IMPLICATIONS OF TREATMENT ON SEX KNOWLEDGE, SEX ATTITUDES, AND CONTRACEPTION OF SEXUAL LIBERAL/CONSERVATIVE MALES

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by

Lynda M. Haverstock
Saskatoon, Saskatchewan
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Head of the Department of Psychology
University of Saskatchewan
SASKATOON, Canada S7N 0WO
Abstract

Numerous studies have investigated the contribution of various aspects of female sexuality to unplanned pregnancy. Less attention has been given to males and their role in pregnancy prevention. The present study examined the differences between university males aged 17-22 years identified as extreme sexual liberals and extreme sexual conservatives on measures of sex knowledge, sexual attitudes, sexual experience, overall "general" conservatism, and views of personal contraceptive use. Demographic and other characteristics of the samples were also compared.

Following pretesting, equal numbers of extreme sexual liberals/sexual conservatives were randomly assigned to two treatment interventions, (a) a three-hour human sexuality course/small group discussion, (b) a written presentation of the material from (a), and a no-treatment control condition. Treatment effects on the sex knowledge, sexual attitudes, and attitudes toward personal contraceptive use were determined at posttesting and follow-up testing (3 weeks later) by analyses of variance with repeated measures and analyses of covariance techniques. It was hypothesized that the sexual conservatives who participated in the human sexuality course intervention would (a) increase in sex knowledge, (b) become more liberal in their sexual attitudes, and (c) acquire more favourable attitudes toward the personal employment of contraceptives. All sexual liberals and the sexual conservatives receiving the written lecture only or assigned to the control condition were not expected to change.
The results showed that the human sexuality course intervention did not appear to have any significant effect on the sex knowledge scores or sexual attitudes of the sexual conservatives across the assessment periods. Nor did one treatment condition have any more impact than any other on attitudes toward personal contraceptive use. As predicted, other findings indicated a significant inverse relationship between sex knowledge and conservative sexual attitudes, such that lower sex knowledge was associated with more conservative sexual attitudes. As well, greater sexual liberalism was significantly related to more favourable attitudes toward the personal use of birth control methods. It was also shown that religion played a more important role in the sexual value system of sexual conservatives than sexual liberals. Of the sexually active (non-virgin) subjects, 61% of sexual liberals "always" or "usually" employed contraceptives compared to 55% of sexual conservatives. This difference was not significant. Since there were 23 sexually active liberals and only 9 sexually active conservatives, it was not possible to compare these groups appropriately.

It was concluded that future research should include younger male subjects, men from both college and non-college backgrounds, longer intervention times, and smaller groups. This expansion might provide a more thorough evaluation of the potential of prevention/intervention programmes.
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DEDICATION

To my Dad and
the memory of Mom
Concern about the consequences of unwanted pregnancy has led to an increase in research into the problem. The majority of studies investigating contracepting behaviour have focused upon the female because it is she who risks pregnancy by participating in unprotected sexual intercourse (Jorgensen & Sonstegard, 1984). Some of the findings have demonstrated that the male partner could play an influential role in the use of contraception. Whereas "responsible" contracepting in females has been explored, characteristics of "responsible" male contraceptors have not. It would be of practical significance if interventions could be found to modify the characteristics associated with poor contracepting. The present study compares young college men identified as extreme sexual liberals and extreme sexual conservatives on the basis of their sex knowledge, sexual attitudes, overall "general" conservatism, and views of personal contraceptive use. It also examines the effects on these variables of two treatment interventions, (a) a three-hour human sexuality lecture and (b) the same material in written format, compared to a control condition.

Before the hypotheses are outlined, a review of the related literature is presented. This includes a statement of the problem of unwanted pregnancy, a discussion of male sexuality, sexual conservatism/sexual liberalism, contraceptive utilization, and the effects of human sexuality courses. Finally, the effects of volunteer biases in studies of sexual behaviour and attitudes are addressed.
1.1 The Problem

The high incidence of conception in adolescents in North America seems to be unique among developed nations (Fishman, 1975). In 1978, more than one million adolescent girls in the United States became pregnant; 30,000 of these teenagers were under 15 years of age (Tyrer, 1978, cited in Meikle, Pearce, Peitchinis, & Pysh, 1981). In Canada, 46.3 pregnancies per thousand 15- to 19-year-olds were reported in 1977 (Statistics Canada, October, 1979). Saskatchewan statistics are consistent. In 1979, there were 16,944 total births to Saskatchewan mothers; 14.5% of these births or 50 pregnancies per thousand were to adolescent girls 19 years of age and under (Vital Statistics by Health Region, Saskatchewan Health, 1979). During the same period, there were 665 therapeutic abortions to this age group (Saskatchewan Department of Health, Annual Report, 1981). If all of these pregnancies had come to term, births to adolescent mothers would have accounted for 18.4% of total births in this province. Although among other age groups the incidence of pregnancy has diminished over the last 20 years, it has increased among adolescents (Ferguson, 1982). Furthermore, approximately 20% of all births to Saskatchewan teens are a second or higher order of birth (Ferguson, 1982). It has been noted that young women who have their first child at an early age often have subsequent children in rapid succession (Furstenberg, 1971).

Numbers, however, hardly convey the impact in human terms of unwanted and unplanned babies being born to young mothers. Through such pregnancies, thousands of young women have ensured themselves "bleak futures marked by truncated education, inadequate vocational training,
economic dependency and poverty, large single-parent families, and social isolation" (Phipps-Yonas, 1980, p. 403). According to Campbell (1968), the adolescent who becomes a mother has written 90% of her life script and the story is often tragic. Researchers from a multitude of disciplines have expressed alarm about the long-term implications of adolescent conception. Concern has been expressed about the medical risks (Stickle, 1981), the very high potential for child abuse and neglect (MacDonnell, 1981), and the overall poor prognosis regarding socio-economic outcomes and future family stability (Clapp & Raab, 1978). Meikle et al. (1981) stated that whatever option the expectant teen chooses, each solution "entails considerable personal and social cost... All authors agree that the better resolution of the situation would be the prevention of pregnancy in the first place" (p. 1).

1.1.1 The Inclusion of Males

Given a problem with potential consequences as detrimental as those of adolescent pregnancy, it would be helpful to gain a better understanding of those individuals (if there are such) most vulnerable to contributing to this life crisis. Numerous studies have examined the adolescent female from physiological, psychological, and sociological perspectives (Chilman, 1980; Cobliner, 1970; Gispert & Falk, 1976; Gottschalk, 1964; Griffenberg, 1980; McAnarney, 1978; Zelnick & Kantner, 1977; Zongker, 1977) in an attempt to identify a profile common to pregnant adolescents. Results have demonstrated the futility of searching for a single explanatory factor. However, many of these investigations have led to an increased awareness of female sexuality and
information about the sexual responsibility of adolescent females.

Generally, it is the view that little effort is made by researchers to include the male when investigating unwanted pregnancy. In her chapter in *Sexual Behavior in Canada*, Roberts (1977) discusses the need for implementing a preventive programme aimed at all young people rather than using the past methods of merely focusing on the consequences of unprotected intercourse. She stated, "males should be encouraged to take a more active role in selecting the contraceptive method. Almost without exception the man has not been discussed in literature" (p. 43). Oettinger (1979) agreed that "beyond its strictly biological aspects, the young male's role in teenage pregnancy, for the most part has been ignored" (p. 57). The exclusion extends to information gathering. Few, if any, Canadian statistics have been collected regarding births to teenage mothers fathered by adolescents. American figures presented by Elster and Panzarine (1981) indicate that the birth rate in the United States (determined in 1978) for males aged 15-19 years was 18.5 per 1000. The exact number of total pregnancies (live births plus abortion) fathered by adolescents is unknown. What is known is that adolescent pregnancy affects more people than just the young mother; there also may be significant psychosocial consequences for the father. There is evidence that the male's vocational-educational achievement, marriage success, and coping behaviour may be adversely affected by out-of-wedlock pregnancy (Card & Wise, 1978). As well, inadequate parenting on the part of both parents leaves the resultant infant at risk.

Some researchers, however, have conducted studies to explore the attitudes of adolescent males, those termed "the other partner in teenage
pregnancy" (Phipps-Yonas, 1980, p. 412). Finkel and Finkel (1978) surveyed sexually active young men and their use of contraception. They concluded that the lack of precaution was either that these adolescents were not anticipating sexual intercourse or "simply . . . [that] they really did not care; as far as they were concerned, what might happen was inconsequential" (Finkel et al., cited in Phipps-Yonas, 1980, p. 412). Other studies have shown that adolescent males, even with some formal sex education, frequently lack adequate knowledge of reproductive physiology and contraception (Finkel & Finkel, 1975).

There appears to be a consensus that research is needed in the area of male sexuality and its role in unwanted pregnancy. "The involvement of young men is critical to evolving adolescent responsibility in the expression of sexuality" (Wagner, 1980). If such an understanding is possible, it is likely that more effective methods of prevention and intervention could be devised. The present study will attempt to identify more clearly the differences between young males who would personally employ contraceptives and those who would not. Specifically, the study will examine (a) the sex knowledge, attitudes, and experience of first and second year college males, (b) their sexual liberalism/sexual conservatism, (c) their overall "general" conservatism, and (d) the relationship that (a), (b), and (c) have with subjects' views of the personal use of contraceptives. Sex knowledge, sexual experience, and "general" conservatism will be correlated with sexual liberalism/sexual conservatism. As well, the effects of two treatment interventions compared to a control condition will be investigated to determine if they alter the variables in any way. A limitation of this approach is that
follow-up measures regarding contraception examine contraceptive attitudes only and not actual contraceptive behaviour.

The focus on sexual liberalism and conservatism seems most timely. The recent resurgence of conservatism in political ideology and traditional moral attitudes leads one to assume a concomitant resurgence in the standards of abstinence and the traditional double standard as well. Rinck, Jacqueline, Rudolph, and Simkins (1983) conducted surveys examining the extent to which the wave of political conservatism has affected sexual attitudes and Strahle (1983) indicated the need for further research to address this issue.

1.2 Background and Related Literature

The review of literature consists of several parts. The first section reviews literature pertaining to the conceptualization of male sexuality in general. The second section presents literature specific to sexual liberalism and conservatism. This is followed by a discussion of contraceptive use. Finally, effects of human sexuality courses/sex education are discussed. Studies are reviewed which serve as a departure point for the hypotheses investigated by the present study.

1.2.1 Theoretical Background

1.2.1.1 Male Sexuality

Chilman (1983) defined human sexuality as including physical characteristics, capacities for specific sex behaviour, and social-psychological learning that shapes the values, norms, and attitudes of these behaviours. Although sexuality in the broadest sense is a
lifelong part of being human (Conger & Petersen, 1984), it is during adolescence that the most dramatic and challenging changes associated with sexual development occur.

Most theorists view adolescence as being composed of two stages (Conger & Petersen, 1984). During the first stage, which spans from 12 to 15 years of age, the youth is involved in a dependence/independence struggle with the family. From 16 to 21 years of age, the focus turns to more specific preparation for later life. This includes such things as the selection of an intended permanent mate and further clarification of personal beliefs, values, and educational-occupational goals.

Researchers have studied sex differences between young males and females and have reported that male youths are more homogeneous in their sexualization than adolescent girls (Chilman, 1978). The latter appear to have more diffuse sexual feelings closely related to the fulfillment of other needs such as affection, reassurance, and self-esteem. Males have a high sex drive which is more genitally and less emotionally oriented. In their book *The Sexes*, however, Whitehurst and Booth (1980) stated that males probably find some aspects of adolescent sexuality more stressful than do females because "male sexuality is almost never learned as something that adds to his stock of humanness . . . male sex expresses power, exploitation, and anti-feminine attributes; it is rarely an expression of his sense of human tenderness in love and emotional bonding" (p. 64). One result of this socialization process is that young males seldom seek out comfort from one another and share only sexual "victories"; this distorts the true picture (Oettinger, 1979). Although there is evidence that sexual activity in general is greater amongst boys, the size of the
difference has narrowed in recent years because of increased sexual activity amongst girls (Robinson & Jedlicka, 1982). These recent changes in female adolescent sexual interests, values, and behaviour provide some evidence for the notion that cultural rather than just biological factors play a significant role in whether one becomes sexually active.

Zilbergeld (1978) wrote that one of the most common myths in North American culture in differentiating between males and females is that female sexuality is complex, mysterious, and full of problems. Male sexuality, on the other hand, is simple, straightforward, and problem-free. Zilbergeld proposes that one of the chief reasons that this myth has been perpetuated is that males, generally, are secretive about their sexuality. Male folklore is derived from the peer group and becomes the predominant source of their expected sexual behaviour and sanctions about sexuality. Males do little from generation to generation to ameliorate this (Whitehurst & Booth, 1980). Another factor that generates a false picture about male sexuality is the sheer quantitative discrepancy between what is being said and written about female sexuality, and what is said and written about male sexuality. Zilbergeld (1978) stated, "... the impression ... conveyed [is] that women have many more problems than men and that it is very easy to be male in this society, especially when it comes to sex" (p. 5). Furthermore, Zilbergeld believes that males have less knowledge about sexual matters as a result of the lack of attention given to them and their sexual concerns.

The present study examined two groups of males who were identified as very different from one another on the dimensions of sexual conservatism and sexual liberalism. It was hoped that the data gathered
on these two extreme sexual groups would contribute to a better understanding of male sexuality in general and male contracepting behaviour in particular. The next section discusses concepts of sexual conservatism/sexual liberalism as they relate to male sexuality.

1.2.1.2 Sexual Conservatism and Sexual Liberalism

Sexual conservatism has been associated with negative sexual attitudes, poor sex knowledge, and anti-contraceptive attitudes. This section of the related literature review will introduce general attitude development, and conservatism/liberalism as social attitudes. Research regarding sexual conservatism/sexual liberalism will also be presented.

Kerlinger (1967) cited Rokeach in part when he described "an attitude." An attitude is, Kerlinger wrote, an enduring structure of descriptive and evaluative beliefs that predispose the individual to behave selectively towards the referents of the attitude. In this definition, referents are the things or objects toward which attitudes are directed. If a referent is criterial, it acts as a judgemental standard for the individual. What is relevant and significant for one individual may not be for another. For an attitude to be an attitude, criterial referents must be shared. Various influences throughout one's early years contribute toward the development of attitudes. In general terms, "conservatism" is conceived as a factor underlying the entire field of social attitudes. It is manifested as a "largely positive pattern of group intercorrelations amongst different attitude areas, and is presumed to reflect a dimension of personality similar to that which has previously been described . . . as "authoritarianism . . ." (Wilson,
Wilson discusses the stereotypic "ideal", Western conservative in his book entitled *The Psychology of Conservatism* (1973). The ideal conservative is described as an adherent to religion of a dogmatic and fundamental kind, pro-maintenance of the political status quo, insistent of strict rules and punishment, in favour of military strength and participation in military conflicts, ethnocentric and intolerant of minority groups, and preferring of conventional behaviour, including clothing, literature, art, and so on. Furthermore, the "ideal" conservative is basically superstitious (believing that one's destiny is not within one's own control), is opposed to scientific progress, and has an anti-hedonistic outlook on sexual behaviour. Regarding this latter characteristic, Wilson (1973) wrote, "any sexual behavior which is participated in purely for the sake of pleasure is classified as undesirable [e.g., use of contraceptives, homosexuality, perversions, masturbation]" (p. 8).

Conservatism and its relationship with premarital sexual behaviour, sexual knowledge, and attitudes have been studied by several investigators. Wilson and Patterson (1968) created a conservatism scale that treated conservatism as an overall cognitive style rather than a simple political or sexual leaning. The highly conservative individual is depicted as anti-innovation, inhibited in expressing emotions, opposed to sexual freedom, and fearful of uncertainty. Some researchers (Brown, Anderson, Burggraf, & Thompson, 1978) have employed the conservatism scale to investigate judgement about pornographic material. As predicted, they found that conservatism was highly correlated with negative attitudes.
toward sex and sex materials. As well, various demographic variables were related to conservatism. For example, church attendance, membership in more fundamentalist churches, and older ages tended to be related to more conservatism.

Morse Peckham (1969) noted that the public appears to take one of two polar stands with respect to the existence of erotica and its accessibility. He labelled those accepting of the production and viewing of such materials as "Intellectuals." The term, "Anti-Intellectuals" was given to those who viewed erotic materials as "a violation of important social mores" (Wallace & Wehmer, 1972). Intellectuals were viewed as defending the existence of erotica even if they found it personally distasteful because censorship takes away their ability to be the final judge. The Anti-Intellectuals, on the other hand, object to not only what they see as offensive but the disobedience of societal rules that they see accompanying this material. Wallace and Wehmer (1972) attempted to validate Peckham's analysis through empirical study. They found that the attitudes toward human sexuality of their sample of 1083 subjects were either liberal or conservative. Demographic variables related to liberalism included younger age and higher education. The results showed that the liberal subjects obtained and/or viewed erotic materials more often than the conservatives. The liberals reacted to the stimuli with states of sexual arousal, while conservatives experienced both arousal and disgust. As well, the conservative subjects said that (a) they were against any increased availability of sexual materials, (b) that they were opposed to sex scenes in films, and (c) that they object to any abolition of pornography laws even if the material had been proven
harmless. However, the liberals and conservatives agreed that sexual materials might be entertaining and that continued exposure to them might result in oversatiation. Specifically, the liberals found the stimulus pictures to be significantly less offensive, significantly less sexually arousing, significantly more entertaining, and significantly more acceptable than did the conservatives. Furthermore, a significant relationship was reported by the conservatives between offensiveness and sexual arousal. The authors caution that the direction of causality cannot be inferred from their data but they suggest that the results indicate "the existence of an unspecified amount of psychological defensiveness on the part of the Conservatives" (p. 151).

In 1976, Joe, Brown, and Jones used the Conservatism Scale to examine the relationship of conservatism to reports of sexual experiences and reasons for nonparticipation. Conservatism was inversely related to the frequency and variety of sexual behaviour. Subjects rated as high conservatives gave the reason that it was morally wrong more often than any other reason for not engaging in sexual intercourse and more intimate forms of petting. The authors speculate that the "attitudinal manifestation of anti-hedonism and rigid morality are determinants in the lower number and variety of sexual experiences and that the expression of these attitudes stem from the threat of loss of one's own impulse" (Joe, Brown, & Jones, 1976, p. 520). Joe et al. (1976) stated that by avoiding coital experience and other forms of sexual activity, high conservatives are able to control and to lessen their feelings of fear and guilt. Much of this view is shared by Byrne (1977), who categorized individuals according to their sexual attitudes along an erotophobia-erotophilia dimension.
Byrne classified erotophobes as predominantly sexually conservative, with inadequate sexual knowledge, a sex life dominated by guilt and fear of social disapproval, and infrequent coital experience. He postulated that an individual's attitude toward sex and his contraceptive behaviour are associated such that a sexual conservative (erotophobe) is more likely to ignore contraceptive needs because of his negative attitudes toward sex generally.

In a classic study of the authoritarian personality, Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) reported that subjects who scored high on their authoritarian scale also had sexual values that were more conventional than did low scorers. The latter group was described as possessing characteristics similar to Byrne's erotophiles: "more love-oriented," "had more fondness and ability to love in sexual relationships," "more ego-accepted sensuality," and "more actual or potential heterosexuality." A study reported by Gold and Berger (1983) demonstrated that males who favoured the most reliable birth control methods including a hypothetical "pill" for men, were less authoritarian than males labelled conventional and opposed to the male "pill."

Mercer and Kohn (1979) also examined the liberal/conservative personality dimension. They used measures of authoritarianism, a sex attitude scale, drug use permissiveness scale, religious attendance, and reported marijuana use and explored sex behaviour in females and males by examining coital/non-coital experience and total number of partners. Contraceptive use was not determined. These researchers believed that liberal sexual attitudes have been found to be related to liberal sexual behaviour and that both can be conceptualized in terms of an overall
liberal/conservative personality dimension. Their findings showed that females were generally more conservative but that they exhibited greater integration of sexual attitudes and liberal/conservative personality characteristics with their sexual practices than did males. In other words, there was greater consistency between sexual attitudes and sexual behaviour for females. It was also reported that for females there was little or no relation between religious background and premarital coitus. However, religious males tended to engage in these activities less than their non-religious counterpart males. In contrast, Reiss (1967) reported a strong relationship between the religious backgrounds of females and premarital coitus. The Mercer and Kohn correlational data indicated that religious attendance was a more salient predictor of adherence to traditional belief systems for the males than for the females. Although for both genders this variable related positively to authoritarianism (conservatism), religiosity related negatively to drug use permissiveness and a liberal sexual attitude only for males. Overall, Mercer and Kohn found that as conservatism increased, sexual behaviour decreased.

The notion that political and social conservatives may be repressed sexually relative to political and social liberals appeared in Kinsey's work (1953) and in numerous discussions of political and social attitudes (Farley, Nelson, Knight, & Garcia-Colberg, 1977). Farley et al. (1977) attempted in a complex study to delineate major dimensions of sexual attitudes and behaviour in separate samples of male and female college students. One of the major findings of their study was the general lack of variables they believed would be associated with sexual conservatism/sexual liberalism. The investigators labelled these variables "personality variables" which included such things as stimu-
lation seeking, introversion-extroversion, and need for achievement. They also measured "political orientation to sexuality" but found no relationship between political views and sexual views, either. Farley et al. stated that this may have resulted from the minor section of the political continuum studied. No "radical left" or "radical right" students were represented in the sample. In conclusion, they noted that "surprisingly few sex factors were obtained, suggesting the likelihood of few necessary categories in the description of sexuality" (p. 118).

The review of literature concerning conservatism/liberalism indicates that there is a consensus that these dimensions play some role in the sexual attitudes and behaviour of individuals. Although some effort has been made to identify how "sexual conservatism" contributes to poor contracepting, little research has explored the components that lead to conservatism/liberalism in an effort to intervene at stages where these characteristics can be modified to ensure greater likelihood of male contraceptive use. The next section of literature addresses birth control utilization more specifically.

1.2.1.3 Contraceptive Utilization—Sexual Responsibility

The review of the literature on male contraceptive utilization indicates that males are less knowledgeable than females about birth control. Furthermore, research shows that positive sexual attitudes and responsible contraceptive use are related and that conservative males are less likely to be "responsible" contraceptors. Studies are presented in this section that point out the need for further investigation into male contracepting behaviour.
Finkel and Finkel (1978) examined the contraceptive utilization of sexually active, urban adolescent males and found that most males had not taken effective precaution to avoid impregnating their partners at last coitus. The most frequent reasons given were that males in the sample were either not prepared for sexual intercourse or that they were not concerned if their partner became pregnant. Even though Finkel and Finkel's respondents were cognizant of reliable methods of birth control, 68% were ineffective contraceptors. It was found that in the total sample, the more effective use of contraceptives increased as age increased. These investigators asked, "Why do some choose reliable methods of birth control and others do not?" In reviewing related studies, Finkel and Finkel (1978) stated that some researchers believe that young people are mentally unprepared for analytical thinking about themselves and their actions. Others stated that among teens, sexual intercourse is episodic or haphazard so that regular use of contraception would be in conflict with the spontaneity of the act. Furstenberg (1971) postulated that the more stable the relationship, the more likely contraception will be used. On the other hand, when attitudes and behaviour are in conflict, guilt may prevail and thus prevent effective contracepting.

Gold and Berger (1983) reviewed research on the contraceptive behaviour of single males and found three influential sets of factors. Liberal attitudes toward sex roles and favourable attitudes toward contraceptives are positively correlated with their usage. On the other hand, anxiety regarding sexuality and reluctance to acknowledge oneself as a sexual being acts as an inhibitor to the use of birth control. Like
Furstenberg, Cvetkovich, and Grote (1981) found that as frequency and predictability of intercourse increases and commitment deepens, so does the likelihood of contraception.

Herold and McNamee (1982) used a path analysis approach to develop an explanatory model of contraceptive use with young females. They tried to account for the lack of consistency between favourable attitudes toward family planning and behaviour (for example, use of contraception). They based their concern with lack of correspondence between attitude and behaviour on the work of Fishbein and Ajzen (1975) who proposed that "a person's intention to perform a behaviour is determined by two factors: attitude toward the behaviour and subjective norm concerning that behaviour. The attitude in question involves the person's attitude toward a given behaviour rather than the person's attitude toward the . . . target of the behaviour. The subjective norm is the person's perception that most people who are important to the person think he/she should or should not perform the behaviour in question" (p. 290). The path analysis method Herold and McNamee employed revealed that the following variables had direct or indirect positive effects on contraceptive use: peer acceptance of premarital intercourse, parental acceptance of premarital intercourse, involvement with partner, partner influence to use contraception, frequency of intercourse, number of sexual partners, guilt about sexual intercourse, and attitude toward contraceptive use.

Herold and McNamee also used much of the Thompson and Spanier (1978) model, which was among the first to explain contraceptive use among unmarried college students. Thompson and Spanier found that influence
from the partner to use contraception was the most powerful contributor to contraceptive use by females. This has implications regarding the strength of the male role in contraceptive use. Thompson and Spanier also found that young women in committed relationships were more likely to contracept than those in a noncommitted relationship. This supports the findings of Andres, Gold, Berger, Kinch, and Gillett (1983). Herold et al. (1982) concluded that guilt over premarital sex has been related consistently to non-use of contraceptives and that attitude toward use of contraception has a direct effect on usage. Their results are consistent with Fishbein's and Ajzen's assertion that positive attitudes toward behaviour increases the likelihood of engaging in that behaviour.

Past experience, myth, and hearsay among an older population have perpetuated the belief that obtaining contraceptives is both difficult and embarrassing. For example, Simon and Gagnon (cited in Kallen & Stephenson, 1980) reported that "20 per cent of males and 33 per cent of females suggested that they would use contraceptives more often if contraceptives were easier and less embarrassing to obtain" (p. 358). A study by Scullion (cited in Kallen & Stephenson, 1980) indicated that college students experience negative attitudes and difficult behaviour on the part of some sellers of birth control devices, which resulted in a reduction of contraceptive use. Other researchers (Fisher, Fisher, & Byrne, 1977) have found that a negative affective purchase is associated with a relative dislike for condoms by male undergraduates, and with a negative perception of the pharmacists' attributions toward the purchaser. Kallen and Stephenson (1980) tried to determine if students still perceived the purchasing area as hostile to the obtaining of contraceptives.
Their findings contradicted the previous data. No major barriers were encountered by this group. Males purchased condoms primarily and there was no relationship between the proximity of the store and the content of the purchase. Kallen and Stephenson concluded that the "legends about difficulties and embarrassments involved in the purchase of contraceptives are now outdated" (p. 363). Therefore, other variables continue to interfere with contraceptive use.

Contraceptive trends of single, young women in the early 1970s included increased sexual activity with accompanied increase in effective contraceptive use (Zelnik & Kantner, cited in Gerrard, 1982). More recent data on unmarried female adolescents indicates that this trend is changing. Studies show that although sexual activity is rising, contraceptive use is not. Gerrard (1982) explored some of the possible reasons for this change. He examined the relationships between sex guilt, sexual activity, and contraceptive use and confirmed that although high sex guilt females are just as likely to be sexually active, they are not as likely to be effective contraceptors. It was also found that more unmarried women are using less effective means of birth control, which Gerrard postulates is due to irrational fears and misinformation about side effects. Gerrard's findings support the notion that males could take a more active role in contraception since sexual activity among females is growing while contraceptive use is not. He stated that "...the power of sex guilt in inhibiting sexual intercourse is diminishing. The shift away from the most effective methods of contraception between 1973 and 1978 also suggests that sexually active women are selectively attending to the negative aspects of the most effective
methods even after they have decided to use contraception" (p. 156).
It seems as more females become sexually active but less likely of using
birth control methods with suspected side effects, the need to include
men in the shared responsibility of effective contraception is greater.

Freeman, Rickels, Huggins, Mudd, Garcia, and Dickens (1980)
pointed out that there is usually a delay of approximately one year
between the time a young person initiates sexual activity and uses
contraceptives. More than half of premarital pregnancies occur in the
first six months of sexual activity (Zabin, Kantner, & Zelnick, 1979).
It appears that contraceptive information and teaching about its use are
not reaching young people early enough or that attitudes may be inter­
fering with effective contracepting.

Freeman et al. (1980) stated their concern about the lack of
information about male knowledge, attitudes, and behaviour. They believe
that male attitudes may be particularly important in adolescent behaviour
because "female sexual activity is often acquiescent to male initiation"
(p. 790). These researchers compared male and female teenagers regarding
information and attitudes about contraception and pregnancy. They found
on informal measures that male and female high school students invariably
agreed that the responsibility for birth control belonged to both sexes.
However, it was also noted that males were less likely to recognize the
risk of pregnancy, were less informed about contraceptives, and had fewer
attitudes that supported the use of birth control than females in the
same high school classes. Males were also likely to believe that females
had correct contraceptive information that lessened the males' need to
be involved. Unlike females, males did not show an increase in contra-
ceptive information with increasing grade level. It appeared that males may perceive contraception to be for females. Finally, Freeman et al. (1980) found that males indicated that school sex education classes had been their main source of information. This was not evident with females, who seemed to have access to more resources.

Greater awareness of and easier accessibility to contraceptives has contributed to concerns regarding sexual morality. Even though effective contraception could virtually end premarital pregnancy, many adults are apprehensive that increased knowledge of birth control methods will lead to "wholesale collapse of premarital sexual controls" (Delcampo, Sporakowski, & Delcampo, 1976, p. 180). It is evident, however, that lack of knowledge about contraceptive techniques does not deter sexual activity. Delcampo et al. (1980) reviewed the literature on contraceptive knowledge and its link with sexual permissiveness. They cited the work of Udry, who examined whether subjects with adequate birth control knowledge had more liberal sexual attitudes and behaviour than those with less contraceptive information. No difference in birth control knowledge was evident between virginal males and virginal females. There were also no significant differences between sexually experienced males and virginal males on a measure of contraceptive knowledge. The only difference existed between experienced females and females who had less permissive attitudes.

Delcampo et al. (1976) also discussed Reiss' work. Although Reiss had not investigated directly the relationship between contraception and premarital sexual permissiveness, he made several observations based on related research. Reiss believed that the main forces in promoting
permissive attitudes lie in basic societal mores, general liberality or conservatism, not in knowledge of contraception. The Delcampo et al. (1976) investigation concerned itself with a description of relationships between contraceptive knowledge and sexually permissive attitudes. Among females, they found a significant relationship such that as contraceptive knowledge increased, attitudes toward premarital sexual permissiveness became more liberal. The authors reported that in their sample, males were more permissive than females yet females knew more about contraception than did their male counterparts. As well, for males, as knowledge decreased, permissiveness increased while the inverse was true for females—as knowledge increased, permissiveness decreased. Generally, the Delcampo et al. sample demonstrated a high degree of premarital sexual permissiveness but with relatively little knowledge about contraceptives. They concluded that acquiring knowledge about birth control would not likely foster permissive attitudes toward premarital sex since these attitudes already exist. They stated that a deterioration of sexual morality is not an issue. Rather, finding ways to generate sexual responsibility should be the objective.

Byrne and Fisher (1983) hypothesized that contraceptive behaviour can be predicted by relating such behaviour to attitudes toward, and affective reactions to, sex-related topics. Andres, Gold, Berger, Kinch, and Gillett (1983) described the five steps in the sequence of behaviour that may result in the use of contraception according to Byrne and his colleagues:

1. The individual must learn about the use and availability of contraception;
2. The individual must admit that sexual intercourse is likely to occur;
(3) Public action must take place to acquire contraceptives;
(4) Communication with one's partner regarding contraception should occur;
(5) The actual technique should be used. (pp. 387-388)

According to Byrne (1977), people can be categorized along an acceptance-rejection dimension according to their attitudes toward sexuality, with more negative attitudes resulting in greater pregnancy risk. This concept was discussed earlier in section 1.2.1.2 in which erotophobes (sexual conservatives) were characterized as having negative sexual attitudes, and thus, more likely to reject their own contraceptive needs by ignoring the existence of sexual tendencies.

Previous research has focused almost exclusively on females as the chief causal agents in contraceptive behaviour. Andres et al. (1983) examined the efficacy of personality, attitude, and the relationship variable in predicting male contraceptive behaviour by testing the prediction that "men who are involved in a relationship in which contraception is being used, compared to men who are involved in a relationship that leads to an abortion, will exhibit better personality adjustment, more liberal attitudes toward sex-related topics, and a more stable relationship with their partner in which a greater frequency of sexual activity occurs" (p. 389). They also predicted that similar findings should occur when, within the sample of men whose partners are seeking abortion, men who have used a contraceptive are compared to those who have never used a contraceptive.

The results of the Andres et al. study showed that the primary differentiating characteristics among groups of men who use contraceptives and men whose partners seek abortions are to be found in the attitudes they hold toward contraception and sex-related issues, as well as the
relationship they have with their partners. These findings are consistent with those derived from studies with female subjects. Byrne's view of accepting or rejecting orientations toward sexuality that facilitate or hinder contraceptive behaviour was supported by the results, which demonstrated that more conservative attitudes toward sex-related topics and greater intensity of religious beliefs were expressed by the partners of the aborters, particularly those who had never used contraceptives.

In addition to having sexually conservative attitudes, the males involved with partners seeking abortion have relatively low rates of coitus compared to the contraceptors. Andres et al. suggested two negative effects on contraceptive preparedness of such relatively low rates of coital frequency are possible. First, sexual intercourse is probably not an important concern to these men, and this, combined with their more negative attitudes toward sexuality and contraception, created a lack of salience for contraceptive preparedness. Secondly, infrequent behavioural events have been found to be difficult to predict by researchers, and are quite likely difficult to predict by those who perform them. It is concluded, therefore, that men who have a relatively low frequency of coitus will be less likely to predict, and consequently will not adequately prepare for, sexual intercourse.

The literature cited above concerning responsible contraceptive use by males is not extensive, but does point out that, generally, males are less knowledgeable than females about birth control, that there is an apparent link between positive sexual attitudes and contraceptive use, and that "conservative" males are less likely to employ contraceptive methods. Since positive attitudes toward sex-related issues influence
the use of birth control, it may be that by changing the sexual knowledge and attitudes of males identified as sexually conservative, these males may become more effective contraceptors (sexually responsible). The next section reviews literature regarding the effects of human sexuality courses on such matters as sex knowledge, sexual attitudes, and birth control habits.

1.2.1.4 Effects of Courses on Human Sexuality

In this section, research related to the effects of participating in human sexuality courses will be discussed. Such courses typically attempt to increase sex knowledge, decrease sex guilt, and increase the positive valance of participants' attitudes toward sex. This varies according to gender, religiosity, and length/type of sexuality training. Little effort has been made to examine the effects of human sexuality courses on men's attitudes toward personal contraceptive use.

Sex education has been criticized for several reasons. Some opponents believe that focusing on matters of human sexuality fosters curiosity which results in sexual experimentation (Libby, Acock, & Payne, 1974). Others have argued that human sexuality is a "simple phenomenon that one learns naturally and that formal sex education is, therefore, unnecessary" (Gunderson & McCary, 1980, p. 375). Concerns have also been expressed regarding the qualifications of those giving sex instruction and the fashion in which it is presented. Despite these criticisms, a variety of types of courses in sexuality continue in an attempt to reduce the growing incidence of sexually transmitted diseases and unwanted pregnancies.

The importance of human sexuality courses in developing positive
attitudes toward sex has been stressed, but there is inconsistent evidence that course instruction in human sexuality affects sexual attitude change (Story, 1979). Several researchers have reported that following human sexuality courses, attitudes become more liberal (Rees & Zimmerman, 1974; Story, 1979). However, one investigator found that although attitudes toward some topics become more liberal, attitudes toward extramarital sex become more conservative (Lance, 1975). Others have found no sexual attitude change following instruction (Mandetta & Woods, 1974; Woods & Mandetta, 1975).

A recent longitudinal study conducted by Story (1979) discovered that students who had attended a human sexuality course developed more accepting attitudes and became more accepting of the behaviour of others compared to behaviour of the self. On the other hand, control group students receiving no specific instruction developed less accepting attitudes and became less accepting of the behaviour of others compared to behaviour of self. Story stated that she was unclear as to why the controls changed in this way at posttesting and remained such at follow-up two years later. These findings support the position that behaviour for self and behaviour for others are two distinct dimensions of sexual attitudes. As well, Story's investigation demonstrated that a course in human sexuality does not result in most students adopting extremely liberal views of sexual behaviour for themselves.

There is conflicting data regarding whether gender is related to sexual attitude change following sexuality training. A study by Conley and O'Rourke (1973) revealed that sexual attitudes between men and women usually remained the same following sexuality instruction. Using only a
college sample, Whatley and Appel (1973) found that males and females both adopt more liberal attitudes after training and usually have similar views on issues like marriage. Other results showed that women changed more than men after courses in human sexuality (Rees & Zimmerman, 1974), although in some cases only men experience a change in sexual attitude (Steinmann & Jurich, 1975).

Several authors have indicated that males generally tend to be more permissive in their views of premarital sexual relations and that they often have more partners in their premarital experiences. However, once a female has a partner, she seems to be accepting of as many kinds of heterosexual activities with her partner as is the male (Kinsey, Pomeroy, Martin, & Gebhard, 1953; Reiss, 1967; Zuckerman, Tuschup, & Finner, 1976). Zuckerman et al. (1976) concluded that the major difference between the sexes in the attitude dimension is that females seem to place sex in a different socio-emotional context. This appears less important for most males. Following sex education, however, Gunderson and McCary (1980) found that most of the students in their study tended to believe that emotional commitment is a significant condition for premarital intercourse. This appears to have implications regarding responsible contraceptive use in light of the findings of Andres et al. (1983). They found that the primary differentiating characteristic among men who use contraceptives and men whose partners seek abortions are in the attitudes they hold toward contraception and sex-related issues, as well as the commitment they have to their relationship with their partner. This was discussed more fully in section 1.2.1.1—Contraception Utilization.

Zuckerman et al. (1976) found that a sexuality course seemed to
change attitudes in both sexes, but that actual behaviour change occurred only in males relative to the control group. In general, the course seemed to affect attitudes toward coital experience more than actual sex experience.

A study conducted in 1980 (Gunderson & McCary) found that males were more liberal than females on both pre and post measures and that sexual attitudes changed significantly for the total sample population toward a more liberal, permissive position after a human sexuality course. As well, sex guilt was significantly reduced for the total group but sexual behaviour did not change significantly. This finding does not support the view that sex education will lead to promiscuous behaviour. Overall, the results indicated that college students not only become more sexually liberated following human sexuality instruction, but also become more tolerant toward individuals and sexual practices that differ from their own.

In their review of numerous studies on the effects of sex education, Kilmann, Wanlass, Sabalis, and Sullivan (1981) reported that the findings were generally consistent in reporting gains in sexual knowledge and shifts toward more tolerant, liberal attitudes about sexual issues. They also cited a study by Vorgeas that investigated the effects of a sex education course on college students by measuring sex knowledge and attitudes as well as psychophysiological measures of response to emotionally charged auditory and vocal sexual stimuli. Vorgeas' results showed that students enrolled in the course improved more on both types of measures than students who were simply issued textbook information or
received no intervention. According to Kilmann et al., these findings "represent the first psychophysiological evidence of desensitization to sexual stimuli following participation in a human sexuality course," which substantiates the frequent self-reports after a sex education of increased comfort with sexual content.

Few studies have utilized follow-up evaluation of outcome. Richardson (cited in Kilmann et al., 1981) recorded behaviour change in a follow-up 11 weeks after a sexuality workshop. Story (1979) called for more controlled, long-range studies of the effects on student sexual attitudes of shorter, more intense sessions. Others have speculated that for research purposes shorter, more concentrated human sexuality courses are superior to longer ones (Mims, Yeaworth, & Hornstein, cited in Kilmann et al., 1981) because with short courses one is better able to discern if changes in knowledge and attitude are attributable to the program and not to maturational factors.

In summary, previous research has investigated sexual behaviour only in terms of sexual experience without specifically addressing "responsible" or "contracepted" sexual behaviour. As well, the literature review indicates that almost all of the research has compared males and females. Little attention has been given to differences within a male heterosexual population. The need for acquiring more information about the use of short, intense human sexuality courses and adequate follow-up has also been reported.

In view of the literature review related to the effects of human sexuality instruction of sexual attitudes and behaviour, the present study examined whether a short-term, intense session on human sexuality
would influence the sexual knowledge, sexual attitudes, and attitudes toward personal contraception use of college males who differ in sexual liberalism and conservatism.

1.2.2 Effects of Volunteer Biases in Studies of Sexual Behaviour and Attitudes

Kaats and Davis (1971) acknowledged that one of the major problems facing researchers in the area of sexual behaviour and attitudes is "the extent to which the individuals who volunteer for such [research] or complete all items on the questionnaires are representative of the populations from which they are drawn" (p. 26). Findings of such studies have been queried in light of volunteer or self-selection biases. Kaats and Davis examined whether individuals willing to report their sexual behaviour and attitudes are significantly different on dimensions of premarital coital rates than those who typically will not report such behaviour. The authors sought data on "non-volunteer" subjects to make comparisons with volunteer subjects. This had not been done previously in the research literature. They gathered data anonymously during a college class period, explaining the relevance and importance of research and promising feedback to the participants. Besides using the same method to obtain control subjects, two additional experimental conditions were used to maximize the effects of (a) selective completion of a questionnaire dealing with sexual attitudes and behaviour and (b) self-selection into a study of sexual behaviour and attitudes. The results of the Kaats and Davis study showed that there was strong evidence that those who volunteer for studies of sexual behaviour are far more likely to hold more liberal attitudes. This was true for both males and females.
But in spite of the experimental groups' greater permissiveness, greater non-coital experience, greater dating frequency, and current dating status, all three groups (volunteer selection, volunteer completion, and the control group) had similar non-virginity rates. Although significant differences on some of the permissiveness standards regarding sexual liberalism and overall sexual experience (especially those regarding females) were noted, the percentage of non-virgins was identical for all three groups.

In the present study, it was hoped that engaging a variety of subjects (Engineering, Agriculture, Arts and Science, and Physical Education students), it would help to increase the breadth of the sample. As well, subject selection included both "volunteerism," which involved volunteers completing pretest questionnaires at a prearranged date and "non-volunteerism," in which subjects were a captive audience in classes who completed the pretests without prior knowledge of the research until the pretest administration time.

1.2.3 Summary and Statement of Purpose

The seriousness of the problem of unwanted pregnancy is well documented in terms of its costs to young women, the resultant children, and society. There is agreement that the male's role in preventing this problem has been virtually ignored and that more research is needed to explore male sexuality generally. Furthermore, there is evidence that certain factors such as sexual conservatism/erotophobia, poor sex knowledge, sex guilt and anxiety, and negative attitudes toward sex result in less likelihood of responsible contracepting. Despite this infor-
mation, few attempts have been made to determine if males who possess these characteristics can change following specific short-term treatments. A related and equally important question is whether extreme sexually liberal males are more disposed personally to using contraceptives and what effect short-term human sexuality education would have with these individuals. In addition, little is known about whether general conservatism is directly related to sexual conservatism and what specific demographic variables are more likely to be associated with sexual conservatism/liberalism. The answers to these questions would help clarify if there is a potential "type" of young male for whom a particular kind of treatment can be devised that would lead toward more responsible sexual behaviour.

The present study investigated the effects of three treatments on the sex knowledge, attitudes, and personal contraceptive attitudes of extreme sexually conservative/liberal college males. The treatment interventions included (a) a three-hour human sexuality "lecture plus small group discussion" course, (b) a written lecture of the material presented in (a), and (c) a control condition. These conditions were selected to determine if a short-term, intense interpersonal course would have a greater effect on the dependent variables in question than written information or no treatment at all. Follow-up measures were employed to examine the carry-over of the three treatment conditions.
1.3 Hypotheses

The following hypotheses served as the major points of the investigation.

Hypothesis 1

(a) From results of previous studies with female subjects (for example, Eaton, 1979), it was expected that greater sexual knowledge would be associated with more sexual liberal attitudes. Eaton discovered that females who possess accurate sex knowledge have a greater likelihood of using contraceptives to avoid unwanted pregnancy than women who do not. Furthermore, research evidence has shown that sexually knowledgeable adolescents actually behave more responsibly. These adolescents are less likely to engage in premarital intercourse at an early age, and when they do, they are more likely to use contraceptives (Lewis, cited in Wagner, 1980; Shah, Zelnick, & Katner, 1975). Research shows that: (a) sexually knowledgeable females have more positive attitudes and more liberal attitudes toward sex; (b) this increased knowledge does not encourage permissive behaviour but, in fact, postpones coitus (Delcampo et al., 1976); and (c) when intercourse does occur, the use of contraception is greater amongst more sexually knowledgeable females. Similar results found with males would have implications regarding preventive programming.

Specifically, it was predicted that higher scores obtained on the Sex Knowledge Scale of the Sex Knowledge and Attitudes Test (SKAT) would correspond to lower scores on the Attitude Scale of the SKAT (more liberal attitudes).
(b) Some investigators have examined overall "general" conservatism and its relationship to sex-related issues such as pornography (for example, Brown, Anderson, Burggraf, & Thompson, 1978). From these findings and results from other studies (for example, Wallace & Wehmer, 1972; Wilson, 1973), it was speculated that positive sexual attitudes would be associated with less overall "general" conservatism.

In particular, it was hypothesized that higher scores on the Sex Attitudes Scale of SKAT would reflect higher scores on overall "general" conservatism as measured by the Conservatism Scale.

**Hypothesis 2**

Greater sexual liberalism was expected to be associated with more favourable attitudes toward personal use of contraceptives. Reported personal contraceptive behaviour will also be obtained. Investigators have indicated that males least likely to employ contraceptives tend to be either "sexually naive" or "permissively reared" and "exploitive," believing that contraception is the female's responsibility (Conger, 1984). Some researchers have demonstrated that the more negative the attitude toward sexuality, the more likely people are to risk pregnancy by not attending to their contraceptive needs (Andres, Gold, Berger, Kinch, & Gillett, 1983).

It was predicted that lower scores on the Sex Attitude Scale of the SKAT (greater sexual liberalism) would correspond to lower scores on the Premarital Contraceptive Attitude Evaluation (more favourable attitudes toward personal use of contraceptives).
Hypothesis 3

Sexual conservatives participating in the human sexuality workshop (Treatment I) were expected to increase in sex knowledge more than sexual conservatives receiving only the written material (Treatment II) or the control condition (Treatment III). Marcotte, Geyer, Kilpatrick, and Smith (1976) reported a significant increase on the Knowledge Scale of the SKAT and a significant change in the direction of greater liberalization of attitudes on the Attitude Scales of the SKAT for medical students following a human sexuality course. Most researchers have reported that attitudes of students become more liberal following courses in human sexuality (Story, 1979). If increased knowledge is associated with more liberal sexual attitudes and male behaviour emulates that of females previously investigated under similar conditions, the "sexual conservative" subjects would be more inclined toward contraceptive usage than prior to Treatment I workshop. Specifically, it was expected that sexual conservatives would have increased sexual knowledge (higher scores on the Sex Knowledge Scale of SKAT) following the Treatment I workshop compared to both Treatments II and III. Since the sexual liberal group displayed more knowledge before treatment, they were not, by comparison, expected to change following any treatment.

Hypothesis 4

Sexual conservatives participating in the human sexuality workshop were expected to become more liberal in their sexual attitudes compared to the sexual conservatives receiving the written material or the control condition (see Marcotte et al., 1976). It was
hypothesized that sexual conservatives would have more positive sexual attitudes (lower scores on the SKAT Attitude Scale) following Treatment I, whereas Treatments II and III would be ineffective in producing attitude change. Since the sexual liberal group displayed more positive attitudes before treatment, they were not, by comparison, expected to change following any treatment.

Hypothesis 5

Sexual conservatives receiving the human sexuality workshop would have more positive attitudes toward the personal use of birth control than conservatives in the two comparison groups. More specifically, it was predicted that sexual conservatives would be more favourably disposed toward personal contraceptive use (lower scores on the Premarital Contraceptive Evaluation Instrument) following Treatment I, whereas Treatment II would be ineffective in producing change in contraceptive attitude. Since the sexual liberal group displayed more favourable attitudes before treatment, it was not, by comparison, expected to change following any treatment.

1.3.1 Additional Research Question

In addition to the above hypotheses, the present study also attempted to compare the demographic and experience information obtained from the sexual liberal and sexual conservative subjects. This was collected by administering the SKAT (Parts III and IV) and the Zuckerman Heterosexual Experience Scales and an informal questionnaire on personal contraceptive use. It was predicted that religiosity, sexual experience,
and rural upbringing would be related to sexual conservatism. The literature review showed that religiosity, age, and level of education are associated with sexual conservatism. It would be of interest to know if rural/urban upbringing is related to sexual liberalism/conservatism and how it relates if at all to effective contracepting.
2. METHOD

2.1 Sample Selection Procedures

Two hundred and sixteen single males between the ages of 17 and 22 years enrolled in undergraduate classes in the College of Engineering, Arts and Science, Agriculture, and Physical Education at the University of Saskatchewan participated in the present study. To account for possible volunteer bias, subjects were recruited by two methods. The two selection procedures were employed to address the concern expressed in the literature that subjects who volunteer for studies of sexual behaviour are much more likely to hold liberal views. In the first method, permission was granted by the Dean of Engineering and individual professors in the College of Arts and Science to solicit volunteers (see Appendix A). Participants were obtained from among College of Engineering and College of Arts and Science males through announcements and the distribution of volunteer consent forms in undergraduate classes by male research assistants (see Appendices B and C). The subjects procured by this method were contacted by telephone to arrange for convenient pretest administration dates, times, and location (see Appendix D). In the second method, participants from the College of Agriculture and the College of Physical Education were approached following permission from the Head of the Department of Social Science and the Dean of the College of Physical Education (see Appendices E and F). Professors in the Colleges of Agriculture and Physical Education provided class time during which research assistants announced the nature of the study, solicited
student support, provided the students with an opportunity to leave the class, and then proceeded to administer the pretest instruments to the students adhering to procedures outlined in Appendices G and H. The subjects obtained by this method indicated whether or not they would be willing to participate in other stages of the study after they had completed the pretest materials. It should be noted that almost three times as many subjects volunteered to participate than did students recruited by the second method. However, more potential subjects were approached by the first method. Following completion of the pretests, 14% of "volunteer" subjects stated that they did not wish to participate in further stages of the research compared to 35% of the "non-volunteer" subjects in the total sample population. Of the subjects ultimately identified as extreme sexual liberals and extreme sexual conservatives and who participated throughout the study, 21 of 46 "volunteers" were extreme sexual conservatives while 13 of 21 "non-volunteers" received scores in the extreme sexual conservative range. The initial concern was that subjects recruited by the "volunteer" method (the first method) might be biased in the direction of liberalism. It appears that this was not the case.

2.2 Instruments

2.2.1 Sex Knowledge and Attitudes Test

The Sex Knowledge and Attitudes Test (SKAT) was used as a means of gathering demographic material and information about sexual attitudes, knowledge, and degree of experience in sexual behaviors of the subjects in the present study (see Appendix I). The SKAT was designed by Lief
and Reed (1967) as a research instrument for the social sciences, as a self-study aid, and in the hope that the information obtained from it would aid in the teaching of courses dealing with human sexuality.

**Scoring.** The SKAT yields five scores—four attitude and one knowledge score. The Attitude section consists of 35 five-alternative, Likert-type items, and responses to these items result in scores on four attitude scales. These are: Heterosexual Relations (HR), Sexual Myths (SM), Abortion (A), and Autoeroticism or Masturbation (M). Seventy-one true/false items comprise the Knowledge section, which yield a single score reflecting the subject's knowledge of biological, psychobiological, psychological, and social aspects of human sexuality. In the present study, low sex knowledge scores reflected high sexual conservatism. The biographical information and sexual experience sections of the SKAT are not scored.

All five scores can be obtained either as raw scores or as standardized scores. The latter are $t$ scores with a mean of 50 and a standard deviation of 10. Therefore, scores between 40 and 60 are within one standard deviation from the mean of the score for the standardization group, which consisted of college students from England, Sweden, and the United States. In the case of the HR scale, which measures a subject's general attitude toward pre- and extramarital heterosexual behaviour, a high HR score (above 60) indicates that the individual regards premarital sexual relations as acceptable, even desirable, for both males and females, and extramarital relations as potentially beneficial. Low HR scores (below 40) indicate conservative attitudes. The SM scale measures the subject's acceptance (low SM scores) or rejection (high SM scores)
of common sexual misconceptions. These misconceptions are related to sex education, homosexuality, oral-genital sex, and determinants of sex drive and responsiveness. Each subject's feelings toward abortion from social, medical, and legal perspectives were tapped by the A Scale. High scores correspond to more liberal attitudes toward and acceptance of abortion. The M Scale measures general attitudes toward the permissibility of masturbatory activities. Subjects receiving high M scores view autoerotic stimulation as healthy and acceptable. Low M scores indicate that the subject considers masturbation an unhealthy practice. In the case of the present study, subjects' responses were scored such that the higher the score, the more conservative the response. Low scores reflected liberal attitudes. One attitude score was derived for each subject by averaging the scores obtained on the four scales.

Reliability and Validity. Items included in the 50-question Knowledge test were selected from a larger item pool (Miller & Lief, 1972). The criteria for selection were psychometric in nature: item difficulties ranging from .25 to .75, point biserial correlations with a total score of .30 or greater, and each item adding a positive increment to the external consistency of the overall test. The raw score mean of the Knowledge portion of the SKAT is 38.81. This was based on the entire norm group. The 50-item test has a standard error of measurement of 2.75. The reliability (KR-21) was reported to be .87. Miller and Lief (1979) claim high content and face validity. This has been stated for both the Attitude and Knowledge Scales since all of the items in the SKAT are straightforward and undisguised. "Each question is intended to obtain no more or less information than what is implicit
in its meaning" (Miller & Lief, 1979).

Factor analyses of the SKAT identified four factors underlying the Attitude section. Internal consistency reliability (coefficient-
alpha) estimates ranged from .68 to .86 for these scales, which indicate moderately good to good internal consistency.

Evidence for the construct validity of both the Attitude and Knowledge Scales was obtained from correlations between the SKAT scales and selected items within the SKAT and from studies in which the SKAT was administered prior to and following some intervention where sex knowledge or attitudes were expected to be altered. Both product-moment correlations and point biserial correlations showed significance at the .01 probability level. It was found that liberal attitudes about heterosexual relationships (high HR scores) are associated with greater numbers of coital partners and a greater rejection of conservative social values. Furthermore, an increased tendency to reject sexual myths (high SM scores) is related to greater sexual knowledge, while conservative attitudes toward abortion are significantly associated with religiosity. Miller and Lief (1979) noted that the highest correlation involving the Knowledge Scale is between the Knowledge Scale and the SM Scale (the attitudes scale that measures degree of acceptance or rejection of sexual myths). The data indicated that the four Attitude Scales related to other SKAT responses in a way that supports the meaning and interpretation of the scales. As well, researchers have shown that pre- and posttest scores on the SKAT differ significantly in the expected direction following an intervention programme designed to produce such changes (Marcotte, Geyer, Kilpatrick, & Smith, 1976; Mims, Brown, & Lubow, 1976).

In the present study, Parts I and II (Attitudes and Knowledge)
of the SKAT were divided in half in order to (a) shorten the administration time and (b) lessen the likelihood of practice effect from pre- to post- to follow-up testing. Odd-numbered items were administered as part of pretesting. Subsequently, all even-numbered items in these sections were administered as part of the posttest package. Follow-up testing included all items on all the instruments. Coefficient alpha was calculated for each half of the divided Sex Attitudes Scale and Sex Knowledge Scale. The calculated reliability for split instruments were $r = .75$ and $r = .79$, respectively.

2.2.2 The Conservatism Scale

The Conservatism Scale was used as a means of gathering information about general conservatism (see Appendix J). This scale was devised by Wilson and Patterson (1968) who believed that conservatism is the result of "an overall cognitive style rather than a simple political or sexual leaning" (Brown, Anderson, Burggraf, & Thompson, 1978). According to Wilson, the highly conservative individual is anti-innovative, inhibited in expression emotions, anti-hedonistic (opposed to sexual freedom), and fearful of uncertainty. This instrument has been used by researchers in a variety of cultural settings including England, New Zealand, the Netherlands, and the United States (Bahr & Chadwick, 1974).

Scoring. The Conservatism Scale contains 50 brief labels designed to measure social attitudes that are indicative of conservative individuals. Subjects are asked to indicate which items they favour or believe in. Example items include "birth control," "bible truth," "death penalty," "suicide." Each conservative response is score 2, each neutral or
uncertain response 1, and each liberal response 0. No key is required for scoring. Each "Yes" to an odd-numbered item, and each "No" to an even-numbered item is scored 2. Any response that was not either a simple "Yes" or "No" is scored 1. The possible range of scores is 0 to 100. In the present study, several items on this scale were changed to make them more readily understandable to Canadian subjects of the 1980s. This was done by Joe, Brown, and Jones (1976) in the United States for similar reasons. For instance, item 27, "chastity," will become "premarital virginity," and item 24, "student pranks," will become "student demonstrations." Wilson (1973) reported several factor analytic studies that indicated that the scale measures a general conservatism factor.

Reliability and Validity. Wilson and Patterson (1968) calculated a split-half reliability coefficient by correlating total scores on the first 25 items with total scores on the second 25, and correcting the test length by using the Spearman-Brown Prophecy Formula. The derived coefficient was 0.943. Since the items in the two halves of the test were not symmetrically matched, this result was taken as evidence of high internal consistency.

Scale scores were found to increase monotonically with age and were slightly higher for females than males. These relationships were included in the construct of conservatism and, therefore, were taken as partial evidence for the validity of the test. The authors (Wilson & Patterson, 1968) also used the "known groups" validation technique involving comparison of two or more groups which are widely recognized as representing fairly extreme positions on the continuum that they
studied. It showed that their scores on the test were satisfactorily separated.

2.2.3 The Zuckerman Heterosexual Experience Scales

The Zuckerman Heterosexual Experience Scales (1973) are 12-item instruments measuring a subject's sexual experience. There is a separate scale for each gender and there are no items pertaining to homosexual experiences (see Appendix K). Subjects are presented with the following alternatives after each sexual experience: "never," "once or twice," "several times," "more than several," "ten times or more." If a subject has never had a particular sexual experience, he is asked to indicate his reasons for nonparticipation (Mosher & Cross, 1971). Reasons for nonparticipation are coded at the bottom of Appendix K.

Researchers (Joe & Brown, 1975; Joe, Brown, & Jones, 1976; Zuckerman, 1973) have found that the items of this scale form a Guttman Scale. Coefficients of reproducibility for males in these studies were .95, .95, and .97, respectively, which implies that the Zuckerman Scales provide a reliable means of measuring heterosexual behaviours. Joe, Brown, and Jones (1976) found support for their hypotheses that conservative subjects would report a lower frequency and range of sexual experiences than liberal (defined as low conservative) subjects and that they would report different reasons for not engaging in more intimate forms of sexual behaviour.

2.2.4 The Premarital Contraceptive Attitude Evaluation

The Premarital Contraceptive Attitude Evaluation measures the
degree of favourableness or unfavourableness toward the personal use of contraception during premarital sexual activity (see Appendix L). This test was devised by Parcel (1975) as an attitude instrument with the intent that it would be used as an objective and systematic measurement of attitudes toward contraceptive use.

**Scoring.** Each statement scored on a Likert Scale elicits the subject's affective response to the personal use of contraception during premarital sexual relationships. There are 25 homogeneous items designed to measure the degree of favourableness or unfavourableness. A total score is calculated by summing the weighted responses to the scale items. Weights for negative attitude statements and the reversal for positive attitude statements are as follows:

1 = strongly agree  
2 = agree  
3 = uncertain  
4 = disagree  
5 = strongly disagree

Unlike the normative group, in the present study an overall high score on this instrument indicates that the subject is unfavourably disposed to the personal employment of contraceptives.

**Reliability and Validity.** Items included in the 25-item instrument were selected from a larger item pool. A preliminary Premarital Contraceptive Evaluation Instrument of 30 items had a possible score range from 30 to 150. The Coefficient Alpha index of reliability was .908, and the estimated average inter-item correlation was .248. For the final instrument, the five items with the lowest t values were eliminated. Analysis of the remaining 25 items on the same subjects'
responses resulted in a Coefficient Alpha index of .927 and an estimated inter-item correlation of .315. Parcel (1975) claimed that further testing of the instrument with three different study groups (high school, college, clinic) has demonstrated that the Premarital Contraceptive Evaluation Instrument can distinguish between these groups with a "high level of reliability and a demonstrated degree of [predictive] validity" (p. 159). In Parcel's study, with low attitude scores depicting negative attitudes, an examination of the mean attitude scores indicated that the attitude score for the high school students was lower than the group of university students and the clinic group had the highest mean attitude score. The data were submitted to post hoc analysis which indicated that the mean attitude scores for the three study groups were statistically significantly different from each other. This conclusion was accepted by Parcel as support of predictive validity. In Parcel's study, the clinic group was assumed to have more favourable attitudes toward the use of contraceptives because they had made a commitment to obtain contraceptive services.

2.3 Treatments

The present study was designed to determine if different treatments affected the dependent variables of sex knowledge, sexual attitudes, sexual responsibility (attitude toward personal contraceptive use), overall conservatism, and sexual experience of the individual subjects. Three experimental conditions were employed.

2.3.1 Treatment I

Treatment I included a three-hour workshop on human sexuality conducted by Dr. and Mrs. W. Chernenkoff, a family physician and
registered nurse who have studied with sex therapists, Masters and Johnson. Treatment I included the following goals:

(a) to provide accurate information regarding human sexuality, including contraceptive information;

(b) to dispel myths and inaccurate sexual information;

(c) to help subjects define and accept, without threat, their own as well as other forms of human sexuality;

(d) to stimulate an awareness in subjects of the role of human sexual behaviour in human relationships along the entire life span; and

(e) to provide a setting in which subjects could develop self-awareness by freely discussing human sexuality in an accepting and non-judgemental atmosphere.

These five goals have been identified by Story (1979) as important because they involve communication skills and value clarification, as well as direct instruction in human sexuality. A written outline of the information covered in the human sexuality workshop is presented in Appendix M. Information described using visual media have been omitted from the written outline. The value clarification rules and situations discussed in the small group sessions in Treatment I are presented in Appendix N. It should be noted that the pretest administration preceded Treatment I by four weeks. Posttesting occurred immediately following Treatment I and follow-up testing commenced three weeks after posttesting.

2.3.2 Treatment II

Treatment II involved the dissemination of written information about human sexuality. The written information was obtained from the
human sexuality workshop conducted by the Chernenkoffs in Treatment I and included the material presented in Appendix M. The goals of Treatment II were identical to those of Treatment I except that information was in written format and there was no opportunity for discussion (thus goal (e) was not relevant). No visual materials or values clarification were used in Treatment II. With the exception of an across-the-board one week delay, Treatment II pretesting, posttesting, and follow-up testing followed the same schedule as Treatment I.

2.3.3 Treatment III

Treatment III served as a control, which was included for comparison purposes. No specific treatment or material was provided except what subjects would incur by chance. Treatment III included pretest and follow-up measures only.

2.4 Procedure

Potential participants in the College of Engineering, College of Arts and Science, College of Agriculture, and the College of Physical Education were approached following approval by the Ethics Committee in the Department of Psychology, University of Saskatchewan (see Appendix D). Permission was also obtained from the publishers requiring such for use of the instruments outlined in section 2.2 (see Appendices P and Q). All 216 subjects acquired through the methods described in section 2.1 were administered the SKAT, the Conservatism Scale, the Zuckerman Heterosexual Experience Scale, and the Premarital Contraceptive Attitude Evaluation as pretest measures. Each subject received a package containing all of the pretest materials, which had been coded to match the
number on the package. The volunteer subjects' codes also included the first name and telephone number of each volunteer. Following telephone contact to confirm times for administration of the pretests, volunteers completed the pretest instruments in rooms provided in the College of Arts and Science and the College of Engineering. These rooms were attended by male research assistants who followed the instructions outlined in Appendix R and informed the subjects of the blackboard rules presented in Appendix H. Identical procedures were followed during post-testing and follow-up testing. Subjects who completed the pretest package during class time wrote their first name and telephone number on the front of the package and indicated their willingness to take part in further stages of the study in the space provided. The pretest package took from 35-45 minutes to complete. Procedures for the non-volunteer group are described in Appendix S.

Subsequent to the analysis of the pretest scores, subjects were subdivided. Participants obtaining scores in the extreme quartiles of the SKAT as established by scores from the normative sample were labelled sexual conservatives or sexual liberals (see Appendix T). To ensure a large enough n, the present study used cutoff scores of 41 and 59, instead of 40 and 60. Thirty-nine subjects of the 216 males in the sample group received scores below 41 on the Attitude Scale of the SKAT which placed them in the extreme sexual conservative range. Thirty-three subjects from the original sample scored above 59, delegating them to the extreme sexual liberal group ($M = 49.92$, $sd = 8.6$, as compared to the normative sample with $M = 48.81$, $sd = 10.95$). The final 72 sexual conservatives/sexual liberals were assigned randomly to the three treatment groups,
with an equal number of sexual conservatives and sexual liberals within each group. Prior to the treatment conditions and follow-up testing, each subject was contacted by telephone by a male research assistant. Extra subjects were approached for the first experimental condition, Treatment I, to accommodate possible attrition. Since all subjects contacted to take part in Treatment I participated, the final number of sexual conservatives and sexual liberals per treatment cell was distributed as follows: (a) Treatment Group I—13 sexual conservatives, 13 sexual liberals; (b) Treatment Group II—11 sexual conservatives, 10 sexual liberals; and (c) Treatment Group III (Controls)—10 sexual conservatives, 10 sexual liberals. These participants accounted for 67 of the 72 identified sexual conservatives and sexual liberals. Five subjects withdrew from the study between the pretesting, treatment conditions, and follow-up testing for various reasons, including: (a) academic commitments, (b) athletic commitments, (c) offended by pretest questionnaires, and (d) no longer interested. For the analyses of variance with repeated measures, six subjects (3 sexual liberals, 3 sexual conservatives) from Treatment Group I and one sexual conservative from Treatment Group II were deleted randomly so that each treatment group would have an equal number of 10 sexual liberals and 10 sexual conservatives each, for a total of 60 subjects in all.

Posttesting for subjects in Treatment I and Treatment II immediately followed the experimental conditions and took approximately 35 minutes to complete. Treatment III subjects, the controls, were not administered the posttests. All three treatment groups were involved in the follow-up testing which took place three weeks after the treatment/
posttesting sessions. Test administration during follow-up took approximately 45 minutes.

Subjects were informed at each stage of the research that overall results would be mailed to them upon submission of a self-addressed envelope provided by the investigator. Surnames were avoided throughout the study to ensure anonymity and confidentiality. It should be noted that the investigator had no direct contact with subjects at any time. All research assistants who made in-class announcements during the recruitment phase, contacted the subjects by telephone, and administered the pretest, posttest, and follow-up instruments, were male. This was done with the expectation that the male participants would be more comfortable in honestly sharing sexual information with members of the same sex. No research assistants were informed about the nature of the study and all were provided with standardized statements to control the information that subjects might receive.

2.5 Data Analysis

Data were analyzed by computer using programmes from the Statistical Package for Social Sciences (SPSS; Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) and the BMDP Statistical Software (BMDP; Dixon et al., 1981). Analyses of covariance from the BMDP programme were used to examine differences between the pretest and follow-up testing results of the sexual conservatives and sexual liberals in all three treatment groups. Because of the power of analyses of covariance, alpha was set at the .05 level. BMDP Repeated measures analyses P2V examined differences at pretesting, posttesting, and follow-up testing
for the sexual conservatives and sexual liberals assigned to Treatments I and II because control group subjects (Treatment III) were not included in posttesting procedures. Given the exploratory nature of the present research, in the repeated measures analyses the alpha level was set at .10 to increase the power of the tests.
3. RESULTS

The data are organized into three sections. The first section is subdivided into two parts. Demographic data and other sample characteristics for all subjects assigned to the treatment conditions are discussed, followed by a description of treatment group differences on the dependent measures at pretest. The second section presents the results of tests of the five hypotheses of the study. The last section discusses the findings of the research questions posed in addition to the hypotheses, as outlined in section 1.4.1.

3.1 Demographic Information and Other Characteristics of Subjects in All Treatment Groups

Demographic information and other sample descriptors collected from all subjects assigned to the three treatment groups are summarized in Tables 1 and 2 by treatment group and for the total study sample. Appendix U presents the same data categorized by sexual liberalism/conservatism. This information for sexually active subjects is contained in Appendix V. Age ranged from 17 to 22 years, with 38 of the 60 (63%) subjects being 18 or 19 years old. All but three of the participants were white. Thirty-two subjects were from urban locales while 28 were raised in rural settings (53.5% and 46.7%, respectively). No significant difference between urban/rural, liberals and conservatives in the three treatment groups was evident, $F(3,54) = 1.209$, n.s. Forty-seven percent of the study sample (28 of 60) were Protestant; 15 (25%) males were Catholic, and 16 reported their religious affiliation as Other.
Table 1

Demographic Information for All Subjects

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Age (years)</th>
<th>White/ Non-White</th>
<th>Urban/ Rural</th>
<th>Religion (Catholic, Protestant, or Other)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (n = 20)</td>
<td>18-22</td>
<td>19</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>II (n = 20)</td>
<td>18-22</td>
<td>19</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8 (Missing - 1)</td>
</tr>
<tr>
<td>III (n = 20)</td>
<td>17-21</td>
<td>19</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>7</td>
<td>11</td>
</tr>
</tbody>
</table>

All (n = 60)

17-22

57 white

3 non-white

34 urban

26 rural

15 Catholics

28 Protestants

16 Other

1 Missing data

One subject did not respond regarding religion. Sexual liberals and conservatives differed significantly in religious affiliation such that more subjects defined as sexual conservative were Catholic, \( \chi^2 (3, N = 60) = 8.69, p < .05 \). A contingency chi-square examining religion and treatment group revealed no significant differences between the treatment groups on religion, \( \chi^2 (4, n = 59) = 9.03, \text{n.s.} \). Although a majority of these men (33%) had received no church-related sex education, a significantly higher number of the sexual conservatives had, relative to the sexual liberals; \( \chi^2 (4, N = 60) = 17.46, p < .01 \).

All but two of the total number of subjects had experience with dating and both were in the conservative group. Forty-seven percent (28
Table 2

*Other Sample Descriptors for All Subjects*

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Virgin/Non-Virgin</th>
<th>Employed Contraceptives</th>
<th>Rated Sexual Experience With Peers</th>
<th>Rated Sexual Knowledge With Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ia</td>
<td>9 virgin</td>
<td>2 never&lt;sup&gt;b&lt;/sup&gt;</td>
<td>- far less</td>
<td>- far less</td>
</tr>
<tr>
<td></td>
<td>11 non-virgin</td>
<td>5 rarely</td>
<td>6 less</td>
<td>- less</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 usually</td>
<td>10 as</td>
<td>8 as</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 always</td>
<td>2 more</td>
<td>9 more</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 missing - 1&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2 far more</td>
<td>3 far more</td>
</tr>
<tr>
<td>II&lt;sup&gt;a&lt;/sup&gt;</td>
<td>9</td>
<td>7 - 5&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>12</td>
<td>8</td>
</tr>
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<td></td>
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</tr>
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<td>3 missing</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>III&lt;sup&gt;a&lt;/sup&gt;</td>
<td>10</td>
<td>12-10&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>3</td>
<td>6</td>
<td>15</td>
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<tr>
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<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>All</td>
<td>(Lib = 30)</td>
<td>28</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>(Con = 30)</td>
<td>32</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11</td>
<td>28</td>
<td>31</td>
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<tr>
<td></td>
<td></td>
<td>10</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 missing&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

<sup>a</sup> = 20 subjects for each group with 10 liberals/10 conservatives in each; 60 subjects in total.

<sup>b</sup> = virgins

... cont'd
### Table 2 (continued)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rated sexual adjustment with peers</th>
<th>Permissive/ repressive sexual upbringing</th>
<th>Sexual values/ conflict with parents</th>
<th>Sexual values influenced by religion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ia</td>
<td>- less</td>
<td>2 very perm.</td>
<td>7 not at all</td>
<td>9 not at all</td>
</tr>
<tr>
<td></td>
<td>8 as</td>
<td>3 somewhat</td>
<td>8 somewhat</td>
<td>3 somewhat</td>
</tr>
<tr>
<td></td>
<td>9 more</td>
<td>11 neither</td>
<td>1 definitely</td>
<td>4 definitely</td>
</tr>
<tr>
<td></td>
<td>3 far more</td>
<td>perm./rep.</td>
<td>4 very def.</td>
<td>4 very def.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 somewhat</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 very rep.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIa</td>
<td>3</td>
<td>-</td>
<td>2</td>
<td>9</td>
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<td></td>
<td>12</td>
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<td></td>
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<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIIa</td>
<td>1</td>
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*a = 20 subjects for each group with 10 liberals/conservatives in each; 60 subjects in total*
of 60) of the entire sample were virgins, with 21 of the 28 being conservative. Chi-square analysis of virginity and treatment group indicated that there were no significant differences between the treatment groups regarding virginity/non-virginity, $\chi^2 (2, N = 60) = 78.2$, n.s. Six subjects (10%) reported orgasm with a partner of the same sex; all but one were from the liberal group. One hundred percent (32 of 32) of the sexually active (non-virgin) subjects responded to questions about birth control. Of this group, 41% (13 of 32) "never" or "rarely" employ contraceptives while 59% (19 of 32) stated that they "usually" or "always" contracept. A test of variance showed a significant main effect of liberalism/conservatism of all subjects on contraceptive usage, $F(1,54) = 5.94, p < .05$, but an analysis of liberalism/conservatism on employment of birth control with sexually active subjects only revealed no significant differences, $\chi^2 (3, n = 32) = 2.95$, n.s. The small sample size of the sexually active conservative group ($n = 9$) should be taken into account when considering this finding. A Pearson correlation was calculated to determine if age was related to contraceptive use for sexually active subjects. The results showed no significant correlation ($r = .060$, n.s.). A majority of the sexually active respondents indicated that their preferred method of contraception is the "pill" (78%; 25 of 32). Thirteen percent (4 of 32) reported the condom as their choice; the remaining three men (9%) preferred withdrawal.

All subjects were asked to rate themselves in comparison to their peers in sexual experience, sexual knowledge, and sexual adjustment. Thirty-three percent (20 of 60) of all participants viewed themselves as "less" or "far less" experienced than their peers; 28 subjects (47%) were
"as" experienced as their peer group, while 21% (12 of 60) rated themselves as "more" or "far more" experienced than males of the same age. No significant differences were evident between the conservatives and liberals, nor did treatment groups differ on this variable. An examination of sexual experience ratings of sexually active subjects revealed that a majority of these men (59%, 19 of 32) rated themselves "as" experienced as their peers; 35% (11 of 32) viewed themselves as "more" or "far more" experienced and 6% (2 of 32) categorized themselves as "less" or "far less" experienced in comparison to others in their age group.

With regard to sexual knowledge ratings, 22 of the total study group of 60 males (37%) considered themselves to be "more" or "far more" knowledgeable than their peers. Fifty-two percent (31 of 60) rated themselves "as" knowledgeable as their own age group. The remaining seven subjects (11%) assessed their sexual knowledge as "less" or "far less" than their peers. This finding will be discussed further in section 3.2.1, where actual sex knowledge scores for the study population are compared to the results of the sample population used in the standardization of the Sex Knowledge instrument. A two-way analysis of variance examining self-ratings of sex knowledge X treatment group X liberalism/conservatism showed a significant main effect on sex knowledge ratings with peers of treatment group, $F(2,54) = 7.01, p < .05$. This indicates that subjects in treatment groups I, II, and III differed significantly in their self-ratings of sex knowledge compared to peers.

Thirty-six of the 60 (60%) respondents evaluated their sexual adjustment to be equal to others their own age. Thirty-three percent
(20 of 60) rated themselves as "more" or "far more" adjusted while four subjects (7%) ranked themselves as "less" sexually adjusted than their peers. A treatment group X conservatism/liberalism two-way ANOVA of peer sex adjustment rating indicated that the three treatment groups differed significantly on this variable, $F(2,54) = 7.49, p < .001$. No significant difference was found between the sexual conservatives and the sexual liberals on self sex adjustment ratings with peers.

When asked to rate sexual permissiveness at home during their growing up years, 57% of the respondents (34 of 60) assessed it as "neither permissive nor repressive." Fifteen subjects (25%) considered their homes to be "somewhat" or "very" repressive while 18% (11 of 60) reported a "somewhat" or "very" permissive home. Conservatives and liberals differed significantly, $F(1,54) = 4.26, p < .05$, with more sexual conservatives rating their sexual upbringing as "very repressive."

A majority of subjects (58% or 35 of 60) considered their sexual values to be in conflict with their parents. Ten men (17%) chose "definite" or "very definite" to describe if their sexual values were in conflict with their parents'. The remaining 25% (15 of 60) rated no conflict at all. No differences were found between liberals and conservatives or among treatment groups.

A significant main effect was found in an examination of sexual conservatism/liberalism on the belief that religion played an influential role in the formation of sexual values, $F(1,54) = 59.94, p < .0001$. This is addressed more specifically in section 3.3.1 with a presentation of means and standard deviations for each treatment group. Of the 42% (25 of 60) of subjects rating religion as "not at all" influential, 88% (22
of 25) were in the sexually liberal group. Twenty-one of the 23 respondents (91%) viewing religion as "definitely" or "very definitely" a factor in determining their sexual values were sexual conservatives. Twenty percent (12 of 60) of the men in the present study rated it as "somewhat" important. No differences were found among treatment groups in this dimension.

3.1.1 Treatment Group Differences following Randomized Assignment in Sex Knowledge, Sex Attitudes, Premarital Contraceptive Attitudes, and Overall Conservatism

Two-way analyses of variance were carried out to determine if differences existed between treatment groups and liberalism/conservatism on several pre-treatment dependent variables. The liberalism/conservatism X treatment group ANOVA on sexual knowledge actual scores, indicated a significant two-way interaction between liberalism/conservatism and treatment group on sex knowledge, $F(2,54) = 3.74, p < .01)$. In treatment groups I and III, the liberals were significantly higher in sex knowledge than the conservatives in these groups. The sexual liberals/conservatives in treatment group II did not differ in their sex knowledge scores. This pre-treatment discrepancy may have had an influence on the results following the treatment interventions. Similar analyses were done using the dependent variables of sex attitudes, premarital contraceptive attitudes, and overall "general" conservatism. The results showed significant main effects of liberalism/conservatism by each of the dependent variables but no significant two-way interactions between liberalism/conservatism and treatment group on these variables were found.
3.2 Tests of Research Hypotheses

The results of the investigated hypotheses are addressed in chronological order as outlined in section 1.3. All analyses were conducted with equal n's.

3.2.1 Hypothesis 1

a) Higher scores obtained in the Sex Knowledge portion of the SKAT will correspond to lower scores on the Sex Attitudes section of the SKAT (more liberal attitudes).

SKAT scores for all 60 subjects were entered into the computer. The mean and standard deviation for Sex Knowledge were 33.60 and 5.62, respectively. It should be noted that the Sex Knowledge mean scores for the entire sample used by Lief and Reed (1972) in the standardization of the SKAT was 38.81 with a 5.78 standard deviation. The statistical difference between the sample group in the present study and the standardization group is highly significant ($t = -6.76$, $df = 909$, $p < .001$).

Calculations for the mean and standard deviation for Sex Attitude scores resulted in 49.92 for the former and a standard deviation of 8.63. Subjects scoring above 58.00 were labelled sexual conservatives while those below 42.00 were considered to be sexually liberal in their attitudes. A Pearson correlation coefficient of $r = -0.2991$ ($p < .01$) for Sex Knowledge and Sex Attitudes was obtained indicating a significant inverse relationship between sex knowledge and conservatism of sex attitudes. This result upholds Hypothesis 1(a).

b) Higher scores on the Sex Attitudes portion of the SKAT will reflect higher scores on overall general conservatism as
measured by the Conservatism Scale.

Pearson correlations were calculated to assess the relationship between sexual conservatism as defined by the present study (higher scores on the Sex Attitude Scale of the SKAT) and overall conservatism. A correlation coefficient of $r = 0.7489 \ (p < .0001)$ between sexual attitudes scores and scores obtained on the test of general conservatism was obtained. (This significance level held even when items 4, 12, 27, 34, and 50 on the Conservatism Scale were deleted because of possible contamination by their sexual content.) It appears that scores of the Sex Attitudes portion of the SKAT can predict overall conservatism. Therefore, part (b) of Hypothesis 1 is confirmed.

Pearson correlations were calculated for sexual liberals and sexual conservatives separately to determine the relationship between their sexual attitude scores and scores of overall conservatism. An overall relationship between sexual and general liberalism/conservatism was strong among the liberals ($r = .4168, \ p < .01$) but did not reach significance among the conservatives ($r = .2418, \ n.s.$). When the five sex-related items were removed from the scale, the relationship also became significant for the subjects defined as conservatives ($r = .649, \ p < .001$).

In summary, the predictions in Hypothesis 1(a) and 1(b) were upheld. The analyses demonstrated that greater sex knowledge as defined by the present study is related to more liberal sexual attitudes. Furthermore, there is a significant relationship between conservative sexual attitudes and overall "general" conservatism as they had been operationally defined.
3.2.2 Hypothesis 2

It is predicted that lower scores on the Sex Attitude Scale of the SKAT (greater sexual liberalism) will correspond to lower scores on the Premarital Contraceptive Attitude Evaluation (more favourable attitudes toward personal use of contraceptives).

Examination of the correlation conducted between sexually liberal attitudes as determined by low scores on the Sex Attitude Scale (SKAT) and more favourable attitudes toward personal use of contraceptives as measured by low scores on the Premarital Contraceptive Attitude Evaluation revealed a significant relationship \( r = 0.2356, p < .05 \). Two questions on the SKAT Attitude Scale were related to contraception. This proportion was considered insignificant and could not have accounted for a significance of this value.

By error, several subjects completed the Premarital Contraceptive Evaluation Instrument twice during the posttesting of Treatment II subjects. Following this, a discrepancy was noted between individual responses to the same test; therefore, a study of the stability of responses was conducted by administering the 25-item test twice at follow-up to all subjects. This was done by incorporating the test into the SKAT questionnaire, which was administered at the beginning of the session. Toward the end of the testing session, these 25 questions were presented in a single questionnaire. The test-retest reliability of the Premarital Contraceptive Evaluation Instrument within one testing session was \( r_{tt} = .4988 \) \((p < .0001)\), which indicates that this instrument is lacking in reliability. This differs considerably from the Coefficient Alpha Index of reliability of .908 reported by Parcel (1975). The low reliability may have had an
influence on the strength of the significant result between sexual liberalism and favourable attitudes toward the personal use of birth control.

3.2.3 Hypothesis 3

It was expected that sexual conservatives would have increased sexual knowledge (higher scores on the Sex Knowledge Scale—SKAT) following Treatment I, whereas Treatments II and III would be ineffective in increasing knowledge. Since the sexual liberal group displayed more knowledge before treatment, they were not, by comparison, expected to change following any treatment. These predictions were tested by (a) a repeated measures ANOVA of SKAT knowledge scores, with groups (liberal/conservative) and treatments (I, II) as between factors, and pre, post, follow-up scores as a within factor, and (b) an analysis of covariance, with groups (liberal/conservative) in Treatments I, II, and III examined at pre and follow-up sessions. The expectation was that the repeated measures analyses would show a group X treatment X trials interaction over time, revealing the relationships outlined above upon further analysis. The analysis of covariance was expected to indicate similar results, but with all three groups at two trial periods and would allow for greater ease of interpretation.

The test results of Hypothesis 3 will be presented in the following manner. First, the findings as they relate to sexual liberals in Treatment groups I and II only, at pre, post, and follow-up testing are presented. Second, the results of sexual conservatives in Treatment
groups I and II at pre, post, and follow-up are discussed. Finally, the results from the analyses of covariance for sexual liberals and conservatives in all three treatment groups at pre and follow-up only are reported.

3.2.3.1 Sex Knowledge of Treatments I and II Sexual Liberals at Pre, Post, and Follow-up Treatment

The mean sex knowledge scores obtained by the sexual liberals in the three treatment groups were used as the dependent measure of this section of Hypothesis 3. All sex knowledge scores had been converted to percentages for ease of calculations. The Sex Knowledge score means and standard deviations at pre, post, and follow-up testing (KNPRE, KNPOST, KNFLW) are presented in Table 3 along with an ANOVA summary of the repeated measures analyses for the sexual liberal/sexual conservative subjects in Treatment I (human sexuality course—"lecture") and II (written lecture—"paper"). Results showed that a significant three-way interaction of repeated trials by treatment condition by sexual liberalism/conservatism exists, $F(2,72) = 2.88, p < .10$. This implies that the nature of the two-way interactions differ for different levels of the third factor, namely sexual liberalism/conservatism. To explore this, simple interaction effects analyses were carried out with subsequent simple, simple main effect analyses for any significant simple interaction effects. The simple interaction effects analysis of variance (ANOVA) is presented in Table 4.

As indicated more broadly in section 3.1.1, the simple interaction effects analysis showed that sexual liberals randomly assigned to the human sexuality course ($M_{lecture} = 75.2$) treatment were significantly
Table 3

Sex Knowledge Scores of Sexual Liberal/Sexual Conservative Subjects in Treatments I and II at Pre, Post, and Follow-up Testing

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<td></td>
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<td>155.06</td>
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</table>

| Within          |    |          |          |       |       |
| TRIALS          | 2  | 417.87   | 208.93   | 3.10  | <.10  |
| TRIALS × TRT    | 2  | 107.47   | 53.73    | 0.80  | n.s.  |
| TRIALS × Lib/Con| 2  | 31.20    | 15.60    | 0.23  | n.s.  |
| TRIALS × TRT ×  | 2  | 387.47   | 193.73   | 2.88  | <.10  |
| Lib/Con         |    |          |          |       |       |
| Error           | 72 | 4847.99  | 67.33    |       |       |
influence on the strength of the significant result between sexual liberalism and favourable attitudes toward the personal use of birth control.

3.2.3 Hypothesis 3

It was expected that sexual conservatives would have increased sexual knowledge (higher scores on the Sex Knowledge Scale—SKAT) following Treatment I, whereas Treatments II and III would be ineffective in increasing knowledge. Since the sexual liberal group displayed more knowledge before treatment, they were not, by comparison, expected to change following any treatment.

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Table 4

Simple Interaction Effects ANOVA for Trials (Pre, Post, Follow-up) X Treatment for Sexual Liberals/Conservatives on Sex Knowledge

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<td>183.20</td>
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</tr>
<tr>
<td>Error 2</td>
<td>72</td>
<td>4847.99</td>
<td>67.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

more knowledgeable about sexual matters than the sexual liberals assigned to only the written lecture (M_paper = 65.47) at the p < .01 level. This was evident across pre, post and follow-up testing, which indicates that the sexual liberals, even though they had been randomly assigned, were different in sex knowledge prior to any treatment condition. No significant differences in sex knowledge means of liberals were found across pre, post, and follow-up [M_post (68.4) = M_pre (71.0) = M_flw (71.6)]. Therefore, treatment appeared to have no effect in the sex knowledge of the sexual liberals.
3.2.3.2 Sex Knowledge of Sexual Conservatives
Following Treatments I and II at Pre, Post, and Follow-up Testing

Following from the ANOVA reported in the previous section, possible significant differences across pre, post, and follow-up sex knowledge means of the conservatives were explored by carrying out Newman-Keuls pairwise comparisons at α = .05 level. No significant differences were evident ($M_{\text{post}} = 58.6, M_{\text{pre}} = 63.6, M_{\text{flw}} = 63.6$). The significance level of the original effect ($p < .01$) is such that the use of $\alpha = .05$ appears too stringent for what is a rather weak effect (see Table 4). The least significant difference (LSD) procedure of Fisher as described by Kirk (Experimental Design, 2nd ed., 1982) was used. This procedure is essentially a multiple $t$ test, and as such, is more subject to Type I error than the Newman-Keuls procedure. Given the exploratory nature of the present study, Type I error is less of a concern than is sometimes the case. Using the LSD procedure at $\alpha = .10$, any difference greater than 4.328 between two means is significant. Therefore, the final conclusion for conservatives (collapsing across Treatments I and II) is that the sex knowledge score at posttesting is significantly lower ($p < .10$) than at pre or follow-up testing (see Table 4).

A trials by treatment condition analysis of sex knowledge scores for sexual conservatives ($p < .0$) was carried out to clarify the results. Table 5 presents the simple, simple main effects analysis using a heterogeneous error term.

These findings show that for Treatment I (human sexuality course —"lecture") conservatives, there are no significant differences across the repeated trials [$M_{\text{KNPRE}} = 61.6 = (M_{\text{KNPOST}} = 62.4) = (M_{\text{KNFLW}} = 66.01)$].
Table 5

Simple, Simple Main Effects ANOVA of Repeated Trials X Treatment Interactions for Sexual Conservatives on Sex Knowledge Scores

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trials x TRT-I (Con)</td>
<td>2</td>
<td>109.87</td>
<td>54.94</td>
<td>1</td>
<td>n.s.</td>
</tr>
<tr>
<td>Trials x TRT-II (Con)</td>
<td>2</td>
<td>589.87</td>
<td>294.94</td>
<td>4.38</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>4847.99</td>
<td>67.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

With Treatment II (written paper) conservatives, however, significant differences are evident across assessment periods. The sex knowledge mean for Treatment II conservatives evidenced during the "post" measurement is significantly lower than the mean evidenced during the "pre" measurement. Neither the "post" nor the "pre" means differ significantly from the "follow-up" measurement mean. There appears to be a depression of knowledge scores associated with continued participation in the study. This may be due to Type I error and only a replication of this research would tell. This effect is not significantly evidenced for the Treatment I (lecture group) conservatives or for the liberals. It may be that the mere requirements of completing an instrument assessing sex knowledge without an opportunity to discuss ideas, results in the participants becoming less sure of what they know about sexual matters. If sex knowledge and sexual attitudes are indeed related as claimed by some researchers in the literature review, it is possible that the decrease
in sex knowledge scores is related to the lack of change in sexual conservative attitudes following treatment discussed in section 3.2.4. The analyses carried out indicate that there was no apparent impact of treatment on sex knowledge of sexual conservatives.

3.2.3.3 Sex Knowledge of Treatment Groups I, II, and III Sexual Liberals/Conservatives at Pre, and Follow-up Testing

Table 6 presents the sex knowledge scores of sexual liberals and conservatives in Treatment groups I, II, and III examined at pretesting and follow-up testing (KNPRE, KNFLW) only. (Treatment III subjects, the controls, did not participate in posttesting because of a concern that continued testing without an accompanying experimental treatment would result in high attrition of this group.) The findings indicated a
significant difference between the mean sex knowledge score of all the sexual liberals

\[
(M_{\text{lib}} = \frac{77.2 + 65.4 + 75.1}{3} = 72.57)
\]

and the mean sex knowledge score of all the sexual conservatives

\[
(M_{\text{con}} = \frac{63.8 + 63.4 + 59.3}{3} = 62.73)
\]

at \(F(2,54) = 16.27, p < .0002\).

An analysis of covariance was conducted to further investigate differences in each of the three treatments because, despite random assignment, the repeated measures analysis of the pre-treatment showed that they were not equivalent. As well, the covariance approach is more powerful (Huck & McLean, 1975). The pre-treatment scores on the dependent variable (sex knowledge) were used as the covariate. The covariate summary and subsequent Newman-Keuls Analysis (see Table 7) shows a significant mean effect due to treatment for subjects receiving Treatment I (lecture). No change in sex knowledge was evident with subjects in receiving treatments

Table 7

| Analysis of Covariance Summary for Sex Knowledge of Sexual Liberals/Conservatives in Treatment Groups I, II, and III at Pre and Follow-up Testing |
|---|---|---|---|---|
| df | MS | \(F\) | \(p\) |
| Treatment | 2 | 243.39 | 3.23 | <.047 |
| L-C | 1 | 190.28 | 2.53 | n.s. |
| TRT/L.C. | 2 | 13.19 | 0.18 | n.s. |
| 1st Covariate | 1 | 1526.63 | 20.28 | <.000 |
| Error | 53 | 3938.36 | 75.27 |
Newman-Keuls Analysis of Significant Treatment Effect

\[
\sqrt{\text{MSE}_{\text{within}}} = \sqrt{\frac{75.27}{20}} = 1.94
\]

\[
\frac{r q_{0.05,53}}{2} = 2.83
\]

\[
q' = \frac{q \times 1.94}{5.49}
\]

\[
M_{12} \quad M_{13} \quad M_{11}
\]

64.1 \quad 66.2 \quad 71.1

II or III. There were no main or interaction effects of liberalism/conservatism.

In light of the results, Hypothesis 3 as it was stated, is disconfirmed. Even though there is a significant change in sex knowledge for subjects receiving Treatment I, these differences occurred with both sexual conservatives and sexual liberals.

### 3.2.4 Hypothesis 4

It was expected that sexual conservatives would have more positive sexual attitudes (lower scores on the SKAT Attitude Scale) following Treatment I, whereas Treatments II and III would be ineffective in producing attitude change. Since the sexual liberal group displayed more positive attitudes before treatment, they were not, by comparison, expected to change following any treatment.

These predictions were tested by a repeated measures ANOVA of SKAT attitude scores, with groups (liberal, conservative) and treatments (I, II) as between factors, and pre, post, and follow-up scores as a within factor. An analysis of covariance was conducted with groups (liberal, conservatives) and treatments (I, II, III) at pre and
follow-up only. The expectation was that the repeated measures would show a group by treatment by trials interaction, revealing the relationships outlined above upon further investigation. The analysis of covariance was expected to yield similar results for the three treatment groups at two trial periods but would be more easily interpretable.

The test results of Hypothesis 4 are presented in the following manner. The findings of the analysis of variance with repeated measures for sexual liberals in Treatments I and II at pre, post, and follow-up testing are described first, followed by Treatment groups I and II sexual conservatives at the three testing periods. Finally, results from the analyses of covariance for sexual liberals and conservatives in all three treatment groups at pre and follow-up only are reported. The reader is reminded that control subjects did not participate in posttesting.

3.2.4.1 Sexual Attitudes of Treatments I and II Sexual Liberals at Pre, Post, and Follow-up Testing

The mean sexual attitude scores obtained by sexual liberals in the three treatment groups were used as the dependent measure for the first part of Hypothesis 4. The Sexual Attitude score means and standard deviations at pre, post, and follow-up testing (ATPRE, ATPOST, ATFLW) are presented in Table 8 for the sexual liberal/sexual conservative subjects in Treatment I (human sexuality course—"lecture") and Treatment II (written lecture—"paper").

Table 9 presents the table for the analysis of variance with repeated measures, which resulted in a significant main effect differentiating the sexual liberals and sexual conservatives, $F(2,72) = 186.68, p < .001$. The significant interaction, $F(2,72) = 6.33,$
Table 8

**Sex Attitudes Scores of Sexual Liberal/Sexual Conservative Subjects in Treatments I and II at Pre, Post, and Follow-up Testing**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Treatment I (Lecture)</th>
<th>Treatment II (Paper)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lib</td>
<td>Con</td>
</tr>
<tr>
<td><strong>ATPRE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>41.66</td>
<td>71.88</td>
</tr>
<tr>
<td>SD</td>
<td>4.35</td>
<td>5.59</td>
</tr>
<tr>
<td><strong>ATPOST</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>48.11</td>
<td>69.17</td>
</tr>
<tr>
<td>SD</td>
<td>4.78</td>
<td>9.71</td>
</tr>
<tr>
<td><strong>ATFLW</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>46.28</td>
<td>69.31</td>
</tr>
<tr>
<td>SD</td>
<td>6.24</td>
<td>7.81</td>
</tr>
<tr>
<td><strong>Marginal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>45.28</td>
<td>70.17</td>
</tr>
<tr>
<td><strong>n</strong></td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th>Treatment I</th>
<th>Treatment II</th>
<th>Treatment III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lib</td>
<td>Con</td>
<td>Lib</td>
</tr>
<tr>
<td><strong>ATPRE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>41.66</td>
<td>71.88</td>
<td>42.22</td>
</tr>
<tr>
<td>SD</td>
<td>4.35</td>
<td>5.54</td>
<td>2.40</td>
</tr>
<tr>
<td><strong>ATFLW</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>46.28</td>
<td>69.31</td>
<td>47.54</td>
</tr>
<tr>
<td>SD</td>
<td>6.24</td>
<td>7.89</td>
<td>4.31</td>
</tr>
<tr>
<td><strong>Marginal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>43.97</td>
<td>70.60</td>
<td>44.88</td>
</tr>
<tr>
<td><strong>n</strong></td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>
between trials (pre, post, follow-up) and sexual liberalism/conservatism was followed up by a simple main effects analysis. The interaction effect of trials (pre, post, follow-up) by liberalism/conservatism on attitude scores was followed up by simple main effects analyses (see Table 10). The results show that the sexual attitudes of the sexual liberals at pretesting were significantly lower (more liberal) than at posttest and follow-up, $F(2) = 8.49, p < .001$, whereas the conservatives did not change over testings, $F < 1$, n.s. This disconfirms

Table 9

ANOVA Summary of Trials X Sexual Liberalism/Sexual Conservatism X Treatment Groups I, II, and III on Sex Attitudes

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment (TRT)</td>
<td>1</td>
<td>26.70</td>
<td>0.31</td>
<td>n.s.</td>
</tr>
<tr>
<td>L/C</td>
<td>1</td>
<td>16287.70</td>
<td>186.68</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>TRT (L/C)</td>
<td>1</td>
<td>64.75</td>
<td>0.74</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>36</td>
<td>87.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Within:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trials</td>
<td>2</td>
<td>63.33</td>
<td>2.58</td>
<td>&lt;.10</td>
</tr>
<tr>
<td>Trials $\times$ TRT</td>
<td>2</td>
<td>8.92</td>
<td>0.36</td>
<td>n.s.</td>
</tr>
<tr>
<td>Trials $\times$ L/C</td>
<td>2</td>
<td>155.36</td>
<td>6.33</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Trials $\times$ TRT $\times$ L/C</td>
<td>2</td>
<td>7.90</td>
<td>0.32</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>24.56</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
the hypothesis predicting that no significant difference would be evident with the sexual liberals. It appears that subjects identified as extreme sexual liberals became more conservative in their sexual attitudes following treatment, with a subsequent shift toward more liberal attitudes over time. It may be that the mere act of questioning the subjects about their beliefs caused them to examine their sexual value system, resulting in more conservative responses.

Table 10

**Simple Main Effects ANOVA of Trials X Sexual Liberalism/Conservatism in Treatment Groups I and II on Sex Attitudes**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trial (Lib)</td>
<td>2</td>
<td>416.99</td>
<td>208.50</td>
<td>8.49</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Trial (Con)</td>
<td>2</td>
<td>20.42</td>
<td>10.21</td>
<td>1</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>1768.11</td>
<td>24.56</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Newman-Keuls Analysis

\[
\sqrt{\frac{\text{MSE}}{n}} = \sqrt{\frac{24.56}{20}} = 1.108
\]

\[
\begin{align*}
q & = 0.53 \\
q' & = q \times 1.108 \\
2 & = 2.822 \\
3 & = 3.39 \\
M_{11} & = 41.94 \\
M_{31} & = 46.9 \\
M_{21} & = 48.00
\end{align*}
\]
Sex Attitudes of Treatments I and II Sexual Conservatives at Pre, Post, and Follow-up Testing

Sex Attitude scores means and standard deviations of the sexual conservative subjects in Treatment groups I and II at pre, post, and follow-up testing were presented in Table 8. A significant Liberalism/Conservatism main effect was revealed, $F(1,36) = 186.68, p < .001$ following an analysis of variance with repeated measures. Table 10 outlines the test of simple main effects ANOVA which explored the Trials X Liberalism/Conservatism Interaction, $F(2,72) = 6.33, p < .01$, of sex attitudes presented in Table 9. The findings indicated that there were no significant changes in sexual attitudes at all for sexual conservatives. Therefore, Hypothesis 4 is rejected. It appears that the sexual conservatives are consistently committed to their sexual beliefs despite the introduction of further information and/or the opportunity to debate these attitudes in small groups.

Sex Attitudes of Treatments I, II, and III Sexual Liberals/Conservatives at the Pre and Follow-up Testing

Sex attitude scores of sexual liberals and conservatives in all three treatment groups at pre and follow-up testing were presented in Table 8. The significant main effect of treatment, $F(2) = 3.48, p < .05$, as determined by an analysis of covariance was investigated by the Newman-Keuls procedure (see Table 11). The results indicated that there were no significant differences in Treatment I (lecture) versus Treatment II (paper) groups in sexual attitudes, but that Treatment III (control) subjects' mean attitude score was significantly higher (more conservative) at follow-up
Table 11

Analysis of Covariance Summary for Sex Attitudes of Sexual Liberals/Conservatives in Treatment Groups I, II, and III at Pre and Follow-up Testing

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRT</td>
<td>2</td>
<td>149.56</td>
<td>3.48</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>L-C</td>
<td>1</td>
<td>7.95</td>
<td>0.19</td>
<td>n.s.</td>
</tr>
<tr>
<td>TRT/L-C</td>
<td>2</td>
<td>4.27</td>
<td>0.10</td>
<td>n.s.</td>
</tr>
<tr>
<td>1st Covariate</td>
<td>1</td>
<td>406.02</td>
<td>9.46</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Error</td>
<td>53</td>
<td>42.93</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Newman-Keuls Analysis of Significant Treatment Effect

\[
\sqrt{\frac{\text{MSE}}{n}} = \sqrt{\frac{42.93}{20}} = 1.47
\]

<table>
<thead>
<tr>
<th>r</th>
<th>q. 01,53</th>
<th>q' = q \times 1.47</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3.76</td>
<td>5.53</td>
</tr>
<tr>
<td>3</td>
<td>4.28</td>
<td>6.29</td>
</tr>
</tbody>
</table>

(Ajusted Cell Means)

\[M_{31} \quad M_{32} \quad M_{33}\]

57.3 58.6 62.6

testing compared to the other groups. No group X treatment interaction was evident. This finding supports the hypothesis that there will be an increase in positive sexual attitudes following Treatment I, but this increase is not attributable to either the sexual liberals or conservatives, specifically.
3.2.5 Hypothesis 5

It was predicted that sexual conservatives would be more favourably disposed toward personal contraceptive use (lower scores on the Premarital Contraceptive Evaluation Instrument) following Treatment I, whereas Treatment II would be ineffective in producing change in contraceptive attitude. Since the sexual liberal group displayed more favourable attitudes before treatment, they were not, by comparison, expected to change following any treatment. These predictions were investigated by an analysis of covariance.

Attitudes toward the personal use of contraceptives were explored for sexual liberals and sexual conservatives receiving Treatment I (lecture) and II (paper) at pretesting and follow-up only. The controls did not complete the instrument measuring this variable during pretesting because the instrument had not yet arrived and, therefore, were not included in subsequent measurement periods and analysis. The mean contraceptive attitude score, standard deviation, and the ANOVA summary are presented in Table 12. Before considering the post treatment differences, pre-treatment differences were examined. A two-way analysis of variance showed a significant main effect, $F(1,36) = 24, p < .001$, of sexual liberalism/conservatism on premarital contraceptive attitudes ($M_{lib} = 46.15, M_{con} = 66.85$, respectively). The analysis of covariance presented in Table 13 revealed no significant effects due to treatment, $F(1,35) = 0.47$, n.s. Therefore, sexual liberals and sexual conservatives in the present study did not change significantly in their attitudes toward the personal use of contraceptives. No one treatment condition had any more impact than any other; therefore, Hypothesis 5 is rejected.
Table 12

Personal Contraceptive Use Attitude Scores of Sexual Liberal/Sexual Conservative Subject in Treatments I and II at Pre and Follow-up Testing

<table>
<thead>
<tr>
<th></th>
<th>Treatment I (Lecture)</th>
<th>Treatment II (Paper)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lib</td>
<td>Con.</td>
</tr>
<tr>
<td>CEATPRE M</td>
<td>45.70</td>
<td>70.50</td>
</tr>
<tr>
<td>SD</td>
<td>5.23</td>
<td>20.57</td>
</tr>
<tr>
<td>CEATFLW M</td>
<td>43.80</td>
<td>70.30</td>
</tr>
<tr>
<td>SD</td>
<td>8.05</td>
<td>20.18</td>
</tr>
<tr>
<td>Marginal</td>
<td>44.75</td>
<td>70.40</td>
</tr>
<tr>
<td>n</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Analysis of Covariance Summary

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRT</td>
<td>1</td>
<td>108.90</td>
<td>0.61</td>
<td>n.s.</td>
</tr>
<tr>
<td>L-C</td>
<td>1</td>
<td>4326.40</td>
<td>24.24</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>TRT/L-C Covariate</td>
<td>1</td>
<td>160.00</td>
<td>08.89</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>36</td>
<td>178.46</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.3 Results of the Additional Research Questions

It was predicted that (a) religiosity, (b) sexual experience, and (c) rural upbringing are related to sexual conservatism. Religiosity
Table 13

Personal Contraceptive Use-Adjusted Cell Means of Sexual Liberal/Conservatism Subject in Treatments I and II at Pre and Follow-up Testing

<table>
<thead>
<tr>
<th></th>
<th>Treatment I (Lecture)</th>
<th>Treatment II (Paper)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lib</td>
<td>Con</td>
</tr>
<tr>
<td>CVATFLW</td>
<td>52.174</td>
<td>59.356</td>
</tr>
<tr>
<td>(Contraceptive Attit. Follow-up)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Covariance Summary

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRT</td>
<td>1</td>
<td>34.407</td>
<td>0.47</td>
<td>n.s.</td>
</tr>
<tr>
<td>L-C</td>
<td>1</td>
<td>90.783</td>
<td>1.23</td>
<td>n.s.</td>
</tr>
<tr>
<td>TRT/L-C</td>
<td>1</td>
<td>105.236</td>
<td>1.42</td>
<td>n.s.</td>
</tr>
<tr>
<td>1st Covariate</td>
<td>1</td>
<td>3898.300</td>
<td>52.37</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Error</td>
<td>35</td>
<td>73.929</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

and sexual experience are discussed together in this section. Rural upbringing and its possible relationship to sexual conservatism is addressed separately. Finally, information regarding sexual conservatism versus sexual liberalism and their likelihood of employing contraceptives is discussed.
3.3.1 Religiosity, Sexual Experience, and Sexual Conservatism

The importance of religion to the sexual value system of subjects identified as sexual conservatives is outlined in Table 14. Cross-tabulations of subjects' ratings show that 70% of all of the sexual conservatives believe that religion plays a definite/very definite role in their sexual value system, whereas the sexual liberals stated that religion has virtually no definite role.

Seventy-seven percent of all liberals compared to 30% of all conservatives under investigation had experienced coitus. An examination of the sexually active subjects is presented in Table 15. As shown, only nine of 30 conservatives were sexually active. Of these, five of the nine or 56% considered religion to have a very definite influence on their sexual value system compared to none of the liberals. From the total of 23 sexually active liberals, 74% stated that religion had no influence on their sexual value system. Religiosity is viewed as far more influential in the development of a sexual value system for sexually active conservatives in the present study than for sexual liberals, $\chi^2 (3, n = 32) = 17.79, p < .01$. This finding was consistent for sexual conservatives and liberals who were not sexually active, $\chi^2 (3, n = 28) = 31.22, p < .001$.

3.3.2 Rural Upbringing and Sexual Conservatism

Subjects were asked to indicate if they had been raised in urban or rural settings. It was speculated that sexual conservatives would more likely be from rural locales. An examination of the distribution is
Table 14

Belief that Religion Played a Role in Sexual Values

<table>
<thead>
<tr>
<th>Count Row %</th>
<th>Not at All</th>
<th>Somewhat</th>
<th>Definitely</th>
<th>Very Definitely</th>
<th>Raw Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>9</td>
<td>1</td>
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<td>10</td>
</tr>
<tr>
<td></td>
<td>90.0</td>
<td>10.0</td>
<td>0.0</td>
<td>0.0</td>
<td>100.00</td>
</tr>
<tr>
<td>Lib II</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>70.0</td>
<td>20.0</td>
<td>10.0</td>
<td>0.0</td>
<td>100.00</td>
</tr>
<tr>
<td>III</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>0</td>
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</tr>
<tr>
<td></td>
<td>60.0</td>
<td>30.0</td>
<td>10.0</td>
<td>0.0</td>
<td>100.00</td>
</tr>
<tr>
<td>All</td>
<td>22</td>
<td>6</td>
<td>2</td>
<td>0</td>
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<td>20.0</td>
<td>7.0</td>
<td>0.0</td>
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<td><strong>Lib/Con Treatment</strong> I</td>
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<td></td>
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<td></td>
</tr>
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<td>0.0</td>
<td>20.0</td>
<td>40.0</td>
<td>40.0</td>
<td>100.00</td>
</tr>
<tr>
<td>Con II</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>40.0</td>
<td>100.00</td>
</tr>
<tr>
<td>III</td>
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</tr>
<tr>
<td></td>
<td>10.0</td>
<td>20.0</td>
<td>10.0</td>
<td>60.0</td>
<td>100.00</td>
</tr>
<tr>
<td>All</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>10.0</td>
<td>20.0</td>
<td>23.0</td>
<td>46.7</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Lib/Con Treatment I $\chi^2 (3, n = 20) = 17.33, p < .001$
Lib/Con Treatment II $\chi^2 (3, n = 20) = 7.11, p < .10$
Lib/Con Treatment III $\chi^2 (3, n = 20) = 9.77, p < .05$
Lib/Con All $\chi^2 (3, n = 60) = 31.22, p < .001$
Table 15
Belief of Sexually Active Liberals/Conservatives that Religion Played a Role in Sexual Values

<table>
<thead>
<tr>
<th>Count Row %</th>
<th>Not at All</th>
<th>Somewhat</th>
<th>Definitely</th>
<th>Very Definitely</th>
<th>Raw Total</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>90.0</td>
<td>10.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Lib II</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80.0</td>
<td>10.0</td>
<td>10.0</td>
<td>0.0</td>
</tr>
<tr>
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<td>III</td>
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<td>0</td>
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<td></td>
<td></td>
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<td>50.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>17</td>
<td>5</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>74.0</td>
<td>21.7</td>
<td>4.3</td>
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</table>

<table>
<thead>
<tr>
<th>Count Row %</th>
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<th>Somewhat</th>
<th>Definitely</th>
<th>Very Definitely</th>
<th>Raw Total</th>
</tr>
</thead>
<tbody>
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<td>1</td>
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</tr>
<tr>
<td></td>
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<td>0</td>
<td>1</td>
</tr>
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<td></td>
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<td>33.3</td>
<td>0.0</td>
<td>33.3</td>
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<td>0</td>
<td>3</td>
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<td>25.0</td>
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</tr>
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<td></td>
<td></td>
<td>11.1</td>
<td>22.2</td>
<td>11.1</td>
<td>55.6</td>
</tr>
</tbody>
</table>

\[ \chi^2 (3, n = 20) = 11.00, \text{n.s.} \]
\[ \chi^2 (3, n = 20) = 4.16, \text{n.s.} \]
\[ \chi^2 (3, n = 20) = 6.86, p < .05 \]
\[ \chi^2 (3, N = 60) = 17.79, p < .001 \]
presented in Table 16 for all subjects under investigation [liberals
\( \chi^2 (1, n = 30) = 0.603, \text{n.s.} \); conservatives \( \chi^2 (1, n = 30) = 1.071, \text{n.s.} \)].

The results indicate that urban/rural upbringing does not appear to have an impact on whether or not a subject is categorized as sexually conservative. Table 17 presents the data for sexually active participants. No

Table 16

<table>
<thead>
<tr>
<th>Role of Urban/Rural Upbringing and Sexual Liberalism/Conservatism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
</tr>
<tr>
<td>Row %</td>
</tr>
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<td>Treatment</td>
</tr>
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<td>Lib I</td>
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<td>60.0</td>
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<td>Lib II</td>
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<td>60.0</td>
</tr>
<tr>
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</tr>
<tr>
<td>All</td>
</tr>
<tr>
<td>46.7</td>
</tr>
</tbody>
</table>

Lib/Con I Fisher's Exact Test = 0.500 (1-tailed)
Lib/Con II Fisher's Exact Test = 0.085 (1-tailed)
Lib/Con III Fisher's Exact Test = 0.500 (1-tailed)
All Lib \( \chi^2 (1, n = 30) = 6.03, \text{n.s.} \)
All Con \( \chi^2 (1, n = 30) = 1.09, \text{n.s.} \)
Table 17

Role of Urban/Rural Upbringing and Sexually Active Liberals/Conservatives

<table>
<thead>
<tr>
<th>Count Row %</th>
<th>Urban</th>
<th>Rural</th>
<th>Raw Total</th>
</tr>
</thead>
<tbody>
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<td><strong>Treatment</strong></td>
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<td></td>
</tr>
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<td>Lib I</td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>60.0</td>
<td>40.0</td>
<td>100.00</td>
</tr>
<tr>
<td>Lib II</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>70.0</td>
<td>30.0</td>
<td>100.00</td>
</tr>
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<td>Lib III</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
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<td></td>
<td>50.0</td>
<td>50.0</td>
<td>100.00</td>
</tr>
<tr>
<td>All</td>
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<td>10</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>56.5</td>
<td>43.5</td>
<td>100.00</td>
</tr>
</tbody>
</table>

| Con I       | 0     | 2     | 2         |
|             | 0.0   | 100.0 | 100.00    |
| Con II      | 0     | 3     | 3         |
|             | 0.0   | 100.0 | 100.00    |
| Con III     | 3     | 1     | 4         |
|             | 90.0  | 10.0  | 100.00    |
| All         | 3     | 6     | 9         |
|             | 33.3  | 66.7  | 100.00    |

Lib/Con I Fisher's Exact Test = .273 (1-tailed)
Lib/Con II Fisher's Exact Test = .121 (1-tailed)
Lib/Con III Fisher's Exact Test = .452 (1-tailed)
All Lib \( \chi^2 (1, n=23) = .618, \) n.s.
All Con \( \chi^2 (1, n=9) = 1.39, \) n.s.
### Table 18

**Ratings by Sexually Active Liberals/Conservatives on Personal Employment of Contraceptives**

<table>
<thead>
<tr>
<th>Count</th>
<th>Row %</th>
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<th>Rarely</th>
<th>Usually</th>
<th>Always</th>
<th>Total</th>
</tr>
</thead>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Lib I</td>
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<td>4.4</td>
<td>22.2</td>
<td>33.3</td>
<td>100.00</td>
<td></td>
</tr>
<tr>
<td>Lib II</td>
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<td>12.5</td>
<td>50.0</td>
<td>12.5</td>
<td>100.00</td>
<td></td>
</tr>
<tr>
<td>Lib III</td>
<td>16.7</td>
<td>16.7</td>
<td>50.0</td>
<td>16.7</td>
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</tr>
<tr>
<td><strong>All</strong></td>
<td>13.0</td>
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<td>39.0</td>
<td>22.0</td>
<td>100.00</td>
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<tr>
<td><strong>Con I</strong></td>
<td>0.0</td>
<td>50.0</td>
<td>50.0</td>
<td>0.0</td>
<td>100.00</td>
<td></td>
</tr>
<tr>
<td>Con II</td>
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<td>0.0</td>
<td>66.7</td>
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<tr>
<td>Con III</td>
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<td>100.00</td>
<td></td>
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<tr>
<td><strong>All</strong></td>
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<td>11.1</td>
<td>44.4</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>

Lib/Con I $\chi^2 (2, n = 20) = 1.14$, n.s.
Lib/Con II $\chi^2 (3, n = 20) = 5.12$, n.s.
Lib/Con III $\chi^2 (3, n = 20) = 3.06$, n.s.
All $\chi^2 (3, N = 60) = 2.95$, n.s.
significant differences were noted between sexually active subjects classified as sexual liberals and sexual conservatives, either [liberals $\chi^2 (1, n = 23) = .618, \text{n.s.};$ conservatives $\chi^2 (1, n = 9) = 1.39, \text{n.s.}$.] One fact to be considered regarding sexually active conservatives, however, is that the sample size is smaller than the sexually active liberals. This could have had an impact on results.

3.3.3 Personal Employment of Contraceptives and Sexually Active Liberals/Conservatives

The responses of the sexually active liberals and conservatives in all three treatment groups regarding their personal use of contraceptives revealed that a larger percentage of the sexual liberals (61%) "always" or "usually" employed contraceptives compared to the sexual conservatives (55%). This difference was not significant (n.s.).

Although not significant, more sexual conservatives (44%) stated that they "always" contracepted relative to the sexual liberals (see Table 18) and more conservatives "rarely" or "never" used birth control (44% compared to 39% of sexual liberals). Because of the discrepancy between the numbers of sexually active liberals and conservatives, it is not possible to demonstrate whether these groups differ in the responsible use of contraceptives.
4. DISCUSSION

The present study investigated differences among young, single college men in sexual attitudes, sex knowledge, sex experience, attitudes toward premarital personal contraception, and overall "general" conservatism. The focus of the investigation was the influence of sexual attitudes and knowledge, particularly on a conservative-liberal dimension, on personal contraceptive attitudes.

Subjects' scores on sexual attitude measures resulted in their being defined as "sexual conservatives" or "sexual liberals." Specific demographic information, other personal data, and the variables noted above were examined to determine if they were related to sexual conservatism/sexual liberalism. Findings from previous research have indicated that sexual conservatism is related to negative sexual attitudes, poor sex knowledge, and lack of responsible contracepting among females (Delcampo et al., 1976; Wagner, 1980). With men, Andres et al. (1983) demonstrated that more conservative attitudes toward sex-related topics and greater religiosity correspond to poor contracepting. Studies exploring these relationships have not examined whether specific treatment conditions could alter sexual conservatism/liberalism. The present study explored the effects of three treatment interventions—(a) an informational and attitude-based sexuality workshop, (b) a written lecture of the material presented in the workshop, and (c) a control condition—on the sexual attitudes, sex knowledge, and attitudes toward the personal use of birth control of sexual conservative/sexual liberal male subjects. In doing so, it was hoped that earlier research findings
using female subjects would be replicated with males, and that knowledge of male sexuality, specifically with regard to contraceptive attitudes, would be extended.

In general, the results of the present study showed that poorer sex knowledge was related to greater sexual conservatism and that less sex knowledge, more negative sexual attitudes, and overall "general" conservatism intercorrelated significantly. It was also shown that greater sexual liberalism was significantly related to positive attitudes toward personally employing contraceptives. There was no support, however, for any of the hypothesized changes following the treatment interventions.

The discussion of the results presents an overview of the findings, addressing the weaknesses inherent in the study and the major theoretical and applied implications. The discussion is organized into three sections: (a) The Relationship of Sex Knowledge, Sexual Attitudes, Overall Conservatism, and Attitudes Toward Premarital Personal Contraceptive Use, (b) Individual Attributes of Sexual Liberals and Sexual Conservatives, and (c) Treatment Effects on Sex Knowledge, Sexual Attitudes, and Attitudes Toward Contraception.

4.1 The Relationship of Sex Knowledge, Sexual Attitudes, Overall Conservatism, and Attitudes Toward Premarital Personal Contraceptive Use

It was predicted that greater sex knowledge would correspond to more liberal sexual attitudes, and that sexual conservatism would be related to overall "general" conservatism. As speculated, higher sex
knowledge and greater sexual liberalism were highly correlated for the subjects under investigation. Conversely, low sex knowledge corresponded to conservative sexual attitudes, and conservative sexual attitudes were significantly related to overall conservatism. The separate correlational analyses conducted for the relationship between (a) sexual attitudes and overall conservatism, and (b) sex knowledge and overall conservatism demonstrated that sex attitudes (conservative) were more strongly related to overall conservatism than was poor sex knowledge. Furthermore, more sexual liberalism corresponded strongly with favourable attitudes toward premarital personal contraceptive use, whereas, sex knowledge did not. These findings lend some support to Reiss's (1970) contention that sexual liberalism/sexual conservatism result from overall conservatism or lack of it and not from poor contraceptive knowledge. This information is relevant when considering further research in the area of planning and implementation of human sexuality programmes. It implies that more than information giving and receiving are necessary if a goal is responsible contracepting. Perhaps by understanding the factors that contribute to overall "general" liberal or conservative thinking and action, one could formulate programmes that could reach individuals before their specific liberal or conservative style interferes with their sexual behaviour. This, however, presents potential problems for those involved in planning and advocating programmes with such goals. For if one is able simply to present information, in an unbiased manner, to foster the growth of sexual knowledge, and by so doing increase the rate of contraceptive use among sexually active young people, one is on relatively firm ground in deflecting criticisms from conservative activists. If, however,
influencing contraceptive attitudes requires not simply increasing knowledge, but doing so in such a manner as to change, deliberately, attitudes toward sexuality, criticism based on questioning the ethics of influencing sexual attitudes is likely to be much stronger and more difficult to deal with.

4.2 Individual Attributes of Sexual Liberals and Sexual Conservatives

The present study gathered demographic/background information. Data were also collected regarding sexual experience, comparative ratings to peer groups on sex experience, sex knowledge, sexual adjustment, sexual permissiveness in upbringing, conflicting sexual values with parents, the influence of religion in sexual values formation, and the employment of contraceptives. Of the demographic/sample characteristic variables examined in relation to all subjects in the study, five showed a significant relationship to sexual conservatism: virginity, religion (Catholicism), lower rating of sex knowledge relative to peers, greater influence of religion on sexual value system, and less personal use of contraceptives. The factors not associated with sexual conservative/sexual liberal differences of all sample subjects included: age, race, urban/rural upbringing, homosexual experiences, sex experience ratings with peers, peer group ratings on sexual adjustment, assessments of permissiveness/repressiveness of upbringing, and conflict with parents over sexual values.

These same variables were examined using sexually active subjects only. Sexually active sexual conservatives/sexual liberals did not
differ on any of the factors but two. These were: ratings of sexual permissiveness/repressiveness in the home during upbringing, and the influence of religion on the formation of sexual values. It was found that a significantly greater number of sexually active conservatives rated their sexual upbringing as repressive and considered that religion played a more influential role in the construction of their sexual values than did sexually active liberals. A major problem in the present study arose from the fact that there were considerably fewer sexual conservatives than sexual liberals who had experienced coitus. Because of this discrepancy, the findings must be treated with some caution. However, other researchers have reported that religiosity and strict upbringing play an important part in the establishment of sexual values. The present findings support these previous results.

The present study predicted that urban/rural upbringing, religiosity, and sexual experience would relate to sexual conservatism. Results showed that the latter two variables did relate to sexual conservatism, but urban versus rural upbringing did not. This finding is of particular interest given the fact that the high incidence of adolescent pregnancy in Saskatchewan has been attributed, in part, to the conservative nature of its rural population. Weston (1980) reported that urban youth in Saskatchewan are more likely to receive instruction in birth control, abortion, moral values, male/female relationships, and coitus. Traditionally, urban residents are viewed as more liberal because of their accessibility to information about sex-related issues, their opportunity for greater anonymity, and the availability of a wide range of services. It could be that the lack of a significant result in
this instance is due to the fact that all subjects were college students, thereby being unrepresentative of the urban and rural young male population at large. The need for a better cross-section of the population is discussed further in section 4.3.

The reader is also reminded that 47% of all subjects in the present study indicated that they were virgins. This finding is higher than the rate reported by Herold (1984); however, the 39% virginity rate attributed to Saskatchewan young people by Weston (cited in Herold, 1984) included females as well.

4.3 Treatment Effects on Sex Knowledge, Sexual Attitudes, and Attitudes Toward Contraceptives

Hypotheses 3, 4, and 5 predicted that sexual conservatives receiving the human sexuality workshop—Treatment I, would: (a) increase in sex knowledge, (b) become more liberal in their sexual attitudes, and (c) become more favourable in their attitudes toward the personal use of contraceptives. Sexual liberals and sexual conservatives receiving Treatments II (written material) and III (control condition) were not expected to change. The results of the present study did not support any of the hypothesized changes in the Treatment I conservative group.

With regard to sex knowledge, Treatment I sexual conservatives experienced no increase following the human sexuality lecture/small group discussion. Although Voss and McKillip (1979) had not distinguished between sexual conservatives/liberals, they, too, found no increases in sex knowledge following a weekend sexual workshop although changes in attitudes and behaviour were found at follow-up. In the case of the
present study, the Treatment I intervention might not have been sufficient enough to deal with the magnitude of the problem. It is possible that the sexual liberals and sexual conservatives differed not only in the content of their beliefs but in how deeply those beliefs were held. It was also noted that some of the "factual" information presented in the workshop was, in fact, inaccurate [for example, rates of VD are not highest amongst teens but rather the 20-24 year old group (Herold, 1984)]. It is not likely, however, that these inaccuracies influenced the sex knowledge results significantly.

Sexual conservatives receiving the written material in the Treatment II condition actually decreased in sex knowledge at posttest. This could have been due to Type I error and replication of the study would be necessary before this could be verified. However, another consideration is that exposure to material without an opportunity for discussion may have resulted in the sexual conservatives being less sure of what they knew. The written material presented in Treatment II also appeared quite value-laden. The falsehoods stated as facts are value judgements. It may be that the sexually conservative subjects reacted to the value-based orientation of the material when they responded. Nevertheless, according to graduate students asked to evaluate the workshop, the Treatment I presenters appeared non-judgemental and accepting of all views. This was corroborated by the active participation of equal numbers of sexual conservatives and sexual liberals and the positive informal reports of Treatment I subjects following the workshop.

No shift in sexual attitudes was evident for the sexual conservatives. Following Treatment I, it was the sexual liberal group that
became more conservative in their sexual attitudes following treatment. Several possibilities for these results must be considered. First, given that by definition the sexual conservative subjects were more rigid in their attitudes, it is possible that they required more exposure time than the three-hour human sexuality course offered. As well, previous human sexuality research has been criticized for using large sample sizes. Wanlass, Kilmann, Bella, and Tarnowski (1983) stated that when using a "lecture plus small group discussion" format as was done in the present study, 15-20 students per group may be too large to facilitate maximum benefit for the participants. Initially, the Treatment I group contained 26 subjects to allow for possible attrition. However, no subjects dropped out. Later, six were deleted randomly to have equal numbers per treatment group for the repeated measures analyses.

It may also be that the sexual liberals, who are supposedly more open to a variety of viewpoints, re-evaluated their sexual stances at posttesting. It would be of interest to investigate changes in sexual attitudes of sexual conservatives and sexual liberals with longer treatment conditions, smaller numbers per group, and longer-term follow-ups to determine what attitudinal changes occur, whether they remain consistent across time, and if they are associated with more responsible contracepting behaviour. Similar research with a full range of subjects, not just those defined as sexually liberal or conservative would also be of interest.

Attitudes toward the personal employment of contraceptives did not change as predicted. Besides the problems encountered by using a college population of "older" adolescents, as well as the treatment group size and the length of intervention time stated earlier, the reliability
of the Premarital Attitude Evaluation Instrument might have contributed to the lack of significant findings. A test-retest reliability conducted in one session showed that $r_{tt} = .498 (p < .001)$. The results, therefore, are not conclusive.

4.4 Conclusions

These findings provide no evidence that either a short human sexuality workshop, or a written lecture of sexual information were effective in producing changes in sex knowledge, sexual attitudes, or attitudes of premarital contraceptive use in young men defined as sexually conservative. As stated earlier, smaller group numbers and a more extensive intervention might have resulted in greater differences. As well, despite the fact that subjects were in the adolescent range, it would have been preferable to have included younger adolescents and to have a study population of both college/non-college and high school subjects. As it stands presently, this research has clarified points concerning sexually conservative/sexually liberal young college men regarding their sex knowledge, sexual and contraceptive attitudes, personal characteristics (e.g., religiosity), and basic conservatism. The types of intervention employed did not, however, successfully modify these variables in the sexually conservative group.

It appears that the most effective way of exploring, in future, the nature of sexual attitudes and sex knowledge in sexual behaviour would be through longitudinal research with individuals who are taught to learn about relationships, responsibility, and feelings in different but controlled ways. Choices and outcomes could be measured throughout
the various developmental stages. Until that time, social scientists, teachers, social workers, clergy, medical personnel, parents, and even governments will continue to search for ways in which the problems of unwanted pregnancy can be resolved.
REFERENCES


APPENDIX A

Memo
TO: Geo. E. 118 and G.E. 232 Instructors
FROM: Garry Wacker, Director of Common Curricula
DATE: January 23, 1984

Lynda Haverstock, a graduate student in the Department of Psychology has requested our assistance in obtaining male student volunteers for her research on male sexuality. Dean Nikiforuk and I have reviewed her request and feel that the work merits our support. We can help by allowing her access to first and second year engineering classes to outline the nature of the study and to invite student participation. I would like you to make available approximately ten minutes of your Geo.E. 118 or G.E. 232 lectures for this purpose. She will be contacting you later this week to arrange for a specific time during the week of January 30 to February 3, 1984 to talk to your class. A male colleague of hers will be addressing the classes. (The class time is used only to make contact with the students, not the research per se. Also, I am satisfied that the procedures used will respect students' privacy and maintain anonymity.)

Very briefly, my understanding of the essence of Haverstock's study is to examine "male sexuality and its role in unwanted adolescent pregnancy. It will attempt to identify more clearly the differences between young males who are "sexually responsible" and those who are not, and specifically how their sex knowledge, attitudes and experience correlate with their attitude toward sexual responsibility. For your information, a copy of the material that was submitted to us is enclosed.

If you have any questions concerning this please call me at 2621.

/lcg
cc: R. E. Ludwig, Assistant Dean
    Lynda Haverstock, Department of Psychology
Encl.
APPENDIX B

Formal Announcement
A doctoral student in psychology at the University of Saskatchewan is wanting to learn more about various aspects of human sexuality. If you agree to participate in this research, you will be asked to complete a set of questionnaires. Your contribution would be most appreciated in helping us to learn more about this topic. Two hundred, unmarried, male volunteers between the ages of 17 and 21 are needed for this study at this time. If you are interested in volunteering your time, please put your first name only and your telephone number on the form. These will become a code number. Anonymity and confidentiality of your responses are assured. The questionnaires will be available in Room 1A-18 of the College of Engineering and Room 166 of Arts and Science (Psychology wing) and will take approximately 45 minutes to complete. Indicate your preferred time for doing these questionnaires (morning, afternoon, or evening). You should understand that you can withdraw from the study at any time. Anyone who participates can obtain a copy of the results when the study has been completed.
APPENDIX C

Volunteer Card/Consent Form
I, __________________________, agree to participate in a study on
human sexuality conducted by L. Haverstock under the supervision of Dr.
M. Genest in which I will be required to complete questionnaires. I
understand that the confidentiality and anonymity of my responses are
assured. I agree not to discuss this research with anyone. I also
understand that I can withdraw my participation at any time and that if
I do so, all records of my responses will be destroyed. I have been
informed that this is doctoral dissertation research in the Department
of Psychology at the University of Saskatchewan and that upon completion
of the study, I will be provided with the overall results if I so choose.

(Participant's First Name)

(Telephone Number)

(Date)
APPENDIX D

Information Provided by Male Research Assistants on Telephone to Volunteer Participants
Thank you for agreeing to participate in the study of human sexuality. A questionnaire package is ready for you at Room 166, Department of Psychology, College of Arts and Science or Room 1A-18, College of Engineering. All of the information that you share will be confidential and anonymous. Only your first name and telephone number will appear on the questionnaire. The questionnaire package will take approximately 45-60 minutes to complete. You should be aware that if at any time you wish to withdraw from the study, you may do so and that all of the information you would have given up to that time will be destroyed. When can you come to complete the questionnaire on the weeks of February 6th-10th and February ?

(First Name and Telephone Number)

(Date)

(Time)
APPENDIX E

Letter from Saskatchewan Institute of Pedology
Feb 9, 1984

Ms. Linda Haverstock
Department of Psychology
University of Saskatchewan
Saskatoon, Sask. S7N OWO

Dear Ms. Haverstock:

I have discussed your request for permission to carry out the survey of students in undergraduate Soil Science classes with professors teaching those courses. Professors R.B. McKercher and R.E. Karamanos are prepared to allow this survey to take place in their regular lecture periods and I would ask you to contact them directly. Both would prefer that this survey take place as soon as possible rather than leaving it to later in the term.

I have also informed Dean J.A. Brown that we have discussed this survey with you and that we are cooperating with you in the conductance of the survey.

Best wishes with your research.

Yours sincerely,

J.W.B. Stewart
Professor and Head

JWBS/smh
APPENDIX F

Letter from Dean J. Dewar
February 1, 1984

Ms. Lynda Haverstock
Department of Psychology
University of Saskatchewan
Saskatoon, Sask.
S7N 0W0

Dear Ms. Haverstock:

I am writing to grant permission for you to approach members of the Faculty of Physical Education in order that they would permit male students from their classes to participate in your study as outlined by you to me on February 1st.

Good luck with your research.

Sincerely,

J. Dewar, Ed.D.
Dean

JD:jmns
APPENDIX G

Non-Volunteer Group
Formal Class Announcement
Several hundred unmarried males from other colleges across campus between the ages of 17-21 have completed the questionnaires that you will be given today. The questionnaires pertain to research on male sexuality and are part I of a three-part study. Anonymity and confidentiality of all responses are guaranteed. It is hoped that you will complete the questionnaires honestly in the next 35 or so minutes and that you will also volunteer to take part in part II of the study, which is in March, if you are randomly selected by computer. You should realize that if the computer does not choose you, your participation in the study ends today. Anyone who participates in any part of the study will receive the results of the completed research if he so chooses.

1) Put first name only and telephone number in space provided on envelope. This will (a) become a code number, (b) provide a method by which randomly selected subjects for part II can be contacted, and (c) differentiate between persons with the same first name.

2) Indicate if you would be willing to participate if randomly selected.

3) Following completion of the questionnaire, indicate if you would like to receive the overall results once the study is completed by self-addressing smaller envelopes enclosed in the package.

PLEASE ANSWER ALL QUESTIONS AND ANSWER ALL HONESTLY.
APPENDIX H

"Non-Volunteer" Instructions
ON BLACKBOARD

BE VERY QUIET. ANSWER ALL QUESTIONS. BE HONEST.

1) Do yellow questionnaire first. Answer on the questionnaire itself.
2) Do white questionnaire second. Answer on the computer sheet provided.
3) Do the pink questionnaire next. Answer on the questionnaire itself.
4) Do the green questionnaire last. Answer on the computer sheet.
5) Please indicate in space provided on the front of your package if you would be willing to participate in Stage 2 of this research if you are selected.
6) If you wish the results of the completed study, self-address (no need to put full name) the small envelope enclosed in the package.
7) Do not glue the envelope package shut. Please return your completed package to the room attendant.

THANK YOU FOR PARTICIPATING.
APPENDIX I

Sex Knowledge and Attitude Test (SKAT)
CODING AND GENERAL INSTRUCTIONS

1. Pencils—use any type of soft lead pencil. Do not use an ink or ballpoint pen.

2. All answers are to be recorded on the separate answer sheet. Please make no marks on this booklet.

3. Regardless of the number of alternatives provided, please mark only one answer per question.

PART I

Please indicate your reaction to each of the following statements on sexual behaviour in our culture, using the following alternatives:

A. Strongly agree
B. Agree
C. Uncertain
D. Disagree
E. Strongly disagree

Please be sure to answer every question.

1. The spread of sex education is causing a rise in premarital intercourse.

2. Mutual masturbation among boys is often a precursor of homosexual behaviour.

3. Extramarital relations are almost always harmful to a marriage.

4. Abortion should be permitted whenever desired by the mother.

5. The possession of contraceptive information is often an incitement to promiscuity.

6. Relieving tension by masturbation is a healthy practice.

7. Premarital intercourse is morally undesirable.

8. Oral-genital sex play is indicative of an excessive desire for physical pleasure.

9. Parents should stop their children from masturbating.

10. Women should have coital experience prior to marriage.

11. Abortion is murder.
12. Girls should be prohibited from engaging in sexual self-stimulation.
13. All abortion laws should be repealed.
14. Strong legal measures should be taken against homosexuals.
15. Laws requiring a committee of physicians to approve an abortion should be abolished.
16. Sexual intercourse should occur only between married partners.
17. The lower-class male has a higher sex drive than others.
18. Society should offer abortion as an acceptable form of birth control.
19. Masturbation is generally unhealthy.
20. A physician has the responsibility to inform the husband or parents of any female he aborts.
21. Promiscuity is widespread on college campuses today.
22. Abortion should be disapproved of under all circumstances.
23. Men should have coital experience prior to marriage.
24. Boys should be encouraged to masturbate.
25. Abortions should not be permitted after the twentieth week of pregnancy.
26. Experiences of seeing family members in the nude arouse undue curiosity in children.
27. Premarital intercourse between consenting adults should be socially acceptable.
28. Legal abortions should be restricted to hospitals.
29. Masturbation among girls is a frequent cause of frigidity.
30. Lower-class women are typically quite sexually responsive.
31. Abortion is a greater evil than bringing an unwanted child into the world.
32. Mutual masturbation in childhood should be prohibited.
33. Virginity among unmarried girls should be encouraged in our society.
34. Extramarital sexual relations may result in a strengthening of the
35. Masturbation is acceptable when the objective is simply the attainment of sensory enjoyment.

PART II

Each of the following statements can be answered either true or false. Please indicate your position on each statement using the following alternatives:

A. True  B. False

Be sure to answer every question.

36. Pregnancy can occur during natural menopause (gradual cessation of menstruation).

37. Most religions and moral systems throughout the world condemn premarital intercourse.

38. Anxiety differentially affects the timing of orgasm in men and women.

39. A woman does not have the physiological capacity to have as intense an orgasm as a man.

40. There is no difference between men and women with regard to the age of maximal sex drive.

41. Social class is directly correlated with the frequency of incest.

42. The use of the condom is the most reliable of the various contraceptive methods.

43. The incidence of extramarital intercourse is constant for males between the ages of 21 and 60.

44. Nearly half of all unwed girls in America have sexual intercourse by age 19.

45. There are two kinds of physiological orgastic responses in women, one clitoral and the other vaginal.

46. Impotence is almost always a psychogenic disorder.

47. Transvestitism (a form of cross-dressing) is usually linked to homosexual behaviour.

48. There was as much premarital coitus a generation ago as there is now.
49. Sexual attitudes of children are molded by erotic literature.

50. In some successful marriages sex adjustment can be very poor.

51. Homosexuals are more likely to be exceptionally creative than heterosexuals.

52. A woman who has had a hysterectomy (removal of the uterus) can experience orgasm during sexual intercourse.

53. Homosexuality comes from learning and conditioning experiences.

54. In responsive women, non-coital stimulation tends to produce a more intensive physiological orgasmic response than does coitus.

55. Those convicted of serious sex crimes ordinarily are those who began with minor sex offenses.

56. One of the immediate results of castration in the adult male is impotence.

57. The body build of most homosexuals lacks any distinguishing features.

58. Masturbation by a married person is a sign of poor marital sex adjustment.

59. Exhibitionists are latent homosexuals.

60. A woman's chances of conceiving are greatly enhanced if she has an orgasm.

61. Only a small minority of all married couples ever experience mouth-genital sex play.

62. Impotence is the most frequent cause of sterility.

63. Certain foods render the individual much more susceptible to sexual stimulation.

64. A high percentage of those who commit sexual offenses against children is made up of the children's friends and relatives.

65. A higher percentage of unmarried white teenage girls than unmarried black teenage girls in the United States have had intercourse with four or more partners.

66. The attitude of the average American male towards premarital intercourse is shaped more by his religious devoutness than by his social class.

67. In teaching their daughters female sex roles, middle-class mothers are more affected by cultural stereotypes than mothers in other social classes.
68. In most instances, the biological sex will override the sex assigned by the child's parents.

69. The onset of secondary impotence (impotence preceded by a period of potency) is often associated with the influence of alcohol.

70. Nursing a baby usually protects the mother from becoming pregnant.

71. In our culture some homosexual behaviour is a normal part of growing up.

72. Direct contact between penis and clitoris is needed to produce female orgasm during intercourse.

73. For a period of time following orgasm, women are not able to respond to further sexual stimulation.

74. In some legal jurisdictions artificial insemination by a donor may make a woman liable to suit for adultery.

75. Habitual sexual promiscuity is the consequence of an above-average sex drive.

76. Approximately one out of three adolescent boys has a homosexual experience leading to orgasm.

77. Impotence in men over 70 is nearly universal.

78. Certain conditions of mental and emotional instability are demonstrably caused by masturbation.

79. Women who have had several sex partners before marriage are more likely than others to be unfaithful after marriage.

80. The emotionally damaging consequences of a sexual offense against a child are more often attributable to the attitudes of the adults who deal with the child than to the experience itself.

81. Sexual maladjustment is the major cause of divorce.

82. Direct stimulation of the clitoris is essential to achieving orgasm in the woman.

83. Age affects sexual behaviour of men more than it does women.

84. The circumcised male has more trouble with ejaculatory control than the uncircumcised male.

85. More than a few people who are middle-aged or older practice masturbation.

86. Varied coital techniques are used most often by people.
87. Individuals who commit rape have an usually strong sex drive.

88. The rhythm method (refraining from intercourse during the six to eight days midway between menstrual periods), when used properly is just as effective as the pill in preventing conception.

89. Exhibitionists are no more likely than others to commit sexual assaults.

90. The ability to conceive may be significantly delayed after the menarche (onset of menstruation).

91. Many women erroneously consider themselves to be frigid.

92. Menopause in women is accompanied by a sharp and lasting reduction in sexual drive and interest.

93. The two most widely used forms of contraception around the world are the condom and withdrawal by the male (coitus interruptus).

94. People in lower socioeconomic classes have sexual intercourse more frequently than those of higher classes.

95. Pornographic materials are responsible for much of today's aberrant sexual behaviour.

96. For some women, the arrival of menopause signals the beginning of a more active and satisfying sexual life.

97. The sex drive of the male adolescent in our culture is stronger than that of the female adolescent.

98. Lower-class couples are generally not interested in limiting the number of the children they have.

99. Excessive sex play in childhood and adolescence interferes with later marital adjustment.

100. There is a trend toward more aggressive behaviour by women throughout the world in courtship, sexual relations, and coitus itself.

101. Sometimes a child may have cooperated in or even provoked sexual molest by an adult.

102. LSD usually stimulates the sex drive.

103. Seven out of ten parents desire formal sex education in the schools.

104. For every female that masturbates four males do.

105. Douching is an effective form of contraception.
106. Freshmen medical students know more about sex than other college graduates.

PART III

This information will be treated as strictly confidential and will be used for research purposes only. In no way will it be used to reveal anyone's identity.

107. Age
A. 17 or under  F. 26-27
B. 18-19        G. 28-30
C. 20-21        H. 31-35
D. 22-23        I. 36 or over
E. 24-25

108. Sex
A. Male         B. Female

109. Race
A. White        B. Non-White

110. If you have been or are married, age at first marriage?
A. 17 or under  D. 27-35
B. 18-22        E. 36 or over
C. 23-26

111. If you have been or are married, how long?
A. 1 year       D. 4 years
B. 2 years      E. 5 years or more
C. 3 years

112. Are you first born?
A. Yes         B. No

113. Father's occupation:
A. Physician     F. Executive
B. Clergyman     G. Clerical/sales
C. Lawyer        H. Skilled manual
D. Teacher       I. Semi-skilled
E. Other professional J. Unskilled

114. Number of Siblings
A. 0           D. 3
B. 1           E. 4 or more
C. 2

115. Please indicate the education status of your father:
A. Non-high school graduate
B. High school graduate
C. Attended college but did not graduate
D. College graduate
E. Attended graduate or professional school but did not graduate
F. Holds graduate or professional degree

116. Using the alternatives listed above, please indicate the educational status of your mother.

117. Religion:
   A. Catholic  C. Jewish
   B. Protestant D. Other

118. What was the earliest Church-affiliated sex education you received?
   A. None  D. Sr. High (10-12)
   B. Elementary (K-6)  E. College
   C. Jr. High (7-9)

119. Please indicate the type of setting you were raised in (mostly):
   A. Urban  B. Rural

PART IV

It would be helpful if you will fill in the following questions. They refer to levels of experience of sex, and will aid our understanding of relationships between knowledge and attitudes. Please answer honestly.

For questions 120-124 indicate how many times you have had the following sexual encounters:
   A. Never  B. Once  C. Two-five  D. Over five

120. Dating

121. Going steady

122. Sexual intercourse

123. Intercourse involving the exchange of money

124. Orgasm with partner of the same sex

For questions 125-128 indicate the number of people with whom you have engaged in the following sexual activities:
   A. None  B. One  C. Two-five  D. Over five

125. Dating

126. Going steady

127. Sexual intercourse

128. Orgasm with partner of the same sex
129. How do you rate yourself in comparison with your peer group's experience in sex?
   A. Far less experienced than most
   B. Less experienced than most
   C. As experienced as most
   D. More experienced than most
   E. Far more experienced than most

130. How do you rate yourself in comparison with your peer group's knowledge about sex?
   A. Far less knowledgeable than most
   B. Less knowledgeable than most
   C. As knowledgeable as most
   D. More knowledgeable than most
   E. Far more knowledgeable than most

131. How do you rate yourself in comparison with your peer group's sexual adjustment?
   A. Far less adjusted than most
   B. Less adjusted than most
   C. As adjusted as most
   D. More adjusted than most
   E. Far more adjusted than most

132. How would you rate the sexual permissiveness in your home when you were growing up?
   A. Very permissive
   B. Somewhat permissive
   C. Neither repressive nor permissive
   D. Somewhat repressive
   E. Very repressive

For questions 133-136, rate your value system with regard to sex:
   A. Not at all
   B. Somewhat
   C. Definitely
   D. Very definitely

133. Is your value system conservative (in favour of traditional standards)?

134. Is your value system liberal (in favour of changing standards)?

135. Is your value system influenced by religion?

136. Is your value system in conflict with your parents' values?

137. Age at which you first began masturbation:
   A. Never masturbated
   B. Under 10
   C. 10-12
   D. 13-15
   E. 16-18
   F. 19 or over
For questions 138-140 indicate the frequency with which you masturbated during the following time period:
A. Less than once/week
B. Two-three times/week
C. Four-five times/week
D. Six or more times/week

138. Junior High School
139. High School
140. College

For questions 141-145 indicate if you have ever engaged in sexual intercourse using the following birth prevention methods:
A. Yes
B. No

141. I.U.D.
142. Pill
143. Abortion
144. Sterilization
145. "Morning-after" treatment

146. Which one of the following contraceptive methods do you prefer?
A. Rhythm
B. Douche
C. Withdrawal
D. Condom
E. Foam and/or Diaphragm
F. I.U.D.
G. Pill
H. Sterilization
I. "Morning-after" treatment
J. Other

147. How often do you personally employ contraceptives during intercourse?
A. Never
B. Rarely
C. Usually
D. Always
APPENDIX J

The Conservatism Scale
The Conservatism Scale — instructions, items, and format
(Glenn Wilson and John Patterson, 1968)

WHICH OF THE FOLLOWING DO YOU FAVOUR OR BELIEVE IN? (Circle 'Yes' or 'No.' If absolutely uncertain, circle '?'. There are no right or wrong answers; do not discuss; just give your first reaction. Answer all items.)

| 2. Evolution theory | Yes | ? | No | 27. Premarital virginity | Yes | ? | No |
| 4. Striptease shows | Yes | ? | No | 29. Royalty | Yes | ? | No |
| 5. Sabbath observance | Yes | ? | No | 30. Women judges | Yes | ? | No |
| 7. Patriotism | Yes | ? | No | 32. Teenage drivers | Yes | ? | No |
| 8. Modern Art | Yes | ? | No | 33. Apartheid | Yes | ? | No |
| 10. Working mothers | Yes | ? | No | 35. Church authority | Yes | ? | No |
| 15. Divine law | Yes | ? | No | 40. Mixed marriage | Yes | ? | No |
| 17. White superiority | Yes | ? | No | 42. Jazz | Yes | ? | No |
| 18. Cousin marriage | Yes | ? | No | 43. Straitjackets | Yes | ? | No |
| 19. Moral training | Yes | ? | No | 44. Casual living | Yes | ? | No |
| 20. Suicide | Yes | ? | No | 45. Learning Latin | Yes | ? | No |
| 22. Legalized abortion | Yes | ? | No | 47. Inborn conscience | Yes | ? | No |
| 24. Student demonstrations | Yes | ? | No | 49. Bible truth | Yes | ? | No |
| 25. Licensing laws | Yes | ? | No | 50. Pyjama parties | Yes | ? | No |
APPENDIX K

Zuckerman Scale
Zuckerman Scale

INDICATE YOUR EXPERIENCE BY CHECKING YES (A) OR NO (B). IF YOU ANSWER NO (B), INDICATE YOUR REASON BY CHECKING THE MOST ACCURATE LETTER RESPONSE. SEE BOTTOM OF THIS PAGE (C,D,E,F,G,H,I).

<table>
<thead>
<tr>
<th>Item</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling covered breast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling nude breast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lying prone on female without penetration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mouth contact with breast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual manipulation of vagina</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female manipulation of penis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coitus*, male superior position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coitus, female superior position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mouth contact with vagina</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coitus, face to face, side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female mouth contact with penis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coitus, enter vagina from rear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. I have never had the desire to do it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. I was afraid people would find out.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. I believed it was morally wrong.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. I was afraid of pregnancy or disease.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. The girl refused to do it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. I respect the girl too much.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. I have not had the opportunity to suggest it to the girl.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Coitus = sexual intercourse
APPENDIX L

Premarital Contraceptive
Attitude Evaluation
Directions: The following statements are meant to explore some of your feelings toward the use of contraceptives (means of preventing pregnancy). It is not meant to test what you know. Read each item carefully and mark next to the corresponding number on the answer sheet the letter of the option which best expresses your feeling about the statement. For each statement use the following code:

A. Strongly agree  D. Disagree  E. Strongly disagree
B. Agree             C. Uncertain

1. It is important to me to plan ahead of time for contraception in the event a relationship leads to sexual intercourse.
2. The use of contraceptives outside of marriage cannot be justified.
3. The use of contraception should be an accepted practice for non-marital sexual relations.
4. Abstinence from premarital intercourse is preferable to artificial methods of contraception.
5. Any form of contraception which will aid in the achievement of a fuller sexual relationship should be used and encouraged.
6. Contraception is just too much trouble to bother with in non-marital sexual relations.
7. The risks of using artificial methods of contraception are worth the benefits they provide.
8. The use of contraception distracts from the quality of a relationship.
9. There is nothing wrong religiously or morally with the use of contraception.
10. The use of any contraceptive that interferes with natural body functions is unacceptable.
11. I consider learning how the use and knowing where to obtain methods of contraception an important part of responsible sexual behaviour.
12. How anyone not married can use contraceptives is beyond me.
13. Effective contraception is essential to achieving sexual freedom.
14. I feel that it would be wrong for me to make plans ahead of time to use a contraceptive.
15. Anyway you look at it, it is right to use some form of contraception in non-marital sexual relations.
16. The use of contraception makes sexual intercourse seem dirty.
17. The results from using contraception are good.
18. I would risk pregnancy rather than use an artificial method of contraception.
19. Using a contraceptive to prevent unwanted pregnancy is a good thing to do.
20. Physical and psychological dangers would keep me from using any form of artificial contraception.
21. Contraception is a positive aspect of sexual relations.
22. I would reject the use of contraception on the basis that it disrupts the spontaneity of sexual behaviour.
23. I would feel guilty going into a drugstore and buying contraceptives.
24. I would not make prior plans for using contraceptives because that would mean I was planning on having intercourse.
25. I believe all means of contraception should be available to anyone who wants them.
APPENDIX M

Human Sexuality
—Written Material
I. Audio-Visual Material Introduction

II. A. Human Sexual Response—A Natural Body Function

-Human sexual response is a natural body function the same as respiration and digestion. It is no more important than any other body function, but it is no less important. For the male to feel that he should take the responsibility for his partner's response is like him choosing all her foods for her and teaching her how to digest them.

-The human sexual response is with us from birth to death. It can be suppressed during the waking hours, but during sleep every female has lubrication every 80-90 minutes and every male has an erection every 80-90 minutes.

-One cannot work at having a sexual response; it cannot be willed or forced; it occurs spontaneously.

B. What Happens During The Human Sexual Response—Four Phases

1. Excitement - increases in blood supply in pelvic area
   - produces lubrication in the female and erection in males

2. Plateau - arousal increases more gradually
   - arousal slows down in males at this stage
   - respiration and heart rate increase
   - the first 1/3 of the vagina becomes lubricated
   - the inner 2/3 of the vagina expands in size

3. Orgasm - rhythmic muscular contractions pump the blood back to the general circulation
   - ejaculation in male at this stage
   - 10% of all females do not have orgasmic response
   - some females can have more than one orgasm without going back to the plateau stage
   - males cannot have more than one orgasm unless they return to the plateau stage
   - as males get older, it takes longer for them to return to the plateau stage after orgasm
   - there is no right way or wrong way to have an orgasm

III. Roadblocks to Natural Sexual Functions—Fifty percent of couples experience sexual problems because of negative attitudes and/or feelings.

A. Attitudes - There are positive attitudes and negative attitudes.
Positive Attitudes  |  Negative Attitudes
---|---
Body is good  |  Don't touch
Body is a source of pleasure  |  That's dirty
Pleasure is good  |  Sex is sinful
It's all right to touch  |  Sex should be late at night in the dark, under the bed clothes
Not talking about sex

B. Feelings

Positive Feelings  |  Negative Feelings
---|---
Hope  |  Fear
Closeness  |  Anger
Trust  |  Hostility
Caring  |  Resentment
Sharing  |  Depression
Commitment  |  Fatigue
Warmth  |  Anxiety

The more positive attitudes and feelings a person has, the more likely that things will work well sexually for them.

Feelings - Where do you see yourself in these attitudes?? You don't have to share these feelings out loud but rather dig down deep and identify where you're at. How many people have been brought up with positive feelings about their sexuality? Why do people often grow up with negative attitudes and feelings about their sexuality?

Perhaps it is because society has been struggling with a norm that just is no longer valid. Since World War II, things/facts have changed but falsehoods continue as given. Some of these falsehoods have been outlined by Dr. Sylvia Hacker, a sex educator:

1. Sex is bad (except in marriage), but parenthood is good.
2. Sex is for procreation only.
3. Sexual thoughts are equally as evil as sexual deeds.

The suggested alternate norm is:

1. Sexuality is good; unwanted pregnancy is bad.
2. Sexuality is more than intercourse.
3. All thoughts are normal. It is very different to think/fantasize than it is to literally act it out.

Does sex really always mean intercourse? Society has equated sex with intercourse, but intercourse is only a small part of sexuality. Sexuality is much more than intercourse. It is a buffet of everything from hand-holding, looking, caressing, self-exploration, and...
talking. Each person needs to choose what is best for them at a particular time. By telling information, knowledge, and saying that sexuality is good, isn't that going to make adolescents more free and more interested in experimenting with sex. The correct answer is no! The more informed adolescents are, the longer they put off having intercourse. When they finally decide to become sexually active, well-informed young people are more likely to be sexually responsible.

When have we made the best decisions? This is when you know the most information. For adolescents (under 18) to make decisions about their sexuality, they need to be well-informed and accept themselves as sexual beings. Their sexuality cannot be denied.

It is a good idea for teenagers to have intercourse??

It is important for teens to know that intercourse can be a health hazard.

1. Venereal disease - is highest amongst teens
2. Unwanted pregnancy - is highest amongst teens
3. Child abuse

Dr. Sol Gordon says that teenagers are too young, too vulnerable, and too exploitable. Because of this, they may end up having "premature" intercourse.

Premature intercourse occurs if teens are having intercourse because:

1. the rest of the group are
2. afraid of losing their partner
3. letting it happen spontaneously because they are in love (no birth control)

The majority of teens do not have a good first experience with intercourse.

Why not?? Because it is usually a hurried situation, guilt, fear of being discovered, and very rapid. Young people don't have enough information to know to take time. Intercourse is a difficult kind of sexual activity.

How do you know if you're ready for sexual intercourse? You're not ready if:

1. no contraceptive—Pregnancy is not a pleasurable learning experience for youngsters
2. not a caring, sharing relationship and you're being exploited
3. not over age 18. After that, you're responsible enough to make your own decisions
But, if all thoughts are normal and sexuality is good, what do you do when you're hot? What do you do in the peak of passion? What choices do young teenagers have?

1. Masturbate
2. Mutual masturbation
3. 69—Not a highway. You can always say NO!

So, basically, a person develops a mastery over one's sexuality. There are alternative choices to intercourse until one is ready to have intercourse.

What myths have you heard about masturbation?

If you like it, do it. If you don't, don't! Both normal. It is okay not to and okay to masturbate. It is not okay for parents, physicians, relatives, friends, and church to contribute to guilt or punish a child for masturbating.

Male Myths and Female Myths—(What You Don't Know May Hurt)

Male Myths

1. Male should not express feelings.
2. In sex, as elsewhere, it's performance that counts.
4. A man always wants and is always ready to have sex.
5. All physical contact must lead to sex. (intercourse)
6. Sex = intercourse. Both male and female. (There are many options.
7. Sex requires an erection.
8. Sex needs disappear with age.

Female Myths

1. The male is the authority on sex—He is responsible for woman's orgasm.
2. Orgasm has to occur whenever there is sexual arousal.
3. Orgasm should occur through intercourse alone.
4. Simultaneous orgasm should be a goal.
5. Sex is not as necessary for women as for men.
6. A woman may lose control during orgasm.
7. Vaginal orgasm is better than clitoral orgasm. (More mature)
8. Sexual needs disappear with age.

IV. Homosexuality — By the Way Mom, I'm Gay!

What have you heard about homosexuals?

Definition: has a strong preferential attraction to members of the same sex.
Don't know cause but do know it is a natural optional expression of one's sexuality. Only thing known for sure is that homosexuals are born to heterosexual couples. One doesn't choose to be gay. One is.

Personal biases—whether stemming from ignorance, religious beliefs, or other sources—should not impinge on the right of any person regardless of sexual orientation, to obtain competent objective professional services without having to contend with gratuitous attempts to alter one's sexual orientation.

*The American Psychiatric Association officially removed the designation of homosexuality as a mental disorder in 1974.

Kinsey Scale of Heterosexuality to Homosexuality

Kinsey 0 - all Heterosexual activity
   - Orientation means man or woman has never had overt homosexual experience.

Kinsey 1 - Identification describes an individual whose minimal amount of homosexual experience has been far overshadowed by the degree of his or her heterosexual experience.

Kinsey 2 - A person with a significantly higher level of homosexual experience than a Kinsey 1, but still with a predominant background of heterosexual interaction.

Kinsey 3 - An individual with a history of approximately equal homosexual and heterosexual experience. (Bisexual)

Kinsey 4 - One who has had a significant amount of heterosexual experience but whose sexual outlets have been predominantly homosexual.

Kinsey 5 - Preference rating is an individual whose homosexual experience fully dominates his or her history and whose heterosexual activity is minimal.

Kinsey 6 - Man or woman exact opposite of Kinsey 0, that is, an individual who has no history of overt heterosexual experience.

According to Kinsey's Report done in the 1940s, only 10% of all males and females are homosexuals (Kinsey 6). Today, there is evidence that perhaps 15-20% of males and females are homosexual. Because of the stigma attached to homosexuality, there may be persons who will not openly acknowledge their homosexuality. Therefore, it is not possible to know the exact percentage.

One common myth that many people have is that being sexually attracted to a member of the same sex in one's fantasies makes them homosexual.
Another myth is that one homosexual experience makes you a homosexual.

Sex is a natural, healthy part of being a person. Sex in the media teaches us little about relationships. If anything, it perpetuates the sexual myths that keep us from relating to each other in open, healthy ways.
APPENDIX N

Value Clarification Cards
Rules of the game:

Form small groups of six per group. Choose a group leader. One person takes a card from the pile, reads Side A out loud, and responds to it. Each group member then takes a turn responding to A. The same person then turns to Side B, reads it out loud, and again answers the situation or question. Again, each group member responds to Side B. The entire group then discusses Sides A and B together. Then, the next person in the group takes a card, and the procedure is repeated.

While one person is answering a card, NO ONE is allowed to interrupt, question, or SPEAK. There should be no discussion until everyone, in turn, has a chance to answer both A and B. Then, people may talk about that card.

There are no right or wrong answers. There are only people's ideas and personal responses. "I don't know what I would do in that situation" may be a very valid response. A person may choose to pass. This is rare but is as legitimate as responding. Group members may agree beforehand whether they want to discuss why someone passed. "Yes" and "No" answers to a question or situation are not enough. Ask people to expand on why they agree or disagree with a situation. During the discussion period, the goal is not to attack other people's answers but rather to allow clarification of what the respondent meant, why they feel that way, what information they base their facts on, etc. It also allows others to tell how they feel about the situation, their response based on their experience, values, etc., and to give information.

Role of the group leader:

Group leaders should make sure no one other than the particular respondent has a card or everyone will be thinking about their own response rather than listening. They should prevent anyone trying to talk during the no-talking time. To help group members, during the discussion time, they should also look at conflicting responses between Sides A and B and have factual information when needed.
1. A. How do you feel about unmarried couples living together?

B. Your 19-year-old son/daughter is coming home for the weekend and is bringing his girlfriend. He asks if they can share a bedroom and do you mind. What do you say?

2. A. Adults should use available opportunities to help young people learn about God's gift of human sexuality.

B. What would you say to an 8-year-old who asks about two dogs mating on church property?

3. A. A long-term homosexual relationship is as valid a lifestyle as a heterosexual marriage. Agree?

B. How would you introduce your son's or daughter's same-sex lover at a family reunion? How do you think your son/daughter would want their friend to be introduced?

4. A. Sexual thoughts and fantasies are completely normal and should not be made to feel guilty about their thoughts. Agree?

B. How would you feel if your partner occasionally thought of other people while making love with you?

5. A. It is important that people learn to be proud of and comfortable with the experience of their own bodies.

B. Some medical authorities, and many women, feel that masturbating to orgasm helps relieve menstrual cramping. Your daughter is experiencing painful periods. What would you tell her?

6. A. It is important for married people to maintain meaningful relationships with people of both sexes.

B. What constitutes "infidelity" to you? Your spouse often has lunch with someone with whom he/she shared a romantic interest at one time. How do you feel about this?
APPENDIX O

Ethics Committee Memo
TO: Lynda Haverstock
FROM: J. A. Mills
DATE: January 25, 1984

Thank you for the copies of the two memoranda from Garry Wacker. You now have the permission of the Ethics Committee to proceed with your thesis work.

I hope it turns out well.

J. A. Mills
APPENDIX P

Letter from Dr. Harold Lief
January 17, 1984

Ms. Haverstock:

We are in receipt of your check for SKAT materials, and you will find the requested materials enclosed. This is your authorization for the right to reproduce the SKAT in whatever fashion needed, this by reason of our receiving the $25.00 right of Reproduction fee.

Thank you for your interest in SKAT.

Sincerely,

Anna Marie Paravecchia
Secretary to Harold I. Lief, M.D.
APPENDIX Q

Letter of Permission to Use the Premarital Contraceptive Attitude Evaluation Instrument
February 9, 1984

Lynda Haverstock
1430 10th Street East
Saskatoon, Saskatchewan
CANADA S7H 0J5

Dear Ms. Haverstock:

I am pleased to grant you permission to use the Premarital Contraceptive Attitude Evaluation Instrument. I have enclosed a copy as per your request.

Best wishes to you on your research.

Sincerely,

Guy S. Parcel, Ph.D.
Professor and Director
Division of Health Education
Department of Health Related Studies

GSP/1a

Enclosure
APPENDIX R

Package Information
PLEASE READ THE BLACKBOARD INFORMATION CAREFULLY.
ENSURE THAT ALL THE SUBJECTS READ IT, TOO

1. The packages are arranged in numerical order using the code number. Subjects should give you his first name and the correct phone number. You look this up on the master sheets to get the code number.

2. If someone arrives to do a package and his name/phone number is not on a package, you give him one of the packages at the back that does not have a name/number on it. Have him put his first name only and phone number on the package in the space provided. Fill in his first name/phone number beside the appropriate code number on the master sheet. (Note the code number on package you give him).

3. Make sure that no questionnaire packages are taken from the room. They must be completed totally in the room.

4. There should be no talking during the filling out of the questionnaires.

5. Please make sure that the pencils are returned and that the envelopes are not glued shut.

6. Place all completed questionnaires in the box provided.

7. Have all volunteers check the preferred space (Yes_No) on the front of the envelopes regarding whether or not they would continue with the study if their code number is randomly selected.

8. Have all the volunteers date and initial the package when they have totally completed the questionnaires. Have them self-address a small envelope if they wish the results.

9. Please do not leave the room until the next attendant arrives.

10. If you have questions, call 3283 or see me in Room 190.1 (Psy. Dept.). Be pleasant but formal. Do not discuss the questions with the volunteers.

THANKS FOR YOUR HELP!
APPENDIX S

Order of Presentation
1) Write blackboard instructions (from Appendix H).

2. Distribute packages. Tell them not to open packages until you tell them to.

3. Distribute pencils.

4. Read announcement (presented in Appendix G).

5. Collect packages/pencils.

6. Sign out sheet
APPENDIX T

Selection Criteria
Selection Criteria: Sexual Liberals Group

The selection criteria for the sexual liberal group were as follows:

1. male
2. between the ages of 17 and 21
3. never been married
4. low scores (defined as below 41) on the Heterosexual Relations Scale (HR), the Sexual Myths Scale (SM), the Autoeroticism Scale (M), and the Abortion Scale (A) of the Sex Knowledge and Attitudes Test (SKAT).
5. low scores (defined as above) on the Conservatism Scale.

Selection Criteria: Sexual Conservatives Group

The selection criteria for the sexual conservative group were as follows:

1. male
2. between the ages of 17 and 21
3. never been married
4. high scores (defined as above 58) on the HR, SM, M, and A scales of the SKAT
5. high scores (defined as below) on the Conservatism Scale.
APPENDIX U

Tables
Table U-1

Numbers of Sexual Liberals/Conservatives by Virginity

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<th>Count</th>
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<td>Conservatives</td>
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<td>21</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
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<tr>
<td>%</td>
<td>53.3</td>
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$\chi^2 = 11.316$, df = 1, $p < 0.001$

$\chi^2 = 13.125$, df = 1, $p < 0.0003$

Table U-2

Numbers of Sexual Liberals/Conservatives by Age

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<tr>
<td>Conservatives</td>
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<td>11</td>
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<tr>
<td>Total</td>
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<td>19</td>
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<td>60</td>
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<tr>
<td>%</td>
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<td>63.3</td>
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$\chi^2 = 3.579$, df = 3, n.s.
### Table U-3

**Numbers of Sexual Liberals/Conservatives by Race**

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<th>Count</th>
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<td>30</td>
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<td><strong>Total</strong></td>
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<td>%</td>
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χ² = 0.000, df = 1, n.s.

χ² = 0.351, df = 1, n.s.

### Table U-4

**Numbers of Sexual Liberals/Conservatives by Religion**

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<th>Count</th>
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<td><strong>Total</strong></td>
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<td>28</td>
<td>17</td>
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<tr>
<td>%</td>
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χ² = 8.686, df = 3, p < 0.034
Table U-5

*Numbers of Sexual Liberals/Conservatives by Location*

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<td>16</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
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</tr>
<tr>
<td>%</td>
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</tr>
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</table>

$\chi^2 = 0.603, \ df = 1, \ n.s.$

$\chi^2 = 1.071, \ df = 1, \ n.s.$

Table U-6

*Numbers of Sexual Liberals/Conservatives by Rate Experience Peer*

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$\chi^2 = 2.743, \ df = 4, \ n.s.$
Table U-7

**Numbers of Sexual Liberals/Conservatives by Rate Peer Knowledge**

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<td>Conservatives</td>
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<td>16</td>
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$\chi^2 = 9.945$, df = 4, $p < 0.041$

Table U-8

**Numbers of Sexual Liberals/Conservatives by Rate Peer Adjustment**

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$\chi^2 = 5.993$, df = 3, n.s.
### Table U-9

**Numbers of Sexual Liberals/Conservatives by Rate Permissiveness**

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<td>9</td>
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</table>

| %            | 3.3    | 15.0   | 56.7   | 10.0  | 15.0  | 100.0 |

\[ \chi^2 = 5.556, \text{ df } = 4, \text{ n.s.} \]

### Table U-10

**Numbers of Sexual Liberals/Conservatives by Value System Religion**

<table>
<thead>
<tr>
<th>Count</th>
<th>Not At All</th>
<th>Somewhat</th>
<th>Definitely</th>
<th>Very Definitely</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>22</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Conservatives</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>12</td>
<td>9</td>
<td>14</td>
<td>60</td>
</tr>
</tbody>
</table>

| %            | 41.7    | 20.0    | 15.0    | 23.3            | 100.0 |

\[ \chi^2 = 31.218, \text{ df } = 3, p < 0.001 \]
Table U-11

*Numbers of Sexual Liberals/Conservatives by Value System Conflict—Parents*

<table>
<thead>
<tr>
<th>Count</th>
<th>Not At All</th>
<th>Somewhat</th>
<th>Definitely</th>
<th>Very Definitely</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>4</td>
<td>20</td>
<td>2</td>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>Conservatives</td>
<td>11</td>
<td>15</td>
<td>1</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>35</td>
<td>3</td>
<td>7</td>
<td>60</td>
</tr>
<tr>
<td>%</td>
<td>25.0</td>
<td>58.3</td>
<td>5.0</td>
<td>11.7</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 4.457, \text{ df} = 3, \text{ n.s.} \]

---

Table U-12

*Numbers of Sexual Liberals/Conservatives Who Employ Contraceptives*

<table>
<thead>
<tr>
<th>Count</th>
<th>Never</th>
<th>Rarely</th>
<th>Usually</th>
<th>Always</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>1</td>
<td>8</td>
<td>6</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Conservatives</td>
<td>7</td>
<td>13</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>21</td>
<td>9</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>%</td>
<td>13.3</td>
<td>35.0</td>
<td>15.0</td>
<td>18.3</td>
<td>16.7</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 15.054, \text{ df} = 5, p < 0.010 \]
APPENDIX V

Tables
Table V-1

*Numbers of Sexually Active Liberals/Conservatives by Age*

<table>
<thead>
<tr>
<th>Count</th>
<th>&lt;17</th>
<th>18-19</th>
<th>20-21</th>
<th>22-23</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>0</td>
<td>14</td>
<td>7</td>
<td>2</td>
<td>23</td>
</tr>
<tr>
<td>Conservatives</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>18</td>
<td>11</td>
<td>2</td>
<td>32</td>
</tr>
<tr>
<td>%</td>
<td>3.1</td>
<td>56.3</td>
<td>34.4</td>
<td>6.3</td>
<td>100.0</td>
</tr>
</tbody>
</table>

$\chi^2 = 4.018$, df = 3, n.s.

Table V-2

*Numbers of Sexually Active Liberals/Conservatives by Race*

<table>
<thead>
<tr>
<th>Count</th>
<th>White</th>
<th>Non-White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>22</td>
<td>1</td>
<td>23</td>
</tr>
<tr>
<td>Conservatives</td>
<td>9</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>1</td>
<td>32</td>
</tr>
<tr>
<td>%</td>
<td>96.9</td>
<td>3.1</td>
<td>100.0</td>
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</tbody>
</table>

$\chi^2=0.0000$, df = 1, n.s.

$\chi^2=0.404$, df = 1, n.s.
Table V-3

Numbers of Sexually Active Liberals/Conservatives by Religion

<table>
<thead>
<tr>
<th>Count</th>
<th>Catholic</th>
<th>Protestant</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>3</td>
<td>13</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>Conservatives</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>9</td>
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<tr>
<td>Total</td>
<td>8</td>
<td>16</td>
<td>8</td>
<td>32</td>
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<tr>
<td>%</td>
<td>25.0</td>
<td>50.0</td>
<td>25.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

$\chi^2 = 6.338$, df = 2, $p < 0.042$

Table V-4

Numbers of Sexually Active Liberals/Conservatives by Location

<table>
<thead>
<tr>
<th>Count</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>13</td>
<td>10</td>
<td>23</td>
</tr>
<tr>
<td>Conservatives</td>
<td>3</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
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<td>16</td>
<td>32</td>
</tr>
<tr>
<td>%</td>
<td>50.0</td>
<td>50.0</td>
<td>100.0</td>
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</tbody>
</table>

$\chi^2 = 0.618$, df = 1, n.s.

$\chi^2 = 1.391$, df = 1, n.s.
Table V-5

Sexually Active Liberals'/Conservatives' Self Ratings of Sexual Experience with Peers

<table>
<thead>
<tr>
<th>Count</th>
<th>Far Less</th>
<th>Less</th>
<th>Same As</th>
<th>More</th>
<th>Far More</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>1</td>
<td>1</td>
<td>13</td>
<td>4</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>Conservatives</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>1</td>
<td>19</td>
<td>7</td>
<td>4</td>
<td>32</td>
</tr>
<tr>
<td>%</td>
<td>3.1</td>
<td>3.1</td>
<td>59.4</td>
<td>21.9</td>
<td>12.5</td>
<td>100.0</td>
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</tbody>
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\[ \chi^2 = 3.212, \text{ df } = 4, \text{ n.s.} \]

Table V-6

Sexually Active Liberals'/Conservatives' Self Ratings of Sexual Knowledge with Peers

<table>
<thead>
<tr>
<th>Count</th>
<th>Far Less</th>
<th>Same As</th>
<th>More</th>
<th>Far More</th>
<th>Total</th>
</tr>
</thead>
<tbody>
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<td>Liberals</td>
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<td>12</td>
<td>9</td>
<td>1</td>
<td>23</td>
</tr>
<tr>
<td>Conservatives</td>
<td>0</td>
<td>7</td>
<td>2</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>19</td>
<td>11</td>
<td>1</td>
<td>32</td>
</tr>
<tr>
<td>%</td>
<td>3.1</td>
<td>59.4</td>
<td>34.4</td>
<td>3.1</td>
<td>100.0</td>
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</table>

\[ \chi^2 = 2.035, \text{ df } = 3, \text{ n.s.} \]
Table V-7

Sexually Active Liberals'/Conservatives' Self Ratings of Sexual Adjustment with Peers

<table>
<thead>
<tr>
<th>Count</th>
<th>Less</th>
<th>Same</th>
<th>More</th>
<th>Far More</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>Liberals</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conservatives</td>
<td>2</td>
<td>9</td>
<td>11</td>
<td>1</td>
<td>23</td>
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<td>16</td>
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<td>1</td>
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<tr>
<td>%</td>
<td>6.3</td>
<td>50.0</td>
<td>40.6</td>
<td>3.1</td>
<td>100.0</td>
</tr>
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</table>

$\chi^2 = 4.150$, df = 3, n.s.

Table V-8

Sexually Active Liberals'/Conservatives' Self Ratings of Sexual Parental Permissiveness with Peers

<table>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>6</td>
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<td>0</td>
<td>23</td>
</tr>
<tr>
<td>Conservatives</td>
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<td>2</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>18</td>
<td>4</td>
<td>4</td>
<td>32</td>
</tr>
<tr>
<td>%</td>
<td>18.8</td>
<td>56.3</td>
<td>12.5</td>
<td>12.5</td>
<td>100.0</td>
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</tbody>
</table>

$\chi^2 = 14.686$, df = 3, $p < 0.002$
Table V-9

Sexually Active Liberals'/Conservatives' Evaluation of Effects of Religion on Sexual Value System

<table>
<thead>
<tr>
<th>Count</th>
<th>Not At All</th>
<th>Somewhat</th>
<th>Definitely</th>
<th>Very Definitely</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>17</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>Conservatives</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>7</td>
<td>2</td>
<td>5</td>
<td>32</td>
</tr>
<tr>
<td>%</td>
<td>56.3</td>
<td>21.9</td>
<td>6.3</td>
<td>15.6</td>
<td>100.0</td>
</tr>
</tbody>
</table>

$\chi^2 = 17.788$, df = 3, $p < 0.001$

Table V-10

Sexually Active Liberals'/Conservatives' Evaluation of Conflict between Personal Sexual Value System and Parents' Sexual Values

<table>
<thead>
<tr>
<th>Count</th>
<th>Not At All</th>
<th>Somewhat</th>
<th>Definitely</th>
<th>Very Definitely</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberals</td>
<td>3</td>
<td>15</td>
<td>2</td>
<td>3</td>
<td>23</td>
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<tr>
<td>Conservatives</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>2</td>
<td>9</td>
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<tr>
<td>Total</td>
<td>3</td>
<td>22</td>
<td>2</td>
<td>5</td>
<td>32</td>
</tr>
<tr>
<td>%</td>
<td>9.4</td>
<td>68.8</td>
<td>6.3</td>
<td>15.6</td>
<td>100.0</td>
</tr>
</tbody>
</table>

$\chi^2 = 2.454$, df = 3, n.s.
APPENDIX W

Raw Scores for the 60 Subjects
and Key for Abbreviated Labels
<table>
<thead>
<tr>
<th>XD</th>
<th>LC</th>
<th>TMT</th>
<th>VIR</th>
<th>ATPRE</th>
<th>KNPRE</th>
<th>CONPRE</th>
<th>MARPRE</th>
<th>ATPOST</th>
<th>KNPOST</th>
<th>ATFLW</th>
<th>KNFLW</th>
<th>CONFLW</th>
<th>VIRFLW</th>
<th>MARFLW</th>
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KEY TO RAW SCORE LABELS

ID - Identification Number
LC - 0 (Liberal) 1 (Conservative)
TMT - Treatment Group 1, 2, or 3
VIR - 0 (Virgin) 1 (Non-Virgin)
ATPRE - SKAT Attitude Scale Pretest Score
KNPRE - SKAT Knowledge Scale Pretest Score
CONPRE - Conservatism Scale Pretest Score
MARPRE - Premarital Contraceptive Attitude Evaluation Pretest Score
ATPOST - SKAT Attitude Scale Posttest Score
KNPOST - SKAT Knowledge Scale Posttest Score
ATFLW - SKAT Attitude Scale Follow-up Score
KNFLW - SKAT Knowledge Scale Follow-up Score
CONFLW - Conservatism Scale Follow-up Score
VIRFLW - 0 (Virgin) 1 (Non-Virgin) at Follow-up
MARFLW - Premarital Contraceptive Attitude Evaluation Follow-up Score
DOUBLE - Retest Score of Premarital Contraceptive Attitude Evaluation at Follow-up