Also discrepant with the

attitude literature was the importance of past behaviour for attitude formation. That information source was found to have the strongest relationship with attitudes for three practices; Using Condoms, Talking About STIs With My Partner, and Taking Drugs and/or Getting Drunk Then Having Sex.

The correlation tables also indicated significant relationships between the emotional and belief based predictors. The distinctions between affective and cognitive components of attitude have been demonstrated through various measurement techniques (Breckler & Wiggins, 1989; Edwards, 1990). However, the strength of the correlations between those two predictors in the present study forecast that further analyses would not present both affect and cognition as significant simultaneous predictors of attitudes.

Multiple regressions performed for all variables revealed that when the three sources of information were considered simultaneously, some sources did not predict attitudes toward sexual health practices, meaning participants did not always utilise cognitions, affects, and their past behaviours to evaluate their sexual health practices.

Do past behaviours uniquely contribute to attitudes when affects and beliefs have been accounted for?

To determine whether past behaviour could uniquely contribute to the variance in attitude scores, hierarchical multiple regressions were performed with each of the attitude variables. These regressions did not extract further information from the data than was determined by the standard regressions, meaning past behaviour made a significant contribution to participants' attitudes for two of the six variables: Talking About STIs With My Partner and Carrying My Own Condoms.

In summary, it was found that attitudes toward sexual health practices were predicted by participants' emotional responses or a combination of their beliefs about a practice and their past behavioural experiences with sexual health matters. These results have implications for the debate concerning the conceptualisation of attitude formation, and for the understanding of sexual health practices amongst young men.

Implications for the Conceptualisation of Attitude Formation.

First, the results of the present study supported Zanna and Rempel's (1988) conceptualisation of attitude formation in that beliefs, affects and past behaviour were all found to *independently* contribute to attitudes toward sexual health practices. However, the combined contribution of variables was markedly different from results produced by other studies that have used Zanna and Rempel's model.

One outstanding characteristic of previous research has been the consistent presence of participants' utilitarian beliefs in attitude prediction. However, the present study suggested that participants' beliefs were, for the most part, secondary to either their affective responses or their past behavioural patterns. One explanation for this difference may lie with the conceptual content of the actual items participants were asked to evaluate. Previous studies have examined concepts which may be of consequence at a sociocultural level (e.g., environmental concerns (Pooley, 1996) and social issues (Eagly et al., 1994)), but which may only feature significantly in the personal experiences of specific populations. Therefore, whilst participants may have clearly formed beliefs concerning such concepts, the emotional impact of their experience with the concept may be weak or non-existent and they may have no past behavioural experiences directly related to the concepts being measured.

Under those circumstances, participants' beliefs may be the most salient source of information from which they can form attitudes toward such concepts; emotional and behavioural responses must be inferred from those beliefs. This personal distance from the concepts being measured may have lead to over-representation of beliefs as a principle component of attitude prediction.

Conversely, other literature (Moore & Rosenthal, 1994; Morrison, et al., 1994; Sieving, et al., 1997) has demonstrated that it was likely that participants had personal experiences conducive to the formation of affective and behavioural associations with the practices examined in the present study. Personal familiarity meant that participants did not need to access their beliefs in order to speculate their affective or behavioural experiences concerning the practices. Consequently, beliefs were found to play a lesser role in attitude formation than has been previously demonstrated.

Second, the present study provided further support for the inclusion of past behaviour as an antecedent to attitudes. A similar relationship was also established by Pooley (1996) in her examination of the sources of students' attitudes toward environmental issues. However, Pooley found that past behaviour made a weak contribution to only one issue: the clearing of native forest for urban development. In contrast, past behaviour was found to be the strongest predictor of attitudes toward Talking About STIs With My Partner, and was of equal importance to beliefs in predicting attitudes toward Carrying My Own Condoms.

Pooley (1996) suggested her results to be related to the design of the scale used to measure environmental behaviour. The scale used asked questions regarding the respondents' general level of participation in environmental issues, and was therefore not specifically linked to any of the environmental issues. Pooley

proposed that a more accurate predictive measure should either examine the general domain in question (e.g., environmental behaviour) or be item (issue) specific. The present study followed this suggestion by creating a behaviour scale using the sexual health practices being examined.

The significant presence of past behaviour as an attitude predictor determined the success of this method. However, the scale was scored to produce an overall indication of sexual risk behaviour, thereby attempting to predict attitudes to specific items from a general scale. Although Pooley (1996) found that a similar tactic produced only weak results, the success of the general measure for the present study may also be due to the characteristics of the research domain. For instance, Sieving et al. (1997) determined that the degree of sexual risk-taking was consistent across behaviour types (frequency of intercourse, number of sexual partners, consistency of condom use), and that a multivariate (i.e. general) measure of STI risk which incorporated these three behaviours predicted STI risk behaviour in the young men participating in the study. Similarly, Morrison et al. (1994) demonstrated that participants who reported more frequent unprotected intercourse were also more likely to have had paid sex and sex with an injecting drug user. These results suggest that sexual risk taking is, for the most part, unidirectional. Therefore, a composite behavioural measure was appropriate to determine the influence of past sexual behaviours on attitudes toward sexual health practices.

Finally, multiple regressions found that attitudes toward sexual health practices were not predicted by all of the factors, and various combinations of factors predicted different practices. Although these results did not reveal attitude structures identical to Zanna and Rempel's (1988) model, they still provided support for that conceptualisation of attitudes. This conclusion could be drawn as

the researchers suggested that the model should be used as an exploratory tool, rather than a rigid structural definition. That is, the model could be applied as a means of identifying the underlying structure of attitudes toward an entity.

Furthermore, Zanna and Rempel (1988) suggested that when a single predictor was determined to predict attitudes toward an entity, the appropriate single-component theory would apply. In the case of the present study, this occurred where affects were found to predict attitudes toward Having Many Short-term Partners (5+) and Getting Tested For STIs When I Have No Symptoms, possibly indicating Zajonc's (1980) conceptualisation of attitude formation. They argued that this tactic could also be followed when a combination of predictors determined attitude, as in the present study, where past behaviour and beliefs were found to predict attitudes toward Talking About STIs With My Partner and Carrying My Own Condoms. Those results could be interpreted to follow the self-perception theory of attitude formation posited by Bem (1972).

Therefore, in order that clear support might be provided for Zanna and Rempel's (1988) model, this investigative function was applied to interpret the basis of attitudes toward practices that had produced a significant predictor-attitude relationship.

Affect as an Attitude Predictor

Affect appeared as a single significant predictor of attitudes toward the practices of Having Many Short-term Partners (5+) and Getting Tested For STIs When I Have No Symptoms. This outcome proffered support for affective theories of attitude formation (Zajonc, 1980), which suggest that where affective information exists in relation to a stimulus, it is more easily and immediately accessed than specific items of knowledge. According to the theory, some

circumstances (attitude objects) provoke unconditioned affective responses; however, repeated exposure to a condition can also strengthen or automate the stimulus-response relationship (i.e., priming). Having Many Short-term Partners (5+) and Getting Tested For STIs When I Have No Symptoms are practices conceptually consistent with these assumptions.

Emotional intimacy with another person is inherent to the concept of a partnership; a condition conducive to the development of highly salient affective information from which an attitude to the concept of 'partnerships' may be determined. A number of studies concerning the sexual health behaviour of young people have indicated the tendency toward multiple single-partner relationships (Moore & Rosenthal, 1991; Orr & Langefeld, 1993; Sieving et al., 1997). Whilst the sample may not all have experienced five or more partnerships, it is probable that most had experienced more than one, and many had experienced this number. It follows that either past relationship experiences or simply the concept of 'partnership' prompted participants to base their evaluation of many short-term partnerships on affective information.

However, whilst the prediction of attitudes from emotions was logical for this practice, the predictive relationship between emotions and attitudes was negative. This means the more positive participants' emotions were, the more likely they were to negatively evaluate the practice. To understand this relationship it was necessary to examine the qualitative data for the practice. The most frequently reported emotional responses referred to the feelings of sexual success, increased self-worth and self-confidence, feelings of attractiveness, and so on. Yet, the overall evaluation of the practice was negative, suggesting that the immediate gratification and social status gained by the practice did not detract from the overall

negative perception of the practice itself. This result has implications for affective theory, as it demonstrates the limitations of affective responses. Although emotional reactions may be the most automatic responses, other aspects of the attitude object, though less empirically salient, may still dictate the resulting attitude.

As beliefs did not correlate with attitude scores, the hidden agent leading to attitudes toward this practice was probably previous negative behavioural experiences with the practice of having many partners. Additionally, the emotional responses given implied the effect of social forces on the overt evaluation of the practice. Therefore, it is possible that identification with the masculine ideal and social expectations related to sexual behaviour in men (McGrane & Patience, 1993; Spencer, 1988) compelled participants to indicate their overt support for the practice. The inherent association between emotions and relationships meant this support was most strongly expressed in emotional terms; however, actual evaluation of the practice appeared to also be influenced by less obvious sources of information.

A similar interpretation may be followed for the practice of Getting Tested For STIs When I Have No Symptoms. It has been recognised that men generally only seek health care once their regular body function has become severely impaired (Brand, 1993; Huggins, et al., 1996; Strodl, 1993). Thus, the consequence of an appointment at a health service is often hospitalisation or other extensive treatment (Huggins, et al., 1996), outcomes that are conducive to the provocation of strong affective responses. Given that masculinism is the predominant social norm within the Australian male culture (McGrane & Patience, 1993), it is probable that the young men who participated in the present study

followed this behaviour pattern. Therefore, “getting tested for STIs” may have fallen under the general behavioural category of “accessing health care services”, an activity readily associated with, and therefore more easily evaluated through emotional experiences.

For this practice, participants indicated that the more positive they felt about Getting Tested For STIs When I Have No Symptoms, the more favourable they were toward the practice. It appeared that participants evaluated the practice in the past tense, that is, ‘how *did/would* I feel after I was tested for STIs?’, as the most frequent responses for this item were ‘safe’, ‘responsible’, ‘happy’ and ‘relieved’. These responses possibly indicated that the young men in the present study did not expect a negative outcome from an STI test, and therefore could not consider their responses to be negative. This interpretation is congruent with the masculine perception of health that if it does not show, there’s nothing to worry about (Ohehir, 1996; Strodl, 1993). Alternatively, they may have indicated emotional reactions elicited after past testing had revealed a negative (i.e., non-infected) status.

Either way, the frequency of these responses, and the positive direction of the relationship between emotions and attitudes toward Getting Tested For STIs When I Have No Symptoms indicated that participants previous experiences with the practice were positive. As other research (Howard & Stodart, 1995) has indicated that young men are uncommon to clinical services, these results may mean that these young men were relating their reactions to a single occasion, or were speculating their reactions. Nonetheless, some aspect of the concept of Getting Tested For STIs When I Have No Symptoms elicited a profound emotional reaction, from which the young men in the present study evaluated the practice.

Therefore, empirical and logical evaluation of the conceptual content of these practices indicate that attitudes toward Having Many Short-term Partners (5+) and Getting Tested For STIs When I Have No Symptoms could viably be predicted from emotional reactions.

Past Behaviour, Beliefs, and Attitude Formation.

As mentioned, participants' past behaviours were found, in conjunction with their beliefs, to be aligned with their attitudes toward Talking About STIs With My Partner and Carrying My Own Condoms. For this study, 'past behaviour' was not practice specific, but rather a general indication of participants' sexual risk behaviour. The positive relationship between past behaviour and attitudes toward Talking About STIs With My Partner and Carrying My Own Condoms indicated that safe sex practices predicted a favourable evaluation of these practices. Past behaviour was also found to be a stronger predictor of Talking About STIs With My Partner than beliefs, though this pattern did not occur for Carrying My Own Condoms.

To determine the viability of Zanna and Rempel's (1988) model as an investigative tool, Bem's (1972) self-perception theory was utilised to explain these results. The theory suggests that individuals observe their own behaviours and extrapolate their attitudes from those behaviours. Attitudes are formed in this manner when behaviour is perceived to be self-motivated, as opposed to being influenced by external forces. Furthermore, behaviour is taken as a guide to attitude when internal information (i.e., beliefs and affects) concerning the attitude object is weak or non-existent.

Therefore, attitudes may be formed according to observed behavioural direction when an individual does not possess concrete convictions, either affective

or cognitive, regarding an entity. According to that interpretation, the participants in the present study had few significant convictions regarding talking about STIs with a partner or with carrying condoms, so had few beliefs or emotional reactions relating to the practices upon which to base their attitudes. Consequently, participants assumed that their attitudes would be congruent with their general behavioural approach to sexual health. Therefore, they also perceived their other sexual health behaviours to be true demonstrations of their attitudes toward sexual health, rather than the product of external influences (e.g., social norms).

The inclusion of beliefs as informant to attitudes toward these two practices further supported this interpretation. Because past behaviour did not refer to specific experience with a practice, responses generated for the practices may not have reflected actual experience, so, were bereft of personal meaning. Other studies (Esses et al., 1993; Eagly et al., 1994; Pooley, 1996) have indicated a similar effect, that beliefs may be salient sources of information when other (more personalised) information is lacking. Therefore, the absence of specific behavioural examples meant participants needed to support their evaluations through elicitation of the utilitarian information they possessed regarding each practice.

In conclusion, although a positive relationship between past behaviour and attitudes suggested the *likelihood* of engaging in the practice, the need for participants to also utilise their beliefs to support their attitudes suggested limited *actual* experience with the practice.

These conclusions can be supported by research on the sexual health behaviour of young people. For example, Morrison et al. (1994) examined knowledge and sexual experience as predictors of sexual risk behaviour and attitudes to condom use in a group of incarcerated teenagers. That study indicated

that participants clearly understood the risks associated with certain sexual practices (e.g., unprotected intercourse, intercourse with an intravenous drug-user), yet failed to identify health risks in their own sexual practices. These results demonstrated that participants could express beliefs in support of health promotional practices; however, this did not necessarily indicate personal experience with a practice.

An examination of the qualitative responses provided for each of these practices indicated this effect. For the practice of Talking About STIs With My Partner, the most frequently reported positive belief was ‘necessary’; other favourable beliefs also indicated an understanding of the value of the practice (e.g., testing may be needed). Beliefs associated with Carrying My Own Condoms carried similar information. The most frequently reported beliefs related to safety, responsibility, maturity, and the prevention of negative consequences. These responses suggested that participants identified the practices as something that ‘should’ be done, and gave reasons in support of that perception. Therefore, the beliefs elicited more accurately reflected socially appropriate responses than information gained through personal experiences with the practices.

Behavioural studies also support the suggestion that attitudes were generated from conjecture rather than specific informative sources. Separate research by Forrest (2001) and Sieving et al. (1997) found that discussing sexual issues was more frequent amongst young women than young men. Sieving et al. also found the practice predicted negative STI-risk behaviour (i.e., safe sexual practices) for young women, whereas it did not feature in young men’s sexual practices. Therefore, these results support the suggestion that the young men in the

present study were not likely to have had specific experience with Talking About STIs With A Partner.

Similarly, a large portion of the research concerning sexual health behaviour has demonstrated the infrequency of condom preparation amongst young men. Morrison, et al. (1994) and Sieving, et al. (1997) respectively determined that young men perceived a number of barriers to condom accessibility (e.g., expense) to be an obstacle to condom use, meaning young men were not likely to have condoms available at last intercourse. Other studies suggest that the likelihood of carrying condoms is also associated with age and experience with condoms. Orr and Langefeld (1990) demonstrated that increased experience with condoms was associated with negative attitudes toward condom use, whilst Forrest (2001) found that the effect of that relationship was a tendency for the practice to decrease with age.

These characteristics (sex, age and experience) were typical of the sample group for the present study. Therefore, although participants may have carried their own condoms at some time in the past, it was not likely to be a current or frequent practice for the group.

In summary, the formation of attitudes toward Carrying My Own Condoms and Talking About STIs With My Partner could logically be described using Bem's (1972) theory of self-perception. That is, participants assumed their attitudes toward the practices were congruent with the way they usually approached sexual health. However, limited specific experience with the practices being considered meant participants also had to utilise the beliefs they had regarding the practices to further support their attitudes. These results indicated that Zanna and Rempel's

(1988) model of attitude formation could be used to investigate the processes through which attitudes toward those practices were formed.

Non-significant Results: Measurement Error

The investigation of the preceding four attitude variables supported Zanna and Rempel's (1988) postulate that attitudes may be determined from one or more of the three sources of information, cognition, affect and past behaviour. However, analyses of two of the attitude variables in the present study, Taking Drugs and/or Getting Drunk then Having Sex and Using Condoms, elicited non-significant results.

Participants' affects and past behaviours were significantly related to their attitudes toward Taking Drugs and/or Getting Drunk Then Having Sex, however, beliefs were not. Therefore, although beliefs were not expected to feature in further analyses of that practice it was expected that either affects or past behaviour would contribute to attitudes.

Conversely, beliefs, affects and past behaviour correlated significantly with attitudes toward Using Condoms. Thus, it was expected that one or more factors would contribute significantly to attitudes toward that practice.

As these expected results did not occur, it appeared that participants' attitudes toward both of these practices were not determined by 'what they knew, how they felt, or what they were inclined to do (Rosenberg & Hovland, 1960)'.

Further examination for collinearity amongst variables may explain the unusual outcome of the regressions. Beliefs about Taking Drugs and/or Getting Drunk Then Having Sex were found to correlate with emotions toward that practice, indicating that the emotion response scale and the belief response scale were in fact measuring the same attitude component. As emotions did correlate

with attitude scores but beliefs did not, it is probable that beliefs toward the practice had a significant emotional component. This relationship may have diluted the contribution of affects to the formation of attitudes toward Taking Drugs and/or Getting Drunk Then Having Sex. Also, despite a significant F statistic (multivariate effect), the predictors only accounted for 15% of the total variance in attitude scores, which may have magnified the sensitivity of the regression equation to the effects of correlation between the factors.

A similar effect may have caused the non-significant results for Using Condoms. Although each predictor contributed to attitude scores, beliefs and past behaviours were significantly correlated. As a result, each of those predictors contributed only a small unique portion to the variance in attitude scores. Although emotions did not correlate with either of these, the results indicated that the portion of variance explained by past behaviour and beliefs was greater than the variance explained by emotions. Therefore, emotions alone could not provide significant unique influence on attitudes toward Using Condoms.

In summary, participants' affective reactions were not clearly distinguishable from their beliefs about Taking Drugs and/or Getting Drunk Then Having Sex suggesting the free response method was not appropriate for measurement of predictors of attitudes toward this practice. Additionally, beliefs, emotions and past behaviours were related to attitudes toward Using Condoms, however, beliefs and past sexual health behaviours were more strongly related to each other. In light of this result, it may be more appropriate to measure either beliefs or past behavioural practices when examining predictors of attitudes toward Using Condoms. To conclude, non-significant results were deemed to be related to errors of measurement not evident during data screening.

Meaning for Zanna and Rempel's Conceptualisation of Attitude

In summary, the present study found that participants did not utilise all three sources of information (cognitive, affective and behavioural) to formulate their attitudes to the six presented sexual health practices. However, Zanna and Rempel's (1988) model can accommodate for such results, as the authors stipulated that the model was designed to be a referent framework from which researchers may extract the theoretical perspective most applicable to their outcomes. For instance, outcomes for the present study may be explained using Zajonc's (1980) affective theory and Bem's (1972) theory of self-perception. Justification of these propositions would require further theory-specific examination, however, the model offers a least restricted, and thus perhaps more accurate, outline of the operative structures leading to the formulation of attitudes toward certain attitude objects. Thus, the results of the present study provided further evidence for the utility and validity of the composite tripartite model of attitude formation.

Conceptual Analyses

Participants were also asked to indicate whether they felt their beliefs or emotions exerted the most influence over their attitudes, and whether they believed their past sexual health practices played an important role in their attitude toward each practice. These measures were intended to determine the degree to which participants' own perceptions of their motivators agreed with the results generated by the regression analyses.

Beliefs versus affects: Results from the chi-squares indicated that participants rated beliefs as more influential than emotions for five of the six variables. This difference was found to be significant for Carrying My Own Condoms and Getting Tested For STIs When I Have No Symptoms. According to

the regressions, participants' beliefs were most salient for the former variable and Talking About STIs With My Partner. Emotions and beliefs were equally represented for the variable Having Many Short-term Partners (5+). A significant difference in favour of beliefs was not predicted for Getting Tested For STIs When I Have No Symptoms. As these results were based on an overt measure of participants' perceptions of the information sources that influenced their attitudes, these variations may be considered to reflect the discrepancy between that perception and actual attitudinal influences. However, it was noted that beliefs were favoured over affects with consistency greater than chance.

Thus, an alternative interpretation was generated; that these results were better explained as a reflection of the psychosocial influences on men's behaviour. Australian culture does not encourage men to express their emotions (McGrane & Patience, 1993). Furthermore, it is expected that men be rational, level-headed and decisive (Ohehir, 1996). Thus, the results of the chi-squares could be an indication of the degree with which participants ascribed to these cultural norms. As a result, when directly asked to consider the importance of one's emotional experiences versus the factual information one possesses concerning a behaviour (i.e., their beliefs), the automatic response would be to discount or deny the importance of emotions in favour of factual information. Hence, the consistency with which beliefs were rated as more influential than emotions. Therefore, these results could be used as a covert behavioural measure of the potential effect of social desirability on the self-report measure utilised for the present study through an examination of the number of beliefs participants generated for each variable versus the number of affective responses reported. The effect of social desirability could then be

measured by the consistency with which those results coincided with the results of the chi-squares.

This suggestion does not influence the construct validity of the method of measurement used in the present study. The results of the regression analyses represented the degree with which participants ratings of each information source were congruent with their reported evaluation of each attitude variable, thus, the means by which responses were measured in the present study was not directly related to the number of responses but rather the aggregate value of each set of responses.

In conclusion, the contrast between beliefs and affects determined by the chi-square analysis was deemed to have little bearing on participants' actual perceptions of the information source which influenced their attitudes to each of the practices. Rather, they were taken as a representation of the potential impact of social norms on participants' overt responses.

The importance of past behaviour on attitudes: Participants were also asked to indicate whether they perceived their past behaviours to have influenced their attitudes toward each of the practices. Past behaviour was rated as important for all practices except Getting Tested For STIs When I Have No Symptoms. Again, results were contrasted with those ascertained via the regression analyses. It was expected that past behaviour would be rated as important for participants' attitudes toward Carrying My Own Condoms and Talking About STIs With My Partner. Although this result was borne out, the difference between important and not important responses was not statistically significant, suggesting that participants' overt perceptions were not well aligned with their covert evaluations of those variables.

Particularly interesting to note is that a consistently larger number of participants *perceived* their past behaviour to be important to their attitudes, despite the difficulty with which this relationship has been ascertained in the attitude literature. Two conclusions were drawn from this finding. Firstly, that in overtly evaluating the importance of their past behaviour, participants called to mind their experience with each practice specifically. Secondly, that individuals assumed their past behaviour was a representation of their attitudes toward the practices, as posited by Bem (1972). Thus, when participants could extract information regarding the practices from specific past behavioural experiences, they felt that their behaviour was reflective of or important to their attitudes.

Significant past experience could therefore explain the large number of respondents who indicated the importance of past behaviour for their attitudes toward Using Condoms. If that was the sexual health practice familiar to most participants, then a greater number of respondents could examine their attitudes in relation to their experiences with condoms. Similarly, a lack of personal experience may have caused more participants to rate their past behaviour as unimportant to their attitudes toward Getting Tested For STIs When I Have No Symptoms. If participants had rarely undertaken this activity, as would be expected from the literature on adolescent and men's health, then they would determine their past behaviour as uninformative and consequently not applicable to their present attitude.

In summary, participants assumed that it was necessary to have previously experienced the presented sexual health practices in order that they might evaluate them. Therefore, the frequency with which practices were rated as important may

be indicative of the number of participants who had actually engaged in the practices examined.

Methodological Implications and Limitations of the Present Study

A number of limitations and methodological considerations were identified that need to be addressed in future research. First, whilst diverse, the population sample for the present study was relatively small. Further to this, half of the sample was taken from a sexual health clinic. Although these young men were not clients of the clinic, their presence suggested either an awareness of sexual health issues greater than that of the general young male population, or a greater sense of responsibility with regard sexual health issues. This may explain the more positive orientation (i.e., safe sex) of the data. Therefore, results should not be interpreted as indicative of trends within the general population.

Second, aspects of the instrument design need to be addressed. One aim of the study was to examine the ability of the free response method to measure participants' salient beliefs and affective reactions toward attitude objects. The determination of each factor as a significant contributor to attitudes toward sexual health practices indicated this method to be successful. However, the method was not ideal for use with the examined population.

Previous studies have utilised the free response method (Eagly et al., 1994; Pooley, 1996) with well educated and consequently more verbally inclined populations. In contrast, fifty per cent of participants in the present study had only completed secondary education. The low number of responses provided by respondents in the presents sample (mean = 3.6) indicated the difficulty this method presented for less verbally inclined populations.

The effect of this barrier may have been exacerbated by the gender of the sample. As the Australian culture discourages young men from recognising their affective responses (McGrane & Patience, 1993), participants may have found difficulty representing their emotions verbally. As a result, particularly the contribution of affects to participants' attitudes may have been under-represented. These issues may be overcome in future research by applying the free-response method as a covert measure of attitude determinants, from which a forced-choice response instrument might be designed.

Third, some consideration should also be devoted to the utility of the behavioural scale for data interpretation. Pooley (1996) recommended that behaviour-specific scales might best measure the effect of past behaviour on attitudes. To meet this recommendation, the sexual health practices under consideration were arranged in a scale format. Given that behaviour was found to significantly predict participants' attitudes toward two of the practices, this method of behavioural measurement appeared successful. However, past behaviour was measured from an aggregate of the responses given on the behavioural scale, meaning scores only indicated the general direction in which participants acted. Therefore, the instrument was not sensitive to discrepancies in behaviour.

This issue is of particular importance where the attitude objects being evaluated are behaviours, because past behavioural experience is implied to be necessary for the formation of attitudes toward such stimuli. Consequently, this method of measurement may create false positive results, as one's specific past behaviour may in fact be contradictory to one's attitudes, however, the general direction of one's behaviours may still indicate congruence. To overcome this issue, item-specific frequency scores could be used as measures of past behaviour.

Finally, the particular aim of this study was to examine the validity of Zanna and Rempel's (1988) conceptualisation of attitude formation. As a result, the sources from which individuals derive their attitudes toward several sexual health practices have been examined. However, the degree of continuity between attitude and *present* behaviour was not determined, thus limiting the accuracy with which the results of this research might be applicable to the development of sexual health intervention strategies for young men. It would be of value for future studies to examine the degree with which participants' current practices were indicative of their attitudes, and whether they were reflective of the sources from which their attitudes were derived.

Implications for Health Behaviour

The results of this study present some new information concerning the motivators of men's sexual health practices. Previous studies have primarily focused on the effects of knowledge and beliefs as predictors of attitude or intention (Kegeles et al., 1994; Morrison et al., 1994; Orr & Langefeld, 1993; Sieving et al., 1997). Consequently, interventions have assumed behavioural change will be effected through the provision of accurate information, with limited success. One reason may be that these interventions have failed to address the impact of previous behavioural patterns in conjunction with utilitarian beliefs. For example, in accordance with the attitude theory upon which their studies were based, both Sieving et al. (1997) and Kegeles et al. (1991) concluded that the stability of sexual health practices over time was the result of beliefs concerning the practices. However, the present study indicated that young men might assume their attitude toward a practice (thus indicating the direction of future action) from the way they behaved generally with regard sexual health practices.

Therefore, primary role of utilitarian beliefs was to provide item/action specific information, as opposed to providing the directional impetus of an attitude. This was particularly the case where young men were unlikely to have had experience with a practice, for example Talking About STIs With My Partner and Carrying My Own Condoms. For the purposes of understanding sexual health activity in young men and effective intervention design, young men unfamiliar with an activity may use their general behaviour as a guide *in conjunction with what they know about the activity*. Therefore, the provision of accurate information concerning sexual health is important; however, if interventions are to have an impact on future health behaviour as well as present habits, the development of health affirmative behavioural skills is essential.

Additionally, the effectiveness of current intervention programs may be reduced by the minimal attention given to emotional reactions and experiences as informants to attitudes (and potentially to behaviours. Where it has been examined, affect has been demonstrated to be of some consequence for evaluative outcomes (Moatti et al., 1991; Richard et al., 1995). This proposal was reflected in the present study. Indeed, where affective responses were implicated, they took precedence over both cognitive and behavioural sources of information. Additionally, emotional experiences were found to be important for attitudes toward activities which, when practiced, would logically have a significant emotional component, that is, Getting Tested For STIs When I Have No Symptoms and Having Many Short-term Partners (5+).

Therefore, if the behavioural targets of an intervention suggest emotive experiences, then intervention designs should incorporate emotion-reflective tasks and objectives. Furthermore, these results indicate that whilst young men may

have many partners and do not engage in health preventative behaviours, this may be a socially appropriate behavioural façade. In reality, they may not be coping with the emotional implications of sexual health and sexual relationships. Given that emotional experiences, when salient, appear to have overriding implications for young men's attitudes toward their sexual health practices, this is an area which requires further empirical investigation and intervention-based attention.

Conclusion

Several conclusions for both attitude theory and young men's sexual health practices were drawn from the outcomes of the present research project. In relation to attitude theory, several investigative questions were answered. First, cognitive, affective and behavioural sources were found to be independently important to the formation of attitudes, thereby validating Zanna and Rempel's (1988) model of attitude formation. Second, the predictors identified when the composite effect of the sources was measured indicated the utility of the model as an investigative tool. Finally, the study supported the inclusion of behavioural experiences as an independent reference from which individuals may guide their attitudes.

The study also provided new insights concerning the motivators of young men's attitudes toward their sexual health behaviour. Of particular note was the role of cognitive (belief) based sources of information. Previously, the theoretical models upon which interventions were based assumed beliefs to be the primary predictors of behaviour. Conversely, the present study indicated that beliefs were at best equal in value with behavioural trends, and played no role where attitudes were influenced by emotional experiences. This served not only to identify the limitations of the belief-behaviour assumption, but also to indicate under what circumstances they might be applicable.

However, Zanna and Rempel's (1988) model did not provide predictive solutions for participants' attitudes toward Taking Drugs and/or Getting Drunk Then Having Sex and Using Condoms. Attitudes only accounted for 15% of participants' attitudes toward Taking Drugs and/or Getting Drunk Then Having Sex, indicating the complexity of the issues surrounding intoxication and sexual behaviour. The results of the present study were also contrary to the multitude of studies that have identified utilitarian beliefs to be the best predictors of condom use amongst young men. Therefore, whilst these results were interpreted to be the fault of measurement, it is also possible that factors not considered, especially perceptions of social norms, may be salient sources of information for these behaviours. This illustrates the limitations of the belief-behaviour assumption and consequently a possible cause for the failure of past interventions concerning young men's sexual health.

In summary, interventions which hope to address the psychological sources of young men's sexual health behaviour must first recognise the importance of non-cognitive sources of information, and the limited influence of cognitive information on attitudes and behaviour. The present study demonstrated that Zanna and Rempel's (1988) model of attitude formation could provide an indication of those other factors that may be important to particular sexual health practices. Furthermore, whilst the pragmatic arguments for cognitive model based interventions cannot be refuted, education programs may easily include skill development sessions such as role-plays and condom use demonstrations, and emotion-reflection exercises, particularly where sexual behaviours are likely to prompt an emotional response (e.g., having many short-term relationships). Alternative approaches to intervention programs should be investigated, as there

are limitations to the current sexual health program designs that affect young men and therefore young women.

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APPENDIX A: Measures of Participants' Attitudes, Beliefs, Emotions And Past Behaviours Regarding Sexual Health Practices

Dear Participant,

I am currently completing an Honours degree in Psychology at Edith Cowan University in Joondalup. My research is designed to find out what your attitudes are to your sexual health practices. I would be very grateful if you would fill in the questionnaire that is attached to this letter. Please note that by doing so, you are implying consent to take part in the study.

However, taking part in this study is entirely voluntary.

You do not have to leave your name and address, and you do not have to fill out anything that you do not wish to. You will not be individually identified. Any information you write will only be seen by my supervisor, and myself.

All the information collected will be used for my thesis, and hopefully will be useful for future educational programmes. If you have any further questions regarding the project, please feel free to contact me, Felicity Wright, or my supervisor, Dr Lynne Cohen.

Thank you very much for your time and effort.

Felicity Wright

Contact details

Felicity Wright

ph: [REDACTED]

Dr Lynne Cohen

ph: [REDACTED]

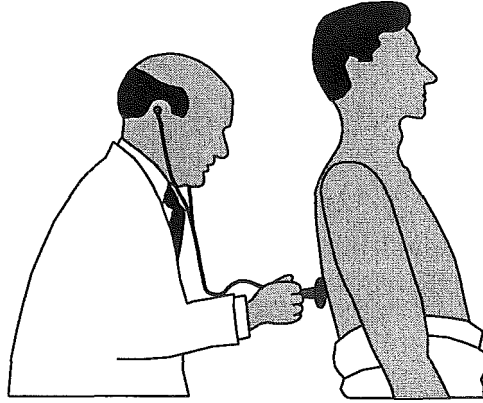
Edith Cowan University

[REDACTED] Joondalup Drive

Joondalup, WA

6027.

QUESTIONNAIRE ON MEN'S ATTITUDES TO THEIR SEXUAL HEALTH PRACTICES



Thank you for volunteering to complete the attached questionnaire. I am an Honours student studying Psychology at Edith Cowan University. This study is being conducted as my Honours project. The attached questionnaire is to be used in the study to determine men's attitudes to their sexual health practices.

Confidentiality will be maintained at all times and no names and addresses are required.

You are free to withdraw at any time and need not complete any part of the questionnaire.

Information supplied will be used for this research alone.

My name is FELICITY WRIGHT and I can be contacted on [REDACTED] E-mail:

[REDACTED] My supervisor for my project is Dr Lynne Cohen who can be contacted on [REDACTED]

INSTRUCTIONS: Please complete all six tasks in the order that they are presented.

Please read the instructions and examples carefully before completing each task.

STI = sexually transmitted infection

‘Short term partners’ = one at a time, for less than 6 months

TASK 1

The first task requires you to indicate your point of view regarding six actions that describe sexual health practices. To complete this task please read the action and then circle, on the scale provided next to the action, which number best represents your attitude.

-3 indicates you are strongly opposed to that sexual health related practice

+3 indicates you are strongly in favour of that sexual health related practice

0 indicates you are neither opposed to or in favour of that sexual health related practice

Please go on to the task

What is your attitude toward (please circle your response)

	Opposed to				In Favour Of		
Using condoms	-3	-2	-1	0	+1	+2	+3
Many short-term partners (5+)	-3	-2	-1	0	+1	+2	+3
Talking about STIs with a partner	-3	-2	-1	0	+1	+2	+3
Taking drugs and/or getting drunk then having sex	-3	-2	-1	0	+1	+2	+3
Getting tested for STIs when I have no symptoms	-3	-2	-1	0	+1	+2	+3
Carrying my own rubbers	-3	-2	-1	0	+1	+2	+3

TASK 2

In this task you will be asked to list up to eight beliefs that you personally have about the sexual health practices you just rated. For example, you may have a belief about the effects of using a particular practice. Or, you may have a belief about who supports a particular practice.

Just think about the action for a few moments and then write down whatever you think is true about the action. Eight boxes have been provided, so you can write **up to 8** beliefs.

You do not have to fill in all the boxes. Please write one belief in each box..

Next to each of your beliefs please indicate, on the scale provided, if this belief leads you to be favourable or unfavourable to the practice

-3 indicates your belief makes you unfavourable toward the practice

+3 indicates your belief makes you favourable toward the practice

0 indicates your belief makes you neither favourable nor unfavourable toward the practice.

FOR EXAMPLE:

For the practice of termination of pregnancy, in the first box you may write

I believe Women have the right to choose	Unfavourable -- Favourable -3 -2 -1 0 +1 +2 +3
---	---

This belief would probably make you in favour of termination of pregnancy, so you would circle +3 at the **favourable** end of the scale. Of course, there are no right or wrong answers. You simply write down what you personally believe is true about the practice of termination of pregnancies.

In the second box you may write

I believe The male partner often doesn't get a say	Unfavourable -- Favourable -3 -2 -1 0 +1 +2 +3
--	---

This belief would probably make you opposed to termination of pregnancy, so you would circle -3 at the **unfavourable** end of the scale. Of course, there are no right or wrong answers. You simply write down what you personally believe is true about termination of pregnancy.

NOW DO THIS TASK FOR EACH OF THE SIX SEXUAL HEALTH PRACTICES ON THE FOLLOWING PAGES.

Using Condoms

Please list UP TO 8 beliefs that you have about this practice and rate them.

I believe

Unfavourable -- Favourable

-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable

-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable

-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable

-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable

-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable

-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable

-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable

-3 -2 -1 0 +1 +2 +3

A.7

Many Short-term Partners (5+)

Please list UP TO 8 beliefs that you have about this practice and rate them.

I believe

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

I believe

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

Talking About STIs With A Partner

Please list UP TO 8 beliefs that you have about this practice and rate them.

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

Please list UP TO 8 beliefs that you have about this practice and rate them.

[illegible]

I believe Unfavourable -- Favourable

-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

[illegible]

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

[illegible]

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3
1. The U.S. is a threat to world peace	
2. The U.S. is a threat to world freedom	
3. The U.S. is a threat to world stability	
4. The U.S. is a threat to world security	
5. The U.S. is a threat to world health	
6. The U.S. is a threat to world education	
7. The U.S. is a threat to world culture	
8. The U.S. is a threat to world religion	
9. The U.S. is a threat to world science	
10. The U.S. is a threat to world technology	
11. The U.S. is a threat to world environment	
12. The U.S. is a threat to world economy	
13. The U.S. is a threat to world politics	
14. The U.S. is a threat to world law	
15. The U.S. is a threat to world justice	
16. The U.S. is a threat to world order	
17. The U.S. is a threat to world peace	
18. The U.S. is a threat to world freedom	
19. The U.S. is a threat to world stability	
20. The U.S. is a threat to world security	
21. The U.S. is a threat to world health	
22. The U.S. is a threat to world education	
23. The U.S. is a threat to world culture	
24. The U.S. is a threat to world religion	
25. The U.S. is a threat to world science	
26. The U.S. is a threat to world technology	
27. The U.S. is a threat to world environment	
28. The U.S. is a threat to world economy	
29. The U.S. is a threat to world politics	
30. The U.S. is a threat to world law	
31. The U.S. is a threat to world justice	
32. The U.S. is a threat to world order	

Getting Tested For STIs When I Have No Symptoms

Please list UP TO 8 beliefs that you have about this practice and rate them.

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

Carrying My Own Condoms

Please list UP TO 8 beliefs that you have about this practice and rate them.

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3
1. The U.S. is a threat to the peace of the world	
2. The U.S. is a threat to the freedom of the world	
3. The U.S. is a threat to the security of the world	
4. The U.S. is a threat to the well-being of the world	
5. The U.S. is a threat to the happiness of the world	
6. The U.S. is a threat to the progress of the world	
7. The U.S. is a threat to the future of the world	
8. The U.S. is a threat to the life of the world	
9. The U.S. is a threat to the soul of the world	
10. The U.S. is a threat to the spirit of the world	
11. The U.S. is a threat to the heart of the world	
12. The U.S. is a threat to the mind of the world	
13. The U.S. is a threat to the body of the world	
14. The U.S. is a threat to the blood of the world	
15. The U.S. is a threat to the bones of the world	
16. The U.S. is a threat to the skin of the world	
17. The U.S. is a threat to the hair of the world	
18. The U.S. is a threat to the teeth of the world	
19. The U.S. is a threat to the tongue of the world	
20. The U.S. is a threat to the throat of the world	
21. The U.S. is a threat to the chest of the world	
22. The U.S. is a threat to the stomach of the world	
23. The U.S. is a threat to the intestines of the world	
24. The U.S. is a threat to the liver of the world	
25. The U.S. is a threat to the lungs of the world	
26. The U.S. is a threat to the kidneys of the world	
27. The U.S. is a threat to the bladder of the world	
28. The U.S. is a threat to the uterus of the world	
29. The U.S. is a threat to the vagina of the world	
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34. The U.S. is a threat to the anus of the world	
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36. The U.S. is a threat to the scrotum of the world	
37. The U.S. is a threat to the penis of the world	
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52. The U.S. is a threat to the testicles of the world	
53. The U.S. is a threat to the prostate of the world	
54. The U.S. is a threat to the rectum of the world	
55. The U.S. is a threat to the anus of the world	
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61. The U.S. is a threat to the rectum of the world	
62. The U.S. is a threat to the anus of the world	
63. The U.S. is a threat to the perineum of the world	
64. The U.S. is a threat to the scrotum of the world	
65. The U.S. is a threat to the penis of the world	
66. The U.S. is a threat to the testicles of the world	
67. The U.S. is a threat to the prostate of the world	
68. The U.S. is a threat to the rectum of the world	
69. The U.S. is a threat to the anus of the world	
70. The U.S. is a threat to the perineum of the world	
71. The U.S. is a threat to the scrotum of the world	
72. The U.S. is a threat to the penis of the world	
73. The U.S. is a threat to the testicles of the world	
74. The U.S. is a threat to the prostate of the world	
75. The U.S. is a threat to the rectum of the world	
76. The U.S. is a threat to the anus of the world	
77. The U.S. is a threat to the perineum of the world	
78. The U.S. is a threat to the scrotum of the world	
79. The U.S. is a threat to the penis of the world	
80. The U.S. is a threat to the testicles of the world	
81. The U.S. is a threat to the prostate of the world	
82. The U.S. is a threat to the rectum of the world	
83. The U.S. is a threat to the anus of the world	
84. The U.S. is a threat to the perineum of the world	
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86. The U.S. is a threat to the penis of the world	
87. The U.S. is a threat to the testicles of the world	
88. The U.S. is a threat to the prostate of the world	
89. The U.S. is a threat to the rectum of the world	
90. The U.S. is a threat to the anus of the world	
91. The U.S. is a threat to the perineum of the world	
92. The U.S. is a threat to the scrotum of the world	
93. The U.S. is a threat to the penis of the world	
94. The U.S. is a threat to the testicles of the world	
95. The U.S. is a threat to the prostate of the world	
96. The U.S. is a threat to the rectum of the world	
97. The U.S. is a threat to the anus of the world	
98. The U.S. is a threat to the perineum of the world	
99. The U.S. is a threat to the scrotum of the world	
100. The U.S. is a threat to the penis of the world	

I believe

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

I believe Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable – Favourable
	-3 -2 -1 0 +1 +2 +3

I believe	Unfavourable -- Favourable -3 -2 -1 0 +1 +2 +3
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[illegible]

TASK 3

Demographic information.

1. Age _____
2. Education (last year completed) _____
3. Marital status (please circle one) Single
De Facto/ Long term relationship
Married
Divorced
Other (please specify) _____
4. Type of Employment (e.g. title of job)

5. I know a person with an STI (please circle one) Yes No

TASK 4

In this task you will be asked to list up to eight emotions that you personally have about the sexual health practices presented in tasks 1 and 2. By emotions I mean the feelings you have when you think about or talk about the sexual health practices listed. These emotions may be pleasant or unpleasant. Please try to use descriptive words, rather than just 'good' or 'bad'.

Just think about the practice for a few moments and then write down the emotions that you typically feel in relation to that practice. Eight boxes have been provided, so you can write **up to 8** emotions. You do not have to fill in all the boxes. Please write one emotion in each box.

Next to each of your emotions please indicate, on the scale provided, if this emotion is favourable or unfavourable to the practice

-3 indicates your emotion is unfavourable toward the practice

+3 indicates your emotion is favourable toward the practice

0 indicates your emotion is neither favourable nor unfavourable toward the practice.

FOR EXAMPLE:

For the practice of termination of pregnancy, in the first box you may write

Makes me feel --	Unfavourable --Favourable
angry	-3 -2 -1 0 +1 +2 +3

This emotion would probably make you opposed to termination of pregnancy, so you would circle -3 at the **unfavourable** end of the scale. Of course, there are no right or wrong answers. You simply write down what you personally experience in relation to the practice.

In the second box you may write

Makes me feel	Unfavourable -- Favourable
relieved	-3 -2 -1 0 +1 +2 +3

This emotion would probably make you in favour of termination of pregnancy, so you would circle +3 at the **favourable** end of the scale. Of course, there are no right or wrong answers. You simply write down what you personally experience in relation to the practice.

NOW DO THIS TASK FOR EACH OF THE SIX SEXUAL HEALTH PRACTICES ON THE FOLLOWING PAGES.

Using Condoms

Please list UP TO 8 emotions you typically feel about this practice and rate them.

Makes me feel

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

Makes me feel

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

Makes me feel

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

Makes me feel

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

Makes me feel

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

Makes me feel

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

Makes me feel

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

Makes me feel

Unfavourable -- Favourable
-3 -2 -1 0 +1 +2 +3

Please list UP TO 8 emotions you typically feel about this practice and rate them.

Makes me feel	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

Please list UP TO 8 emotions you typically feel about this practice and rate them.

[illegible]

Please list UP TO 8 emotions you typically feel about this practice and rate them.

[illegible]

Please list UP TO 8 emotions you typically feel about this practice and rate them.

Makes me feel	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

Carrying My Own Condoms

Please list UP TO 8 emotions you typically feel about this practice and rate them.

Makes me feel	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

[illegible]

Makes me feel	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

Makes me feel	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

Makes me feel	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

[illegible][illegible]

Makes me feel	Unfavourable -- Favourable
	-3 -2 -1 0 +1 +2 +3

TASK 5

Please complete the following questionnaire by circling the response next to the action which best indicates your past behaviour. By circling the number 5 you are indicating that you always do that action. By circling the number 1 you are indicating that you never do that action. If you circle the number 3 you are indicating that you do that action about half the time (50%).

For example:

If you mostly use condoms (more than half the time), but not every time, you would circle the number 4.

	Never				Always
Using condoms	1	2	3	4	5

There are no right or wrong answers, please just circle the number that indicates what you would normally do.

Typical Past Sexual Health Behaviour

Action	Frequency of practice				
	Never				Always
Using condoms	1	2	3	4	5
Many short-term partners (5+)	1	2	3	4	5
Taking drugs and/or getting drunk then having sex	1	2	3	4	5
Talking about STIs with a partner	1	2	3	4	5
Getting tested for STIs when I have no symptoms	1	2	3	4	5
Carrying my own rubbers	1	2	3	4	5

TASK 6

Could you please indicate for each action which belief or emotion is most important to your attitude for that particular action. Also please indicate if your past behaviour is important to your attitude to each action. If what you have done in the past is important to your attitude, please circle 'important' in the box provided. If it is not important, please circle 'not important' in the box provided.

FOR EXAMPLE:

Using condoms		They are messy		My past behaviour is	
				Important	Not Important
				to my attitude.	

If this statement is the most important belief or emotion that drives your attitude then write it down in the box provided. Please also remember to indicate whether your behaviour in the past is important to the action.

PLEASE GO ON TO THE TASK

Practice	Emotion or Belief	Past Behaviour	
Using condoms		Not Important	Important
Many short-term partners (5+)		Not Important	Important
Talking about STIs with a partner		Not Important	Important
Taking drugs and/or getting drunk then having sex		Not Important	Important
Getting tested for STIs when I have no symptoms		Not Important	Important
Carrying my own rubbers		Not Important	Important

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE

Appendix B: Content analyses of beliefs and affects reported toward each sexual health practice

Table 5.1a

Content analysis of beliefs: Using Condoms

Using condoms	Belief Category	Response Frequency	Proportion (% of n)
For (n = 29)	Responsibility of both partners	12	3.48
	Good when partner is not known	11	3.19
	Should be used if one partner wants to	8	2.32
	Should be used (almost) always	8	2.32
	They are necessary	8	2.32
	Prevent STIs	7	2.03
	Women should be more responsible for their use	6	1.74
	Is a 'safe sex' norm	6	1.74
	The male's responsibility	6	1.45
	Allow a responsible approach to sex	5	1.45
	Prevent pregnancy	5	1.45
Subtotal	11	82	23.49
Against (n = 24)	Reduce enjoyment	13	3.12
	Possibility of defects	8	1.92
	Difficult to put on	5	1.2
	Not to be trusted	5	1.2
	Not sexy/clinical	5	1.2
Subtotal	5	36	8.64
Totals	16	118	32.13

Table 5.1b

Content analysis of beliefs: Having Many Short-term Partners (5+)

Many Short-term Partners (5+)	Belief Category	Response Frequency	Proportion (% of n)
For (n = 19)	Ok if safe sex practiced	15	2.85
	Can be exciting/fun	10	1.9
	Necessary when young	9	1.71
	Good to experience	7	1.33
	OK	6	1.14
	OK if both partners agree	5	0.95
	Increases sexual knowledge	5	0.95
	Matter of choice	4	0.76
	Good if I could	4	0.76
	Boosts confidence	4	0.76
	Increases social knowledge	4	0.76
Subtotal	11	73	13.87
Against (n = 23)	Increases possibility of STIs	14	3.22
	Acceptable for men but not women	6	1.38
	Need to not care about others	6	1.38
	Hard work	6	1.38
	Indicates low self esteem	6	1.38
	Unhealthy	6	1.38
	Better to be single or committed	6	1.38
	Dangerous if not monogamous	5	1.15
	Leads to emotional hurt	5	1.15
	Morally wrong	5	1.15
Subtotal	10	65	14.95
Totals	21	138	28.82

Table 5.1c

Content analysis of beliefs: Talking About STIs With My Partner

Talking About STIs With A Partner	Belief Category	Response Frequency	Proportion (% of n)
For (n = 20)	Necessary	15	3
	Good for safety/security	14	2.8
	Important as tests may be needed	10	2
	Important to communicate with partner	9	1.8
	Important	8	1.6
	Good to know partner's history	7	1.4
	Should be done at start of a relationship	7	1.4
	Shows respect and concern for partner	6	1.2
	Indicates maturity	6	1.2
	Should be encouraged	6	1.2
	Good to be honest	5	1
	Allows problems to be solved	5	1
	Encourages knowledge/awareness	5	1
	Builds confidence with partner	4	0.08
	Good if going to practice unsafe sex	4	0.08
Subtotal	14	111	20.76
Against (n = 19)	May be difficult	8	1.52
	Embarrassing	6	1.14
Subtotal	2	14	2.66
Totals	16	125	23.42

Table 5.1d

Content analysis of beliefs: Taking Drugs and/or Getting Drunk Then Having Sex

Taking Drugs and/or Getting Drunk then Having Sex	Belief Category	Response Frequency	Proportion (% of n)
For (n = 22)	Great fun	13	2.86
	Increases pleasure	9	1.98
	Ok if both partners agree	8	1.76
	It happens	7	1.54
	Lessens inhibitions	6	1.32
	Ok if safe sex is practiced	4	0.88
	Cool	4	0.88
Subtotal	7	51	11.22
Against (n = 27)	Encourages health risks	13	3.51
	Leads to bad judgement	9	2.43
	Irresponsible	8	2.16
	Can lead to unsafe sex	8	2.16
	Stupid	7	1.89
	Dangerous	7	1.89
	Reduces performance	7	1.89
	Takes advantage of partner	6	1.62
	May feel bad afterwards	5	1.35
	Leads to infidelity	4	1.08
	Leads to false emotions	4	1.08
Subtotal	11	78	21.06
Totals	18	129	32.28

Table 5.1e

Content analysis of beliefs: Getting Tested For STIs When I Have No Symptoms

Getting Tested for STIs When I Have No Symptoms	Belief Category	Response Frequency	Proportion (% of n)
For (n = 32)	Prevents negative consequences	10	3.2
	Sensible	8	2.56
	Good for safety	7	2.24
	Good for peace of mind	7	2.24
	Essential	6	1.92
	Essential if someone has had many partners	6	1.92
	Promotes body health awareness	5	1.6
	Good to know if anything is wrong	5	1.6
	Good for self assurance	4	1.28
	Essential if had unprotected sex	4	1.28
Subtotal		62	19.84
Against (n = 17)	Unnecessary	10	1.7
	Time consuming therefore unlikely	4	0.68
Subtotal		14	2.38
Totals		76	22.22

Table 5.1f

Content analysis of beliefs: Carrying My Own Condoms

Carrying My Own Condoms	Belief Category	Response Frequency	Proportion (% of n)
For (n 24)	The male's responsibility	11	2.64
	Ensures safety of both partners	8	1.92
	Shows responsibility	8	1.92
	Shows maturity	7	1.68
	Prevents negative consequences	6	1.44
	Allows spontaneity	6	1.44
	Both males and females should carry them	6	1.44
	Means you are prepared	5	1.2
	Ensures safety	5	1.2
	Inspires confidence	4	0.96
	Good precautionary measure	4	0.96
	Good for one-night stands	4	0.96
	Necessary if not in long term relationship	4	0.96
	Should be encouraged amongst males	4	0.96
	Both males and females should provide protection	4	0.96
Subtotal	15	86	20.64
Against (n = 18)	Can damage quality of condoms	6	1.08
	Not necessary in long term relationships	4	0.72
Subtotal	2	10	1.8
Totals	17	96	22.44

Table 5.2a

Content analysis of emotions: Using Condoms

Issue	Emotion	Response Frequency	Proportion (% of N)
Using Condoms (N = 81)	Safe	28	22.68
	Responsible	10	8.1
	Relieved	10	8.1
	Worried	5	4.05
	Happy	5	4.05
	Unstimulated	5	4.05
	Annoyed	5	4.05
	Comfortable	5	4.05
	Uncomfortable	4	3.24
	Excited	4	3.24
	Secure	3	2.43
	Protected	3	2.43
	Unsexual	3	2.43
	Awkward	3	2.43
	Distant	3	2.43
Total	15	96	77.76

Table 5.2b

Content analysis of emotions: Having Many Short-term Partners (5+)

Issue	Emotion	Response Frequency	Proportion (% of N)
Many Short-term Partners (5+) (N = 89)	Happy	10	8.9
	Self confident	5	4.45
	Confident	5	4.45
	Satisfied	5	4.45
	Angry	5	4.45
	Sexy	4	3.56
	Shallow	4	3.56
	Cheap	4	3.56
	Insecure	4	3.56
	Promiscuous	4	3.56
	Excited	3	2.67
	Experienced	3	2.67
	OK	3	2.67
	Attractive	3	2.67
	Good	3	2.67
	Used	3	2.67
	Selfish	3	2.67
	Indifferent	3	2.67
	Guilty	3	2.67
	Sick	3	2.67
	Upset	3	2.67
	Irresponsible	3	2.67
Total	22	86	76.54

Table 5.2c

Content analysis of emotions: Talking About STIs With My Partner

Issue	Emotion	Response Frequency	Proportion (% of N)
Talking About STIs with a Partner (N = 68)	Relieved	11	7.48
	Responsible	11	7.48
	Safe	9	6.12
	Uneasy	7	4.76
	Embarrassed	7	4.76
	Comfortable	6	4.08
	Emotionally closer	5	3.4
	Happy	5	3.4
	Worried	4	2.72
	Angry	4	2.72
	Uncomfortable	4	2.72
	Nervous	4	2.72
	Informed	4	2.72
	Open	4	2.72
	Mature	3	2.04
	Aware	3	2.04
	More understanding	3	2.04
	Confident	3	2.04
	Ambivalent	3	2.04
	Scared	3	2.04
Total	21	103	70.04

Table 5.2d

Content analysis of emotions: Taking Drugs and/or Getting Drunk Then HavingSex

Issue	Emotion	Response Frequency	Proportion (% of N)
Taking Drugs and/or Getting Drunk Then Having Sex (N = 104)	Angry	9	9.36
	Happy	6	6.24
	Excited	5	5.2
	Irresponsible	5	5.2
	Stupid	5	5.2
	Guilty	5	5.2
	Confident	4	4.16
	Horny	3	3.12
	Heroic	3	3.12
	Normal	3	3.12
	Great	3	3.12
	Regretful	3	3.12
	Unsafe	3	3.12
	Immature	3	3.12
	Scared	3	3.12
Total	16	63	65.52

Table 5.2e

Content analysis of emotions: Getting Tested For STIs When I Have No Symptoms

Issue	Emotion	Response Frequency	Proportion (% of N)
Getting Tested for STIs when I Have No Symptoms (N = 74)	Safe	11	8.14
	Responsible	11	8.14
	Happy	9	6.66
	Relieved	8	5.92
	Embarrassed	5	3.7
	Confident	5	3.7
	Ambivalent	3	2.22
	Relaxed	3	2.22
	Reassured	3	2.22
	Nervous	3	2.22
	Shameful	3	2.22
	Worried	3	2.22
Total		1267	49.58

Table 5.2f

Content analysis of beliefs: Carrying My Own Condoms

Issue	Emotion	Response Frequency	Proportion (% of N)
Carrying My Own Condoms (N = 59)	Safe	14	8.26
	Responsible	13	7.67
	Prepared	13	7.67
	Ready	5	2.95
	Happy	5	2.95
	Relieved	4	2.36
Total		6 54	31.86