

THE DIMENSIONS UNDERLYING PERCEIVED
SEXUAL ATTITUDES

CENTRE FOR NEWFOUNDLAND STUDIES

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R. WAYNE TUCKER



THE DIMENSIONS UNDERLYING PERCEIVED SEXUAL ATTITUDES.

by

© R. Wayne Tucker

A thesis submitted to the School of Graduate Studies in partial fulfillment of the requirements for the degree of Masters of Science in Applied Social Psychology (Co-operative).

Department of Psychology
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Abstract

The perceptual process of implicit attitude theories was investigated by way of a dimensional perspective. Buton, Grant, Hannah, & Ross (1993) suggest that perceived attitudes are two-dimensional, the two largely orthogonal dimensions being Liberal-Conservative and Traditional-Radical. The present study examined perceptions of others' sexual attitudes. Phase 1 investigated the dimensions of perceived sexual attitudes; Phase 2 focused on the identification of the most appropriate labels for the dimensional solution observed in the first Phase. In Phase 1, 25 females and 25 males in each of two data sets judged the similarity of pairs of attitude statements by indicating whether they thought a person who agreed with one statement, would also agree with the other. A multidimensional structural analysis indicated a clear "elbow" in the stress values and suggested that for both data sets a two-dimensional solution provided the best fit. In Phase 2, 30 males and 30 females for each of data sets A and B rated (on four different scales) hypothetical individuals who agreed with a series of attitude statements (same statements as in Phase 1). Multiple regression analyses identified Liberal-Conservative as the most suitable label for Dimension 1. For Dimension 2, both Traditional-Radical and Warm-Cold proved to be acceptable labels as reflected by the amount of variability accounted for, but the Traditional-Radical label was recommended as the "best" based on past validations of this label. The results were interpreted as consistent with a two-dimensional structure underlying

(iii)

implicit attitude theories. The results were also discussed in relation to other models, as well as in terms of their application to the issue of sexual intimacy.

Acknowledgments

At this point, I must first give Janet Pigot the "Architect" a special thanks in listening to my endless thesis' complaints. It is indeed a supportive relationship, that has its history in both of us supporting one another during the final stages of each other's thesis. I listen to Janet defend her thesis at Technical University of Nova Scotia (TUNS), and before the official ceremony of her graduation ring we were on our way to Newfoundland so that I could get started with my thesis.

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The Dimensions Underlying Perceived Sexual Attitudes.

The Function of Implicit Personality Theories

Implicit personality theories aid us in structuring our social world (Pervin, 1984). Implicit personality theories are not formal theories with all the expectations of such theories defined in precise terms (Embree, 1986; Pervin, 1984), but are part of a perceptual process that was originally proposed by Bruner and Tagiuri (1954). As part of this perceptual process each individual has his/her own implicit theory of how personality traits co-exist. Benefits of implicit personality theories include reduction of cognitive effort in interpretation of human experiences (Kalliopuska, 1985), and the ability to process substantial information (Pervin, 1984). "The task of implicit personality theories is to increase the individual's social adaptability and to direct the formation of impressions and appraisals" (Kalliopuska, 1985, p. 1072). Such benefits are reduced when the target of an implicit personality theory is known, as familiarity leads to perceptual distortions (Kalliopuska, 1985).

Several researchers have investigated or studied the basis of implicit personality theories. Kalliopuska (1985) investigated which basic assumptions subjects used as a basis for their implicit personality theories. The results showed that the basis was dependent on holism, subjectivity, and proactivity. First, subjects believed that it was necessary to study the total personality of an individual, as opposed to studying their components. Second, they believed that behaviour was influenced by subjective experiences. Finally, subjects perceived that, "...the individual generates his

behaviour internally rather than being merely a bundle of reactions to external stimuli" (Kalliopuska, 1985, p. 1075). As well, some researchers like Guilford (as cited in De Soto, Hamilton & Taylor, 1985) believe that it is possible to explain implicit personality theories using the argument of a semantic overlap. Asch's (1946) dual function terms (trait words that can be applied to persons and non-persons) are ideal for purposes of determining whether implicit personality theories are a "linguistic artifact" (De Soto et al., 1985). Examples of such dual function terms included; "warm," "cold," "hard," and "soft." The critical question is whether the association between trait words is a function of implicit personality theories, or the semantics of the words themselves. De Soto et al. concluded that the interrelationship among the dual function words was the result of implicit personality theories and not linguistic similarity.

The Research History of Implicit Personality Theories

Bruner and Tagiuri (1954) were the first to propose the need for "naive, implicit theories of personality." This reflected the awareness that there had been a shift in the literature away from judgment accuracy toward an investigation of the judgment process. Asch (1946) is credited with some of the earliest impression formation research. Asch found that the inclusion of the Warm-Cold dimension in the characteristics attributed to a hypothetical individual significantly influenced the impression formed of the person. For example, when "Warm" was included in a list

of qualities, the hypothetical individual was seen as humorous and popular. In contrast, when the list contained the word "Cold" a totally different impression emerged. The results of Asch's study was supported by the work of Kelley (1950) who used "real" targets to investigate impression formation as a function of the Warm-Cold dimension. Bruner and Tagiuri (1954) concluded however, that the literature related to impression formation failed to demonstrate how people describe and categorize others in their social environment. The focus of the impression formation research was on the types of impressions, as opposed to the process involved in the formation of impressions (Bruner & Tagiuri).

Basically, four methods have been used to investigate trait relationships: The use of similarity ratings (subjects assess how similar or dissimilar a pair of traits are), likelihood of co-occurrence methods (if a person has trait A, what is the likelihood that he or she also has trait B), matrix of perceived cause-effect inference (if an individual was to change on one construct, what other constructs would change as a result), and the use of measures of co-occurrence (subjects sort traits into categories with each category representing a different individual) (Schneider, 1973).

How do People Perceive the Personality Traits of Others?

Several views have been proposed to understand how people think about the personality traits of others and what connections, if any, are perceived between traits. The associationistic, dimensional and typological views are three important

perspectives in deciphering the perceptual process underlying implicit personality theories (Anderson & Sedikides, 1991). The associationistic view involves an analysis of the relationship between personality traits and is commonly operationalized using a Pearson product-moment correlation. The dimensional view, which happens to be the view of this paper, states that social perception exists in relation to global dimensions. Proponents of this viewpoint typically analyze inter-trait relationships using factor analysis or multidimensional scaling (Passini & Norman, 1966; Schneider, 1973). The assumption underlying these statistical procedures is that traits located spatially close to one another in a dimensional space are expected to covary (Sedikides & Anderson, 1994). Anderson and Sedikides (1991) analyzed the contributions of a typological view in comparison to the contributions of the other two views. The typological view uses "person types" to explain person perception. The basis of this perspective is that in the process of perceiving the personality traits of others we end up clustering personality traits. A cluster represents a distinct "person type" (Anderson & Sedikides, 1991). When this perspective is guiding the research endeavour, cluster analysis is often used to identify person types.

Anderson and Sedikides (1991) contrasted the above three views and resolved that the typological perspective had a unique contribution not achieved or explained using either the associationistic or dimensional views. Furthermore, it was concluded that in comparison to the other views, "... person types are more than clumps of traits that are close to each other associationistically or multidimensionally" (Anderson &

Sedikides, 1991, p. 213). Sedikides and Anderson (1994) investigated the reason underlying the formation of trait clusters by studying whether personality traits are causally related to one another. They concluded that person types were composed of causally connected personality traits, and partially aided in helping one understand the unique contribution underlying the typological perspective. As well, Sedikides and Anderson (1994) investigated whether the traits within a cluster are more causally related than traits that occupy the same dimensional space, and this hypothesis was supported. Overall, Sedikides and Anderson concluded, "...that perceptions of causality play an important role in accounting for the bonding of traits within person types (1994, p. 301). In regards to understanding the structure of implicit personality theories, Anderson and Sedikides (1991) acknowledge that it could be either dimensional or typological.

Establishing a link between Implicit Personality Theories and Sexual Behaviour

Williams et al. (1992) have established a link between implicit personality theories and sexual behaviour. The goal of their research was to establish an understanding of why college students engaged in unsafe sexual behaviours. It would appear that the students had a well-developed idea as to the potential risk of contracting HIV from particular sexual partners. If students either know or like a potential partner, that partner is perceived as being less risky or not risky at all. In assessing the riskiness of unknown potential partners, students use some very weak

guidelines such as, whether the partner is dressed provocatively, whether the individual was met in a bar, etc. Students appear quite confident in their ability to assess the riskiness of a potential partner. Results indicated that college students were using an implicit personality theory to assess riskiness as opposed to generally practicing safe sex. Implicit personality theories are useful in interpreting our social world, but they carry a degree of inaccuracy. In the case of assessing HIV riskiness of a potential partner the use of an implicit personality theory is dangerous, if not deadly. In the end, "... it must be emphasized that, in the absence of specific knowledge regarding the partner's HIV status, knowing one's partner and being monogamous do not constitute safer sex" (Williams et al., 1992, p. 927). In sum, Williams et al. help one to understand the implications of implicit personality theories on sexual behaviour.

Implicit Attitude Theories

Implicit attitude theories are analogous to implicit personality theories. The focus of research related to implicit personality theories has centred on understanding the emergence of "lay-person" theories used by people to organize and interpret the personalities of others. Implicit attitude theories help people organize the perceived attitudes of others. For example, an implicit personality theory may include the assumption that an intelligent person is likely to be cold. Similarly, an implicit

attitude theory may underlie people's expectations that negative attitudes toward "homosexuality" and "sex education" are likely to occur together.

Judging from the research history on implicit personality theories, it appears that the basis for such theories is to help organize and interpret one's social surroundings through the creation of an unconscious structure, which handles an enormous influx of information. Likewise, using the analogous concept of implicit attitude theories, various researchers support the position that individuals perceive the attitudes of others according to some dimensional structure (Button, Grant, Hannah & Ross, 1993; Grant, Hannah, Ross & Button, in press; Messick, 1956; Nelson, 1974).

Dimensionality of Perceived Attitudes

Little empirical work has investigated how we perceive the attitudes of others or the structure of such attitudes. Messick (1956), for example, investigated the structure of perceived social attitudes using a multidimensional scaling technique. He found that attitudes toward war and punishment were structured along two dimensions. One of the main criticisms of the work by Messick was that the study employed only a few attitudes (Button et al., 1993; Nelson, 1974). Nelson (1974) used the same attitudes as Messick (1956), but added eight more: Reality of God, divorce, birth control, patriotism, law, sex information, censorship, and mental hospitals. Earlier research on actual attitudes served as the basis for the possible dimensions underlying the structure of perceived social attitudes in Nelson's (1974) study. Nelson concluded

that the attitudes of interest were structured along a "Liberal-Conservative" dimension, a "Moderate-Extreme" dimension, and a third dimension that proved uninterpretable.

Button et al. (1993) expanded the study of the multidimensionality of perceived social attitudes by exploring a more diverse set of attitudes than previously investigated by Messick (1956) and Nelson (1974). Beside the inclusion of 32 different attitudinal issues, a distinguishing characteristic of the study by Button et al. was that the attitude issues were generated by students, as opposed to the researchers themselves. The findings indicated that perceived attitudes were structured along two relatively independent dimensions: one associated with liberalism, the other a concern with traditional values. The liberal dimension identified by Button et al. was seen as similar to, but not interchangeable with, the liberal dimension commonly reported in the structure of actual attitudes. They also speculated that the dimension of liberalism in perceived attitudes was more global than the liberal dimension in actual attitudes. The second dimension reflected a concern with maintaining the status quo at one end, and advocating radical change at the other end.

Grant, Button, Hannah, & Ross (1993) obtained supportive evidence regarding the existence of the Liberal-Conservative dimension and the dimension reflecting a concern for morals and traditions (Traditional-Radical), as well they expanded on the application of these dimensions. In Phase 1, subjects rated an hypothetical individual according to the dimensions identified by Button et al. (1993), while in Phase 2 subjects were asked to indicate their level of agreement and rate the level of

importance they attached to such issues (Grant et al., 1993). Attitudes representing the extremes of the two dimensions have higher importance ratings, as opposed to those more central in attitude space. As an example, for the Liberal-Conservative dimension the following attitude statements had high importance ratings: "Condoms should be made readily available to adolescents," represented the liberal endpoint, while "A large number of unemployed persons do not really want to find work," represented the conservative endpoint. Grant et al. (in press) examined how impressions of another person are formed as a function of the perceived attitude structure identified by Button et al. (1993). They hypothesized that if the Liberal-Conservative and Traditional-Radical dimensions are in fact used in both processing the attitudes of others and forming impressions, then altering the consistency of attributed attitudes should affect impression ratings. In other words, if an attributed attitude deviates from other attitudes on one or both of the dimensions, it would be rated as fitting the other attitudes less closely than one that does not deviate. The lowest fit ratings should be observed in the case of discrepancy on both dimensions. Not only did the results confirm their expectations, but a comparison of the two-dimensional model with two possible one-dimensional models provided additional construct validation for their model (Grant et al., in press).

If the dimensions identified by Button et al. (1993), and Nelson (1974) are externally valid to all domains of social issues, then they ought to emerge in a similar analysis of perceived sexual attitudes. Positive results would indicate the

generalizability of these dimensions, while negative results would indicate the unique structure underlying perceived sexual attitudes. The hypothesis directing this study was that the two-dimensional structure identified by Button et al. (1993) would also apply to perceived sexual attitudes. It was also expected that the Liberal-Conservative and Traditional-Radical labels would be the most appropriate for the two dimensions, should they emerge. In sum, it was predicted that the structure underlying implicit attitude theories could be applied to both general and specific perceived attitudes.

The dimensional view of implicit attitude theories is the research basis of this thesis, focusing on the identification of global dimensions that are viewed as the structure of perceived sexual attitudes. The research was conducted in two phases: Phase 1 investigated the main objective of the thesis (namely, to derive an appropriate dimensional configuration for perceived sexual attitudes); Phase 2 was designed to suggest appropriate labels for communicating the dimensional solution identified in Phase 1.

Phase 1

Method

Sexual Issues. A three-stage procedure was used to produce the initial list of sexual issues. First, 35 issues were identified when 32 unpaid undergraduate students majoring in psychology were asked to comply with the following instructions:

Your task as a subject will be to generate three sexual issues that you deem important and record your answers in the spaces provided below.

Second, 45 issues covered by various opinion polls and scales were included: Carolina Poll Index (Spring, 1987), General Social Survey (1991), Louis Harris Surveys (April, 1961; May, 1969; August, 1970; October, 1971), National Network of Studies Polls (February, 1990), Fear of AIDS Scale & Homophobia Scale (Bouton et al., 1987), Attitudes Toward Sexuality Scale (Fisher & Hall, 1988), Short-Form Homosexism Scale (Hansen, 1982), Sexual Attitudes Scale (Hendrick, Hendrick, Slapion-Foote, & Foote, 1985), Attitudes Toward Lesbians and Gay Men (Herek, 1988), as well as items from Abernathy, Robinson, Balswick, and King (1979), Button et al. (1993), and Nutt and Sedlacek (1974). Finally, the researcher compiled a list of 55 sexual issues that had received general or special coverage in The Evening Telegram (St. John's, NF) and The Globe and Mail (Toronto, Ontario) between June 1st and August 31st, 1993. Elimination of redundant or similar issues resulted in 20 specific issues.

Attitude Statements. The objective was to generate a number of attitudinal items for each of the previously identified issues. Twenty unpaid undergraduate psychology students who had not previously participated in Phase 1 were recruited to generate attitudinal items. Before the construction of attitude items, each student received a

copy of points to follow in developing good attitudinal items (see Appendix A). They were also given instructions delineating their task:

Please listen carefully to the researcher as to how to write clear and concise attitude items. After receiving these instructions you will be asked to write two attitude items for each of the sexual issues that will be provided to you, for a total of six items. ... [EXAMPLE] ... It should be noted that we are not interested in your attitudes, but require your assistance in generating a pool of items to be used in a later stage of the research project.

The process described above resulted in a pool of approximately 100 items expressing sexual attitudes. As well, items from the various opinion polls and scales mentioned previously were included. The total item pool was composed of 342 attitude statements. All items were then categorized by issue, and examined for ambiguity. The experimenter and a naive rater independently determined the appropriateness of each item under its assigned category. The decision rule was to delete any item that could be placed under more than one category label. All items were then edited for clarity by a panel of judges composed of faculty members and one graduate student. The result of this procedure was a total item pool of 198 items on 20 different issues, with a range of 4 - 38 statements per issue (see Appendix B). The set of items was then divided into two sets of 99 items. To ensure representation of all issues in both data sets, the items were organized according to issue and then numbered. Even numbers were assigned to data set [A], odd numbers to data set [B]. Finally, the 99 items in each data set were examined to make certain that no two items for a particular issue within a set were too similar. If two items were deemed to be

too similar in one data set, one item was switched with a comparable item in the second data set. The rationale for using two data sets was twofold. It reduced the demands placed on any given subject, such that subjects viewed data set [A] or data set [B], but not both. Furthermore, the use of a second data set provided a replication within the same study and a basis for testing the reliability of the items themselves.

Subjects. One hundred undergraduate students (50 males and 50 females) at Memorial University of Newfoundland were each paid \$4.75 to participate in Phase 1. Equal numbers of males and females were randomly assigned to each of the two item sets. Subjects were informed of the attitudes under investigation before the study was initiated. One male subject failed to complete the study and was replaced with the next available male participant.

Procedure. The main objective of this study was to examine the assumptions people make about the inter-connections among the sexual attitudes of others. Judgments between all possible combinations of attitudinal items (for instance, paired comparisons) would be ideal, but with such a large pool of items this was not practical. The method chosen instead was to have subjects sort attitude statements into mutually exclusive categories. This sorting method has been shown to be an appropriate alternative when the number of attitude items is large (Rosenberg & Kim, 1975; Rosenberg, Nelson, & Vivekananthan, 1968).

An interactive computer program developed by Button et al. (1993) was used to assist in the sorting procedure.¹ IBM compatible computer systems were used to present instructions, stimuli and to record all responses. The instructions pointed out that:

In this study we are interested in how people think about other's sexual attitudes. Sometimes, if you know that a person has one attitude you can guess other attitudes that he or she is likely to have. ... [EXAMPLE] ... In this study, you will be asked to make guesses of this sort. You will be asked to imagine a person who agrees with some statement and then to guess whether or not the same person would agree with each of a series of different statements.

Press the enter key now to see how the screen will look and how you will be asked to make a decision.

If a girl gets pregnant, it's her own fault.	Consent for sex is even required after marriage.
--	--

Would a person who agreed with the statement on the left also agree with the statement on the right?

1 = Yes 2 = No 3 = Not Sure

Please type 1, 2, or 3 and then press enter?

After subjects were familiarized with the procedure using an example, they were given the following instructions;

In a moment you will see a set of statements on the screen. From these statements, please select one that reflects an attitude that you consider important. This may or may not be a statement you agree with. However, it should be a statement that you think would tell you a lot about the person who made it.

(The computer screen then listed 10 prime statements followed by the following instructions);

Which of these statements reflects the most important attitude?

After the selection of a prime item, subjects began the comparison procedure with the "prime" representing a particular category. The computer presented two items, one was the prime statement selected by the subject, and the second was a comparison item.

The computer screen appeared as illustrated below;

<p>Homosexuality should be against the law.</p> <p>[PRIME]</p>	<p>Sex is permissible only within marriage.</p> <p>[COMPARISON STATEMENT]</p>
--	---

To recap, subjects were asked to evaluate each attitudinal statement (total of 99 statements) with the prime statement. That is, if someone was to agree with the prime statement would he/she also agree with the comparison item. An item was added to the category represented by the prime statement if the response was "yes", and then removed from the item set. Upon completing this sorting process for one category, the procedure was repeated for another category. The remaining items were then presented in random order for this next prime. This procedure was repeated until any one of the following conditions arose: a) all 10 prime statements had been used, b) all

comparison statements had been eliminated from the pool of attitude items, or c) no comparison items were eliminated after two consecutive primes.

Subjects were limited to 10 primes or categories, but no limit was placed on the number of items they could place in each category (see Appendices C and D). Ten primes were deemed sufficient on the basis of previous research by Button et al. (1993). For subjects who were randomly assigned to data set [A], the 10 prime statements were randomly selected from data set [B], and *vice-versa*. All subjects in a particular data set were given the same set of primes.

Multidimensional Scaling Analysis

Multidimensional scaling (MDS) analysis was employed in the present study because of its proven suitability in past research of this type. Button et al. (1993), Messick (1956), and Nelson (1974) employed the MDS procedure in their investigations of perceived attitudes. An MDS analysis can be used to identify a dimensional structure that best fits a set of data (Kruskal, Young, & Seery, 1977).

The prerequisite for an MDS analysis are pairwise similarity or relatedness judgements for a set of objects (for example, attitude statements). The MDS procedure then provides, "... a geometric representation of the set of items so that the interitem distance in the space corresponds to the empirical measure of psychological relatedness" (Rosenberg et al., 1968, p. 283). One could interpret psychological relatedness by either attitude similarity or attitude co-occurrence judgments.

Consequently, items that are judged to be either similar or to co-occur in the same individual are located at points that are spatially close to one another (Borg & Lingoes, 1987; Schiffman, Reynolds, & Young, 1981). Kruskal's MDS method (KYST-2A) increases dimensionality (one, two, three, etc.) until there is little change in the "goodness of fit." The index of goodness of fit is "Stress." A stress value (percentage) is generated for each dimensional solution; the lower the stress value the better the goodness of fit.

Results and Discussion

In order to do an MDS analysis, the generation of a similarity matrix for each data set was required, with the 99 rows and columns representing the 99 attitude statements contained in each set. A large number in any cell of this matrix represented high similarity between those two items while a low number represented dissimilarity. Each cell in the matrix reflected the similarity of the row and column statements as indicated by the number of subjects who placed the statements in the same category. Two MDS analyses using KYST-2A (Kruskal et al., 1977) were conducted, one on the similarity matrix for data set A and the other on the matrix for data set B.

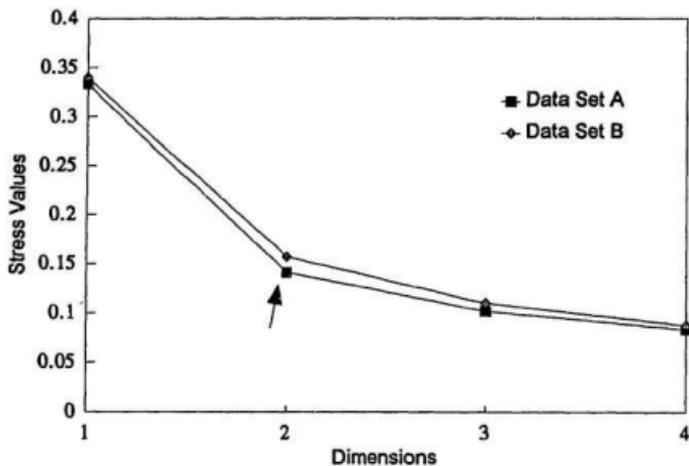
Kruskal (1964) provides a criterion for helping the experimenter decide on the best dimensional solution (that is, the solution that best fits the data). First, the researcher should choose a "t" (number of dimensions) that results in a small stress

value and where additional dimensions fail to significantly lower the stress value. A visual plot of stress values by dimensionality can aid this decision (Kruskal, 1964; Schiffman et al., 1981), in that the existence of an "elbow" in the stress values suggests the best dimensional solution. The elbow is the point where the stress values start to level off. Furthermore, the interpretability of the dimensions should affect the "t" that is selected. Generally speaking, it is better to choose a lower dimensional solution than to select a higher dimensional solution which one is unable to interpret.

Comparison of the stress values for the data sets A and B demonstrates notable agreement indicating high reliability and validity (see Figure 1). In both data sets there was a clear-cut elbow in the plot of stress values at a two-dimensional solution. As previously stated the existence of such an elbow is one of the criteria, besides interpretability, needed to determine the most appropriate dimensional configuration. On the basis of this distinct elbow it was concluded that a two-dimensional solution best represented each data set.

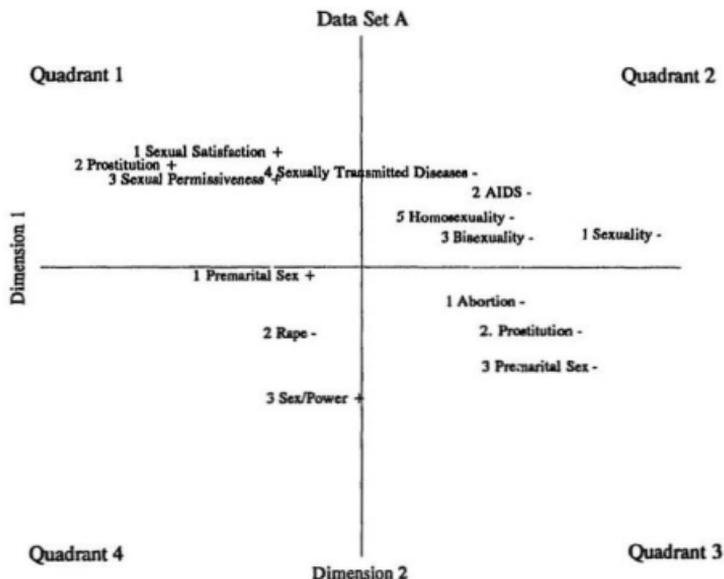
The interpretability criterion requires that items falling in the four "quadrants" created by a two-dimensional configuration are perceived as sensibly fitting together as a set. Figures 2 and 3 provide sample item descriptors to represent data sets A and B (respectively), in each of the quadrants formed by the intersection of the two dimensions. Tables 1 and 2 list the actual attitude statements by quadrant for data sets A and B (respectively), these items are the selected items displayed in Figures 2 and 3. It is important to understand that within any particular quadrant certain items will

Figure 1. Plot of stress values by dimensions for data sets A and B.



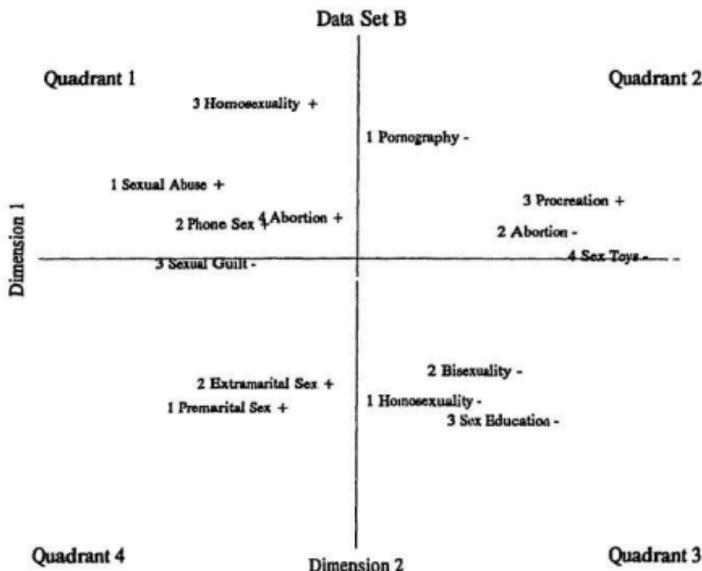
Note. The arrow identifies an "elbow" in the stress values. The elbow is used to suggest the best dimensional solution. Therefore, the elbow at two-dimensions best represents data sets A and B.

Figure 2: A two-dimensional plot of selected attitudinal items as a function of similarity for data set [A].



Note. The positive or negative sign after each descriptor refers to the direction of the item wording. For example, sexual satisfaction+ represents a positive attitude towards sex, namely "The best sex is with no strings attached." Refer to Table 1 for the actual attitude statements by quadrant using the appropriate number reference.

Figure 3: A two-dimensional plot of selected attitudinal items as a function of similarity for data set [B].



Note. The positive or negative sign after each descriptor refers to the direction of the item wording. For example, Premarital Sex+ represents a positive attitude toward premarital sex, namely "Students who do not have sexual intercourse before marriage are strange." Refer to Table 2 for the actual attitude statements by quadrant using the appropriate number reference.

Table 1

Attitude statements represented in Figure 2 for data set [A]

Quadrant 1

1. The best sex is with no strings attached. (+)
2. Prostitution should be accepted by society. (+)
3. I would like to have sex with many partners.(+)

Quadrant 2

1. Sometimes I am ashamed of my sexuality.(-)
2. I would object to sending my child to a school which had a child who has AIDS.(-)
3. Bisexuals are sick individuals.(-)
4. I never worry about getting a sexually transmitted disease.(-)
5. I think male homosexuals are disgusting.(-)

Quadrant 3

1. Abortion is murder.(-)
2. Prostitutes upon conviction should receive long jail terms.(-)
3. Most young men still consider it very important for a woman to stay a virgin until marriage.(-)

Quadrant 4

1. Premarital sex at an early age is a sign of normal curiosity.(+)
2. It is possible for a husband to rape his wife.(-)
3. Sex has nothing to do with power.(+)

Table 2

Attitude statements represented in Figure 3 for data set [B]

Quadrant 1

1. Sexual abusers ought to be given counselling, not prison sentences.(+)
2. Phone sex is a safe and healthy outlet for sexual desires.(+)
3. Homosexuals contribute positively to society.(+)
4. Laws making abortions illegal should be repealed.(+)

Quadrant 2

1. Our government should try harder to prevent the distribution of pornography(-)
2. Abortion is terrible.(-)
3. Procreation should be the sole purpose of sex.(+)
4. Using "sex toys" during lovemaking is abnormal.(-)

Quadrant 3

1. Homosexuality should be against the law.(-)
2. Bisexuality is a mental disorder.(-)
3. Sex education does not belong in the schools.(-)

Quadrant 4

1. Students who do not have sexual intercourse before marriage are strange.(+)
2. Extramarital affairs are all right as long as one's partner doesn't know about them.(+)
3. Religiosity is the cause of sexual guilt.(-)

be more representative of the two-dimensional solution than other items. For example, in Figure 2 - Quadrant 4, the item on premarital sex is clearly not as good an item to represent both Dimensions 1 and 2 as the item on rape.

In Figure 2 statements opposing prostitution, premarial sex, and abortion appear to form one reasonable set. Other sets included statements opposing sexuality, AIDS, homosexuality and bisexuality; statements that were supportive of sexual satisfaction, prostitution, and sexual permissiveness; and statements supporting premarital sex and dismissing the link between sex and power. In Figure 3 statements supporting premarital sex and extramarital sex existed in one quadrant representing a two-dimensional configuration. Other sets or quadrants included statements taking a strong position against sexual abuse, while at the same time included items supporting homosexuality, abortion, and phone sex; statements that were opposed to pornography, abortion and sex toys, but were supportive of procreation; and statements that were against homosexuality, bisexuality and sex education.

As previously stated, it was concluded that the structure of perceived sexual attitudes is best described by two dimensions as indicated by the existence of a clear elbow at the two dimensional point (see Figure 1), and by the criterion of interpretability. The hypothesis was thus supported.

The results provide further evidence to support the contention of Button et al. (1993) and Grant et al. (in press) that people's perceptions of others' attitudes are meaningfully structured in psychological space. This means that attitudes which on

the surface may appear to be unrelated are in fact connected to each other through a two-dimensional structure. Thus a person's attitude on one issue, provides evidence regarding their attitude on other issues. For example in Figure 2 (data set A) subjects perceived that a person supporting an attitude statement known to reject homosexuality would be assumed to also support attitude statements rejecting abortion and prostitution. As well, this conclusion is replicated in data set B (Figure 3), such that individuals who are thought to support premarital sex would also be thought to be supportive of extramarital sex. If a person is known to endorse attitude statements in one particular "quadrant" of the two-dimensional array, then there is an increased probability or chance that they will reject attitudinal positions reflecting the other three quadrants with the strongest rejection occurring for attitudes reflecting acceptance of the diagonal quadrant. For example in Figure 2 (data set A) subjects perceived that someone supporting a positive attitude statement exemplifying sexual permissiveness would be more likely to be opposed to negative statements representing prostitution and abortion. As well, this conclusion is replicated in data set B (see Figure 3), such that subjects perceived that individuals supportive of statements pertaining to phone sex and abortion would be more likely to be opposed to negative attitude statements representing bisexuality and sex education. This perceptual process and generalization could not be possible without some type of psychological structure underlying all perceived attitudes. Since interpersonal attraction and dating are often based on attitude similarity, the two-dimensional structure of perceived attitudes and the implicit

attitude theories they underlie may aid these processes by providing additional evidence regarding attitudes that a person may not yet have expressed. It may, for example, be very useful to be able to discern a potential date's probable attitude toward safe sex from other expressed attitudes.

Phase 2

The purpose of Phase 2 was to identify possible labels for the two-dimensional structure observed in Phase 1. Four possible labels were investigated: Liberal-Conservative (L-C), Traditional-Radical (T-R), Active-Passive (A-P), and Warm-Cold (W-C). It was hypothesized that ratings on the first two scales would be the most closely related to the dimensions of the MDS structure (i.e., a Liberal-Conservative label and a Traditional-Radical label would be the most appropriate). The L-C and T-R scales represent the labels that Button et al. (1993) concluded were the most appropriate for their two dimensions. The A-P and W-C scales were included to provide divergent validity. The use of two data sets again permitted cross-validation of the results.

Method

Subjects. Sixty male and 60 female undergraduate students at Memorial University of Newfoundland were paid \$4.75 to participate in Phase 2. Subjects were randomly assigned to one of six groups, 10 males and 10 females per set. Each group was

given a subset of the total item pool. The purpose of this was to reduce the time required for subjects to complete their task and reduce problems associated with fatigue. Subjects were informed of the nature of the attitudes under investigation, before the study was initiated.

Procedure. The 198 items used in Phase 1 were randomly divided into six equal sets of 33 statements. Statements in a particular set were presented to the subject in a random order. Subjects rated all statements in the set according to one scale, before continuing the ratings with another scale. The order in which the scales were presented was randomly determined for each subject. Subjects interacted with a computer that provided the necessary instructions and examples, and recorded all responses. The instructions stated that:

In this part of the study you will be shown some attitude statements and, for each one, you will be asked to imagine a person who strongly agrees with the statement. Then you will be asked to rate this imaginary person on the following scale for example:

Very Conservative 1 2 3 4 5 6 7 Very Liberal

Rate the person as quickly as you can, by pressing one of the number keys across the top of your keyboard. Please remember that you are rating a DIFFERENT imaginary person for each statement.

Results and Discussion

The units of analysis in Phase 2 were the attitude statements themselves. Each statement had four scores, each score representing a different rating scale. A mean

rating for each item was calculated on each of the four scales by averaging the ratings of the 20 subjects who saw that item. Multiple regression analyses were carried out for each of the four scales using SPSSx (Statistical Package for Social Sciences), in which the mean rating for each scale was the dependent measure and the MDS coordinates from Phase 1 for each statement served as the predictor variables. These regression analyses were used to help identify the appropriate labels for the two-dimensional solution. According to Rosenberg, "the multiple R provides a quantitative estimate of the degree to which a property actually corresponds to a dimension in the trait space" (Rosenberg et al., 1968, p. 285).

The results indicated that all R^2 values for the investigated labels were significant at $p < .001$ ($df=2, 96$) and, therefore, could be deemed acceptable, with the possible exception of Active-Passive which had the lowest R^2 values for both data sets. The four scales did differ in the amount of variability explained, and hence in their appropriateness as a label (see Table 3). In Data Set [A], L-C and T-R were clearly the best labels, while in Data Set [B], L-C and W-C were the best. Inter-scale correlations reveal a high degree of overlap for these particular sets of labels (see Table 4), particularly for L-C and T-R.²

It was concluded that the Liberal-Conservative label was the best label for Dimension 1. It accounted for the most variance in Data Set [A] and the second most variance in Data Set [B]. The Liberal-Conservative label has also been identified by other researchers (Button et al., 1993; Messick, 1956; Nelson, 1974).

Table 3

Multiple R and R² Values for Each of the Four Scales Used in Phase 2 to Suggest Labels for Communicating the MDS Configuration for Data Sets A and B

Scale	Data Set A		Data Set B	
	Multiple R	R ²	Multiple R	R ²
L-C	.898	.807	.826	.683
T-R	.886	.785	.778	.606
W-C	.821	.674	.875	.765
A-P	.606	.367	.554	.306

Note.

T-R = Traditional-Radical

L-C = Liberal-Conservative

W-C = Warm-Cold

A-P = Active-Passive

Table 4

Correlations Among the Four Scales for Data Sets A and B

	Set A			Set B		
	T-R	W-C	A-P	T-R	W-C	A-P
L-C	.91*	.54	.59	L-C	.88	.62
T-R		.34	.50	T-R	.40	.52
W-C			.52	W-C		.47

Note.

T-R = Traditional-Radical

L-C = Liberal-Conservative

W-C = Warm-Cold

A-P = Active-Passive

* All r values are significant beyond the .01 level.

It was also concluded that subjects were apparently unable to clearly label the second dimension on the basis of labels provided. Despite the fact that subjects used two dimensions in making similarity judgments of perceived attitudes, as evidenced by the MDS analysis in Phase 1, there does not appear to be a distinct label, based on the ones used in this study, that can be attached to the second dimension that will readily elicit its use by subjects. It is conceivable that this second dimension is an evaluative dimension (Osgood, Suci, Tannenbaum, 1957), to which a single label is not appropriate. The fact that the Warm-Cold label was at least as good as either of the other two labels supports this notion. Perhaps, therefore, a single label is not possible, or even appropriate, and the dimension is best labelled by a composite of several evaluative labels.

General Discussion

It was expected that the two-dimensional structure of perceived attitudes previously identified by Button et al. (1993), would emerge from a similar analysis of perceived sexual attitudes. It was also expected that the Liberal-Conservative and Traditional-Radical labels would be the most appropriate of the four examined. The first hypothesis was clearly confirmed. In both data sets, two interpretable dimensions were revealed by the MDS. Concerning the second hypothesis, Liberal-Conservative appears to be the appropriate label of one dimension, thus supporting previous work (Button et al., 1993; Grant et al., in press; Hoskins, 1994). There does not appear to

be a clear label for the second dimension since both Traditional-Radical and Warm-Cold may be capturing the possible "evaluative" nature of this dimension. The Traditional-Radical label is recommended as the "best" based on recent validations of this label (Grant et al., in press; Hoskins, 1994). It is important to be able to look beyond the issue of labelling to see the implications of this research. The MDS results were supportive of a dimensional understanding of implicit attitude theories. Subjects were able to form their own implicit attitude theory as to how sexual attitudes were related or unrelated. The results raise some interesting questions. How does the dimensional view of implicit attitude theories tie in with other models? Are there any applied implications for this type of research? Are alternative methods of labelling dimensions available?

Relationship to other Models

The activation model of Judd, Drake, Downing and Krosnick (1991) has implications for our understanding of perceived sexual attitudes. Judd et al. take the theoretical position that actual attitudes are structured in long term memory, and therefore retrieval is systematic (i.e., once an attitude is recalled the probability that related opinions will be activated increases substantially). It is plausible that this model is generalizable to the perception of other people holding certain attitudes. In attitude space, some attitudes are spatially close to one another as a result of a psychological similarity. The retrieval of one item in the attitude space should result

in activation spreading to other, spatially adjacent items. For example, in the MDS structure of the present study, the following perceived attitudes were spatially adjacent. "Bisexuals are sick individuals" and "I think male homosexuals are disgusting." Consequently, the perception that your friend believes bisexuals are sick should quickly lead to the activation of the perception that the same friend believes that male homosexuals are disgusting. In contrast, items that are distant from one another in psychological space should result in slower retrieval. For example, the following items were very distant spatially: "Sexual abusers ought to be given counselling, not prison sentences" and "Teen pregnancy is a result of high divorce rates." Therefore, the perception that a person holds one of these attitudes would not quickly activate the belief that the person also holds the other attitude.

The heuristic processing model by Chaiken (1980) can perhaps be applied to the structure of perceived attitudes as well. It is possible that people use a dimensional structure similar to that identified with sexual attitudes as a heuristic for judging other people's attitudes. The structural layout of attitudes in two-dimensional space can function as a way of organizing attitudes for specific individuals. For example, your best friend may have negative attitudes regarding abortion, and consequently, you organize these attitudes in space relative to possible attitudes on other issues. The spatial placement of any attitude is readily available to be used as a heuristic in drawing inferences regarding your friend. Unlike Judd's et al. (1991) model of spreading activation, Chaiken's (1980) heuristic processing model suggests

that even attitudes that are polar opposites ought to activate attitude perceptions. For example, knowing that a person believes that homosexuals should be allowed to hold church positions, must also mean that they do not believe that homosexuals need psychological or medical help. Selected sets of perceived attitudes could be used in future research to test the differential predictions of these two models.

Applied Implications of Implicit Attitude Theories

One of the goals of this thesis was to employ a diverse set of sexual issues to understand not only the relationship between similar sexual issues but also very different issues. It is certainly conceivable that if you knew someone's position on sex education, for example, that you could possibly predict their position on similar issues (such as premarital sex or masturbation), by applying an implicit attitude theory. Implications arising out of this research study may be used as an applied tool for marriage counsellors to help resolve problems of sexual intimacy in marriages. The marriage counsellor could use the structure of perceived sexual attitudes as a way of comparing how partners in a marriage perceive the sexual interest and attitudes of each other. Furthermore, a marriage counsellor who is aware of a problem of obtaining truthful answers, may ask a couple to respond to a less sensitive attitudinal item in order to possibly deduce their position on a related but different sexual issue (or check the truthfulness of the couples' statements). To do this, the counsellor would choose two attitudinal items that are spatially close (see Figures 2 & 3).

As well, the structural understanding of implicit attitude theories has implications on the issue of sexual intimacy. If a male or female misperceives the lack of sexual intimacy of their partner as being due to a lack of desire, as opposed to fatigue related to work, then problems in marriage may arise. The person may have failed to consider all the possible reasons underlying the observed change in sexual intimacy before forming an implicit attitude theory. Implicit attitude theories are advantageous as a perceptual tool but they may carry a degree of inaccuracy.

Alternative Approaches to Labelling Dimensions

The difficulty in labelling the second dimension may be the result of either the content itself (e.g., sexuality) or the procedure employed. Regarding content, it is possible that people have a difficult time labelling sexual issues and attitudes because of encumbering emotional, political, and cultural overtones. For the labelling procedure, subjects were given a series of four scale labels. This may not be the most appropriate approach because the possible labels were determined a priori by the researcher. Hence, alternative approaches that are less directive and more phenomenological in nature might be employed in future research on labelling dimensional solutions. One such alternative may be to use a method analogous to Kelly's Repertory Grid approach in the study of personal constructs (1955). In this procedure, subjects could be given sets of three statements, each statement representing a different quadrant in the MDS structure. Subjects would be asked to

identify which two items are similar to each other and different from the third. They would then be asked to describe how the two items are similar and how they differ from the third. The result might be a more accurate way of understanding an MDS structure.

Alternatively, subjects might be given two items from one end of a dimension and one from the other end to compare. Jones and Day discuss the implications of the grid method as, "... method[s] available to the researcher interested in understanding how an individual construes and interprets and organizes reality" (1977, p. 128). It is quite possible that the grid method may complement MDS analysis by aiding in the labelling process, as opposed to being considered a distinct method of studying the interpretation of a psychological space. Content analysis of labels that subjects generate for themselves is also an alternative (Hoskins, 1994).

The potential of these methodologies is limited because the data are qualitative and consequently less amenable to powerful statistical analyses. Also, regarding the labelling procedure, the present study adopted a procedure that, while designed to maximize subjects' discrimination of the labels, may have inadvertently done just the opposite. In Button et al. (1993), subjects rated each item on four scales, then went on to the next item. It is possible that this procedure might unduly enhance the correlation between the scale labels. In the present study, subjects rated all items on one scale before going on to the next scale. However, having gone through 99 items on one scale, subjects might, despite the change in labels, simply have carried on

using "the scale in their heads" for the second, third and fourth time through the items. If so, this could explain the very high correlations between the scale labels.

Given that, the labelling procedure itself may be problematic, and if future research continues to indicate problems with labelling dimensions, it may be best simply to apply neutral labels such as Dimension 1 and Dimension 2. Labelling is not necessary for interpretation of a MDS analysis, rather, it may be more appropriate to think of labelling as a method of communicating a dimensional structure. While subjects are not always able to communicate dimensional labels, it seems clear that they can and do use dimensions. On the basis of the evidence of this study and other studies mentioned, researchers should not feel it inevitably necessary to impose labels on subjects to interpret a structure.

Directions for Future Research of Implicit Attitude Theories

Future research should continue to investigate the structure of perceived attitudes, specific as well as diverse. For example, the structure of other attitude domains (e.g., health) needs to be studied, as well as domains more specific than the one used in the current research (e.g., attitudes toward homosexuality). If researchers continue to observe a two-dimensional solution with increasingly restrictive attitude domains, then this could be taken as evidence of a fractal structure often observed in the physical and biological sciences (Briggs & Peat, 1990). The structure of a fractal

object is such that as one looks deeper and deeper into its composition, one observes a self-similarity identical to that which was initially observed.

Future avenues of research should also include the investigation of implicit attitude theories as they relate to stereotypes, the effects of age and cultural influences on implicit attitude theories, gender differences, factors which impact on the accuracy of implicit attitude theories, and the extent of conscious awareness on the part of subjects applying such implicit theories on the perceived attitudes of others. Note, this list is not exhaustive.

Conclusion

In summary, the main objective of this thesis was to test the two-dimensional structure identified by Button et al. (1993) using a more restricted attitudinal set, namely perceived sexual attitudes. The results indicated a two-dimensional solution that was even clearer than that originally identified by Button et al. and supportive of the perceptual process identified by Bruner and Tagiuri (1954) and generalized to the notion of implicit attitude theories. The results were also interpreted as consistent with the spreading activation and heuristic processing models of Judd et al. (1991) and Chaiken (1980), respectively. As well, possible applications of this type of research were discussed. Labelling of the dimensions, however, remains a challenge for future research and suggestions for alternative methods were provided.

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Footnotes

¹Knowles, Jarvis, and Starr (1990) also designed an automated system to aid in the collecting of sort data to be used for purposes of multidimensional scaling analysis. The programme designed by Button et al. (1993) is capable of sorting data sets with no specified upper limit, whereas the Knowles et al. (1990) programme was limited to 45 objects.

²Regression weights were used to represent each of the four scales by a line through the coordinate space generated by the MDS analysis. The objective was to find a line through the origin of the attitude space so that the projections of the data points on this line correlated as highly as possible with the scale ratings. For each external scale an angle was calculated relative to the vertical MDS axis. The differences among the angles indicates the degree of orthogonality between the scales. A high angle indicates greater orthogonality, while a smaller angle indicates less orthogonality. The results indicated that the angle between the Liberal-Conservative scale and the Warm-Cold scale was 58° in Data Set [A] and 38° in Data Set [B]. The angle between the Traditional-Radical scale and the Warm-Cold scale was 46° angle in data set [A] and 51° angles in data set [B]. The Liberal-Conservative and the Traditional-Radical scales had an angle of 12° in data set [A] and 12° in data set [B].

Appendix A

Instructions For Writing Good Attitude Statements

- 1) Each item should be a clear expression of positive or negative attitude toward the social object.
- 2) One way to generate attitude items is to think of different arguments (pro and con) on the issue.
- 3) Each argument can then be converted into a separate attitude statement.
- 4) On any particular issue try to generate one positively-worded item and one negatively-worded item.
- 5) Each attitude item should be short, no longer than 15 words.
- 6) The fewer the words the better the statement is likely to be.
- 7) It should consist of a single statement.
- 8) The language should be direct, clear, and simple. Avoid the use of difficult words, as well as the use of slang. The statement should be worded in the present tense.
- 9) The statement should contain only one complete thought. Avoid "double-barrelled" statements, which contain both positive and negative thoughts or two separate thoughts. For example, university admission standards should be raised to reduce overcrowding. There are really several distinct issues here.
- 10) Avoid items which contain a double negative. For example, homosexuals should not be allowed to teach students which are not over the age of eighteen. It is difficult to work through a double negative statement.
- 11) Avoid the use of factual statements which someone could endorse regardless of their opinion on the issue. A factual statement can usually be converted into a usable item by inserting the word 'should' into the statement. For example, most colleges should have intercollegiate athletic programs.
- 12) Try to avoid overlap between the items for a particular issue.

Appendix B

Attitude Statements Categorized By Issue**Premarital Sex**

Premarital sex at an early age can leave emotional scars.

Premarital sex at an early age is a sign of normal curiosity.

Premarital sex should be up to both partners.

Premarital sex happens too easily and too often.

Premarital sex is okay under most circumstances.

Unlimited premarital sexual experience is fine.

It is all right to have a limited amount of premarital sexual experience.

Sex is permissible only within marriage.

Sex before marriage is okay only if the partners plan to marry each other.

Premarital sexual intercourse for young people is unacceptable to me.

Students who do not have sexual intercourse before marriage are strange.

Premarital sexual intercourse is immoral.

Sex before marriage is a sin.

Premarital sex will spoil the marriage.

Nobody expects to marry a virgin.

Most young men still consider it very important for a woman to stay a virgin until marriage.

Homosexuality

Homosexual clergy should not be permitted to preach.

Homosexual clergy should have the freedom to live their life the way they wish.

Homosexual relations are just as acceptable as heterosexual relations.

Homosexual behaviour is an acceptable variation in sexual preference.

I think homosexuals need psychological or medical help.

If I were a homosexual, I would be careful not to let anyone know.

Homosexuals contribute positively to society.

Homosexuality is disgusting.

Homosexuals are just as moral as heterosexuals.

Homosexuals should have equal civil rights.

Homosexuals corrupt young people.

Homosexuality is a sin.

Homosexuality should be against the law.

Homosexuals should be isolated from heterosexuals.

If I found out one of my friends was a homosexual, our friendship would be severely damaged.

Homosexual acts should be illegal.

Homosexuals should not hold leadership positions.

Lesbians just can't fit into our society.

Lesbians are sick.

I think male homosexuals are disgusting.

Male homosexuals should not be allowed to teach school.

I would be upset if I learned that my son were a homosexual.

The idea of male homosexual marriages seems ridiculous to me.

Homosexual behaviour between two men is just plain wrong.

If a homosexual asked me for a date, I'm within my rights to physically attack that person.

Homosexuals should not be allowed to express their views in newspapers and magazines.

Schools should not hire teachers who are openly homosexual.

Homosexuals are genetically defective.

An employer should have the right to refuse employment to homosexuals.

Homosexuals should be allowed to hold church positions.

Homosexuals should be arrested for public displays of affection.

Sexual preference should not be a factor in employment opportunities.

Homosexuals should not be permitted to participate in team sports.

Homosexuals should not be permitted to teach school-age children.

Homosexuality should be considered an acceptable way of life.

Homosexuals should not be allowed to work in community service activities.

People should not be discriminated against because they are homosexuals.

Homosexuality is a sickness of our modern society.

Abortion

Abortion is the right of every woman.

There is no good reason for having an abortion.

Abortion is terrible.

Abortion should be made available whenever a woman feels it would be the best decision.

Laws making abortions illegal should be repealed.

Abortion is murder.

Sex Education

Sex education should be provided in schools.

Sex education is good for individuals.

Sex education must be a priority for all students.

Sex education programs in schools do not begin early enough.

Sex education should be the responsibility of parents.

Sex education encourages kids to have sex.

Sex education does not belong in the schools.

Sex education for young people is of little value

Sex education should be considered essential in schools.

Sex education should not be feared by parents.

Sexual Abuse, Assaults, Violence, & Rape

Child molestation is disgusting.

Incest of any type is unacceptable.

Every victim of incest should be put into psychological care immediately.

Parents should warn their children about sexual abuse at an early age.

The amount of sexual abuse going on is greatly exaggerated.

There should be a greater social support system for victims of sexual assault.

The sentences for people convicted of sexual assault should be longer.

Anyone convicted of sexual abuse ought to be locked away for life.

Sexual abusers ought to be given counselling, not prison sentences.

Teachers should be closely monitored to prevent sexual abuse in the schools.

Child sex abusers can be rehabilitated.

School teachers should be trained to help identify child sexual abuse.

Sexual violence toward women should be punished.

Sexual violence toward women should get more publicity.

Persons convicted of date rape should receive mandatory counselling.

It is possible for a husband to rape his wife.

A man who commits rape should be castrated.

Sexism/Sexual Inequality/Sexual Exploitation

True equality between the sexes is impossible.

Men are solely responsible for the sexual exploitation of women.

Sexism is often taken too seriously by feminists.

Topless bars exploit females.

Extramarital Sex

Extramarital sex affects the marriage in a negative way.

Extramarital affairs are all right as long as one's partner doesn't know about them.

Extramarital affairs are unacceptable.

One sign of how the Country is going downhill is the way married people are no longer faithful to each other.

Birth Control & Teenage Pregnancy

Adolescent pregnancy is a serious problem.

Teen pregnancy is a result of high divorce rates.

Birth control is part of responsible sexuality.

A women should take responsibility for birth control.

A man should take responsibility for birth control.

Having contraceptives available increases promiscuity.

With the new means of birth control, people feel much freer about having sex.

A sexually active person should use birth control as a matter of course.

Prostitution

Prostitution should be accepted by society.

Prostitution should be legalized.

The government should be doing more to stop prostitution.

Prostitution is destructive to society.

Prostitutes upon conviction should receive long jail terms.

Prostitutes are immoral people.

Sexual Techniques

Sexual fantasies often enhance a sexual relationship.

Using "sex toys" during love-making is abnormal.

Using or hearing "dirty" sex words is sometimes a turn-on for me.

Masturbation is a normal sexual outlet.

Penile-vaginal intercourse is better than oral sex.

Phone sex is a safe and healthy outlet for sexual desires.

I am uncomfortable about masturbation.

I could live quite well without sex.

Sexual Transmitted Diseases

Catching a sexually transmitted disease is a result of carelessness.

Prevention of sexually transmitted diseases is the responsibility of both partners.

I never worry about getting a sexually transmitted disease.

A person who gets a sexually transmitted disease is probably getting exactly what he/she deserves.

The threat of unprotected sex is over-rated.

Sexual Permissiveness/ Nudity

There is nothing wrong with having multiple sex partners.

People with multiple sex partners lack moral standards.

People with multiple sex partners have the advantage of variety.

I would feel comfortable having intercourse with my partner in the presence of other people.

Nudist camps should be made illegal.

Nudity should be banned.

All public beaches should be open to nudists.

I do not need to be committed to a person to have sex with him/her.

Casual sex is acceptable.

I would like to have sex with many partners.

One-night stands are very enjoyable.

Sexual Guilt/ Sexual Problems

Sex is natural; one should never feel guilty about it.

I sometimes wish I were not sexual at all.

Sometimes I am ashamed of my sexuality.

Religiosity is the cause of sexual guilt.

Sexually Explicit Material/ Pornography

Sex on television should be prohibited.

Our government should try harder to prevent the distribution of pornography.

Pornographic literature should be outlawed.

Pornography can improve the sex lives of people who view it.

There should be no laws forbidding the distribution of pornography.

Pornographic material should not be sold in Canada.

There should be mandatory parental warnings for shows with sexual content.

Viewing sexually explicit material is one's own business.

AIDS

I wouldn't mind being in the same room with someone who had AIDS.

If I found out a friend had AIDS, I would be afraid to hug him/her.

I would object to sending my child to a school which had a child who has AIDS.

The seriousness of AIDS is greatly overblown by the media.

I am worried about catching AIDS in a public restroom.

Procreation

Procreation should be the sole purpose of sex.

Procreation should take a back seat to the true pleasures sex has to offer.

The main purpose of sex is to conceive children.

Procreation should not be the sole purpose of sex.

Bisexual/Transvestism

Transvestites should be imprisoned.

Transvestism is a normal way to express sexual desire.

Bisexuality is not immoral.

Bisexuals are sick individuals.

Bisexuality is a mental disorder.

Sexual Satisfaction/Dissatisfaction

Sex should be mutually desired by both partners.

Orgasm is the greatest experience in the world.

Sex is not always satisfactory.

It is perfectly all right to enjoy sex for its own sake.

Life would be better if everyone could have good sex every day.

One of the best things about sex is giving pleasure to the other person.

Sex is fundamentally good.

Sex is best when people approach it as good physical release.

To have good sex, two people have to know each other pretty well.

Sex for its own sake is perfectly all right.

The best sex is with no strings attached.

Life without sex would be very dull.

Sex is best when you let yourself go and focus on your own pleasure.

In order for sex to be good, it must also be meaningful.

It is possible to enjoy sex with a person and not like that person very much.

The first time you have sex with someone is the most exciting.

Sex is best when it is carefully planned.

Sex is best when one keeps the emotions under control.

Sex can get boring.

Sex without love is meaningless.

Sex is more fun with someone you don't love.

Sexual Consent

Any sexual activity is okay if both partners agree to it.

A woman dressed provocatively has already given sexual consent.

Flirting cannot be considered sexual consent.

Once a woman kisses a man, she cannot refuse to have sex.

Sex & Power/ Sexual Harassment/ Sexual Aggression

Sex is a commodity of human exchange, just like any other valuable commodity.

It's okay to use sex to gain dominance over another.

Good sex gives one a feeling of power.

To create sexual desire in someone is one of the best ways to dominate that person.

The most exciting part of sex is the initial conquest.

Sex has nothing to do with power.

Sex and power are highly related.

Sex should occur between equals, not when one person has power or authority over the other.

Sexual harassment is the fault of the employee.

Dressing promiscuously is the cause of sexual harassment.

Sexual harassment in the workplace is no big deal.

It is acceptable for a co-worker to make sexual advances at work.

Sexual aggression is a deviant male flaw.

Women should be more sexually assertive.

Appendix C

Prime Statements For Data Set [A]

1. If I found out one of my friends was a homosexual, our friendship would be severely damaged.
2. Abortion is the right of every woman.
3. Homosexuals should not be permitted to participate in team sports.
4. Men are solely responsible for the sexual exploitation of women.
5. One sign of how the Country is going downhill is the way married people are no longer faithful to each other.
6. Transvestites should be imprisoned.
7. Orgasm is the greatest experience in the world.
8. Sex for its own sake is perfectly all right.
9. In order for sex to be good, it must also be meaningful.
10. The most exciting part of sex is the initial conquest.

Appendix D

Prime Statements For Data Set [B]

1. Premarital sex will spoil the marriage.
2. Sex education is good for individuals.
3. Homosexual behaviour is an acceptable variation in sexual preference.
4. Incest of any type is unacceptable.
5. There should be no laws forbidding the distribution of pornography.
6. I wouldn't mind being in the same room with someone who had AIDS.
7. Sex should be mutually desired by both partners.
8. Sex can get boring.
9. To create sexual desire in someone is one of the best ways to dominate that person.
10. It is acceptable for a co-worker to make sexual advances at work.

