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Attitude and Psychophysiological Response Changes of Female Social Work Students Following Human Sexuality Training

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ATTITUDE AND PSYCHOPHYSIOLOGICAL RESPONSE CHANGES OF FEMALE SOCIAL WORK STUDENTS FOLLOWING HUMAN SEXUALITY TRAINING

by

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VITA

The author, Joseph Lassner, was born in Brooklyn, New York on February 4, 1926.

Following graduation from Talmudical Academy High School of Yeshivah College in New York City, in January, 1943, he attended Brooklyn College and was granted a Bachelor of Arts Degree in June, 1947. He attended the University of Pennsylvania School of Social Work in Philadelphia and was granted the degree of Master of Social Work in June, 1950.

Lassner was appointed to the faculty of the Loyola University of Chicago School of Social Work in September, 1969 and is currently an Assistant Professor of Social Work at that school. Prior to that he was Senior Regional Consultant for the Mid-West Region of the National Jewish Welfare Board. Lassner has served in a variety of social work positions from direct service practitioner to executive director in social agencies in Brooklyn, New York; Stamford, Connecticut; Rochester, New York; and Brockton, Massachusetts.

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Chapter I

INTRODUCTION

During the past ten to fifteen years human sexuality has emerged into public awareness in a variety of areas. Whatever the causes of this development might be, it is apparent that the general American public, and the various helping professions which provide service to that public are more involved with the discussion of human sexuality than at any other time in this century. This phenomenon is discussed in Chapter II.

It is reasonable, then, that considerable attention and research in human sexuality training for human service professionals has emerged during this same period of time. As early as 1948, Kinsey (1948) noted that "social workers are involved with sexual problems even more often than physicians." By 1970, Masters (1970) estimated the 75% of all sexual problems are treated by four professions other than medicine; one of these four is social work.

There is generally wide acceptance in the literature that the training of helping professionals, including social workers, requires an affective component in addition to a cognitive and a skills component. This affective component has been variously interpreted and labelled as: helping the trainee to be comfortable with issues of sexuality, sensitization (or desensitization) of trainees, helping trainees to examine and become aware of their own sexual attitudes and values, and helping trainees to be accepting of sexual values, beliefs and practices different from their

own (Carrera and Rosenberg, 1973; Johnson and Matek, 1974; Starsten, 1977). One method of achieving this affective goal is the Sexual Attitude Reassessment (SAR) program, a massed practice week-end training program.

Quantitative examination and analysis of sexual attitudes and attitude changes has been a concomitant area of interest and concern. Quantification of trainee attitudes has been achieved using self-report as well as psychophysiological instruments. In the area of sexual attitudes, consideration has been given to the personality trait of sex-guilt as one important factor which interacts with other factors and affects the sexual attitude of trainees. This trait has often been measured through use of a self-report instrument.

The current study focuses on quantification of the affective responses of graduate social work students to sexually oriented visual stimuli. Forty women students, matriculated in the graduate School of Social Work of Loyola University of Chicago, were randomly assigned to four groups of ten each. Two experimental groups attended an SAR week-end program at Northwestern University Medical School and two control groups did not. One experimental and ore control group completed both pre and post-tests, while the other experimental and control groups completed only post-tests. Results of three of the four attitude scales on the Sex Knowledge and Attitude Tests (SKAT)(Lief and Reed, 1972) were examined and analyzed as were scores on the sex guilt scale of the Mosher True-False Guilt Inventory (MTFGI) (Mosher, 1966). Psychophysiological measures were taken using a polygraph to record galvanic skin response (GSR) and finger pulse of the subjects while they viewed four sexually oriented slides projected on a screen. State of guilt and state of arousal scores, based on self-reports of the subjects before and after viewing the slides, were examined, as were personal preference ratings of the subjects for each of the slides.

This study attempts to respond to the following research questions:

Question 1

Can statistically significant changes in physiological response be found after experimental subjects complete an SAR training program?

Question 2

Can statistically significant changes in attitude, as measured by three of the four SKAT attitude scales, be found after the experimental subjects attend the SAR program?

Question 3

Will each of the measures of change be positively correlated with the sex guilt scores of the MTFGI?

Question 4

Will there be a significant decrease in the states of guilt and arousal from pre-test to post-test scores for the experimental group?

Question 5

Will there be significant interaction between type of group, level of guilt and type of stimulus situation in examining the preference ratings of the visual stimuli?

Chapter II

REVIEW OF THE LITERATURE

Professional Training in Human Sexuality

Although sexual precepts have been taught throughout history, training in human sexuality for American human service professionals is generally accepted to have begun in the 1960s. Maddock (1976) traced the beginning of this development to the early 1960s. Maddock noted that the Sex Information and Education Council of the United States (SIECUS) made a concerted effort to promote "sexuality as a health entity" and to legitimize its inclusion in the curricula of the nation's schools. Courses in human sexuality in teacher preparation programs in colleges and universities grew from a handful in 1960 to over 30 in 1968 and well over 50 in the mid 1970s (Schulz and Shimmel, 1968; Summer Courses, 1974). Lief and Ebert (1974) report that only three medical schools had such programs in 1960. These had grown to 30 in 1968 and, by 1973, nearly every medical school in the United States offered some kind of sex related instruction. In a similar study of graduate schools of social work, Murphy (1976) reports that the first such course was offered as a discrete class in the mid 1960s and, by 1975, 55 of the 85 accredited schools of social work in the United States offered courses in human sexuality.

Prior to the 1960s, American society placed a relatively large number of restrictions upon sexual behavior. Gotwald and Golden (1981) traced the development of these restrictions through Western history, starting with biblical

instruction on sexual behavior through the ancient Hebrew tradition, the Greco-Roman tradition, the Christian attitude as taught by Paul and Augustine, the Protestant tradition as developed in the Reformation, the influences of the Puritan ethic in the early days of the United Stgatges, and tghe Victorian attitudes of the past century. By the beginning of this century, then, a pattaern of sexual attitudes had emerged which valued monogamy, restricted discussion of sexual issues and presented a set of absolute rights and wrongs (Gochros and Kunkel, 1979).

Contemporary American society, however, is currently experiencing a state of change in this area. Restrictions on sexual activity appear to have lessened in large measure and the "sexual revolution" has become a subject of discussion and study in the professional literature as well as the popular media (Gochros and Kunkel, 1979; Gotwald and Golden, 1981).

A number of factors appear to have contributed to this changing pattern. The work of Freud made sexuality a subject for study and discussion as did the later work of Kinsey and Masters and Johnson (Gotwald and Golden, 1981). Two major world wars took place; research and development in medicine, transportation, communication, and other technologies were stimulated. These developments, in turn, have effected or contributed to many other changes in society. The automobile made possible an increase in privacy for male-female contact and medical science provided improved treatment for venereal disease as well as more reliable means of birth control. Many other social changes also contributed to liberalized sexual mores (Gagnon and Simon, 1973).

Gagnon and Simon (1973) offer a number of additional factors, in the psychosocial area, which contributed significantly to this rapid change. These include: the economic movement from scarcity to affluence; the emergence of social movements with sexual side effects such as the "youth movement," the women's movement, and the political revolutionary movements of minority ethnic

and racial groups; the emergence of specifically sexual social movements challenging existing laws and general societal values in such areas as marriage, homosexuality, and monogamy; the erosion of rigid gender differences; and the eroticization of the social backdrop, particularly in the public media.

The above described developments, in turn, contributed to a number of changes in sexually related societal behavior. The number of divorces and remarriages as well as premarital and extramarital sexual contacts increased as did the number of out-of-wedlock births. The public media regularly report and discuss activities such as homosexual demonstrations for equal rights. Do-it-yourself sex manuals are available on open shelves in book stores and libraries. National groups for and against abortion have grown. And perhaps, it is "not the least among the social changes that many of these topics are even admitted into serious discussion" (Gochros and Kunkel, 1979).

In light of all these changes, it is logical that the human service professions would be faced with the need to reexamine, and subsequently increase, the quantity and quality of specific training in human sexuality in professional education.

Medical Education

Medical schools were the pioneers in inclusion of formal training courses in human sexuality in their curricula, as indicated earlier in this chapter. While anatomy of the genitalia has traditionally been part of the learning context of all medical schools, major contributions to the study of the psychological aspects of sexuality were made by Freud and Kinsey.

Freud's major contribution in this area was the legitimization of the study of sexualilty in the training of psychiatrists and psychoanalysts. Freud's work, focusing on human motivation, was a major influence in shaping theoretical models of human development (Gagnon and Simon, 1973).

Kinsey's contribution was the development of a research methodology which was useful in the collection of data on human sexual concerns and behavior. Kinsey's work provided the "largest body of empirical data about sexual behavior" in history (Gagnon and Simon (1973)).

Ray (1970) points out that, because of social taboos and prejudices, the scientific research of Kinsey and others was limited to interview studies for the most part. Ray goes on to say:

> There have been many criticisms of the interview approach, but until the publication of Human Sexual Response (Masters and Johnson, 1966), more direct observational techniques were almost as taboo as was the topic of sex twenty years earlier. The work of Masters and Johnson provided an impetus for sex research, and in the last five to six years the development of quantifiable physiological methods for measuring sexual arousal in humans has added additional impetus.

Ray's description of the social context in which sexuality could be studied, therefore, suggests a reason why the curricula of medical schools and other human service training programs did not, for the most part, begin to include human sexuality courses until the late 1960s and early 1970s. Descriptions of the development of such courses and related research reports and evaluations begin to appear in the literature in significant quantity following the publication of the works of Kinsey (1948) and even more so following Masters and Johnson (1966).

In 1968, The Center for the Study of Sex Education in Medicine was established in Philadelphia, Pennsylvania. Its function was to "collect, evaluate, and disseminate information on sex-education curricula at various medical schools, and to assist schools in designing the most effective curricula and teaching materials." By April, 1974, the number of sex-education programs in medical schools grew from approximately 30 to over 100 (Lief and Karlen, 1976).

The Sex Knowledge and Attitude Test (SKAT), an omnibus instrument designed to be used in a range of teaching and research situations, was developed by Lief and Reed in 1972. This instrument will be discussed in some detail in Chapter III. The development of the SKAT helped make possible the systematic evaluation of various human sexuality courses and training programs. The reported results have been mixed. Nevertheless, the SKAT continues to be the instrument most often used in the measurement of sexual knowledge and attitudes in studies of medical students as well as trainees in other helping professions.

Using the SKAT, Garrard and Vaitrus (1972) evaluated the results of a pilot program in human sexuality at the University of Minnesota Medical School. They reported significant increases on the knowledge scale and on the other four scales (hetrosexual relations, sexual myths, autoeroticism, and abortion). As a result of this study, the school permanently adopted the pilot project, a two day workshop for Educational and Attitudinal Reformation, and it is credited with pioneering the massed format two day workshop approach (Maddock and Dickman, 1972). While increases in knowledge and attitude scores were significant, the changes in attitude scores were greater than the knowledge scores. As a result, the school added a two week didactic program designed to raise the knowledge score increases to the level of the attitudinal scores increases.

Similar increases on all SKAT scale scores were reported as a result of tests given at other medical schools which offered similar training programs in human sexuality (Mims, Yeaworth, & Hornstein, 1974; Mims, Brown, & Lubow, 1976; Lamberti & Chapel, 1977). The SKAT was also used by Hadorn and Grant (1976) with similar results. Of particular note in this study was the fact that in addition to administration of pre and post tests to

medical students who attended a training program, SKAT pre and post tests were administered to a matched control group which did not attend the program. The experimental group scored significantly higher than did the control group on all post test scale scores.

Marcotte, Geyer, Kilpatrick, and Smith (1976) reported testing 159 first year medical students over a semester's course requiring students' attendance on a weekly basis. Test results showed an increase in knowledge as well as in attitudinal tolerance of others but no major changes in personal styles of thinking. Marcotte and Logan (1977) compared knowledge and attitudes of a sampling of medical and law students. Results revealed that while in a similar earlier study no significant differences were found in knowledge or attitudes, in this later study the law students had greater knowledge and more tolerant attitudes than the medical students. Marcotte used these data to reinforce the necessity for increased medical sex education.

Alouf (1978) describes the development of the Sexual Attitude Reassessment (SAR) workshop at the medical school of Northwestern University in Chicago. In addition to the 16 hours weekend workshop, a human sexuality lecture series of some 13 two hour didactic sessions is available to medical students, as is an advanced program in sex therapy skills. The 16 hour SAR weekend workshop program consists of a variety of films, small group discussions with training facilitators, panels on "alternative lifestyles", and lectures. Small group sessions focus on self-awareness, participants' own responses to the material presented, and an examination of their own attitudes. Over several years time, and based on pre and post test SKAT scores, Alouf reports that results from four different SAR offerings, involving 160 medical students, demonstrate that the program is achieving its goals. Significant increases in post-test scores show "increased tolerance

toward different points of view, as well as an increase in the acceptance of other people's sexual choices, orientation, and life-styles". Further, Alouf reports that the SKAT findings are supported by the subjects' self-reports in the SAR evaluation forms. The details of the SAR program will be discussed in Chapter III as the "treatment" given to experimental subjects in the current research.

Mandel (1976) administered the SKAT to 500 undergraduate students at the same university. Upon completion of the SKAT, all students who took the test were invited to participate in a one day human sexuality workshop similar to the SAR but using abbreviated components. Fifty-seven students took advantage of the offer. Mandel's findings indicate that the "workshop participants knew more about sex, had more liberal attitudes, and felt more adjusted sexually than their peers" who chose not to attend the workshop. These results were obtained from the test prior to any of the participants' involvement in the workshop. Mandel suggests that people with more knowledge and open attitudes are willing to take voluntary training in the subject. This latter possibility may have significance in consideration of the results of the current research, where all subjects, experimental and control, volunteered to participate in the study with the understanding that half of the volunteers would be randomly assigned to attend a two-day SAR workshop.

Social Work Education

The development of specialized coursework in human sexuality for social workers closely parallels, but historically follows, the developments in medical education by a few years. Sexuality, as part of human development, has long been a part of the professional education curriculum in schools of social work. However, specific coursework in human sexuality began to

appear in social work curricula in the mid 1960s (Murphy 1976). Issues such as varying theoretical stances, practice domains, intervention versus prevention, accountability, and others, have tended to "obscure the emergence of specific areas of expertise, such as knowledge of human sexuality" (Brashear 1976). The pace of development of courses in human sexuality suggests that social workers and social work educators have been subject to the same societal pressures and taboos that have faced their clients. "In this culture, 'nice people don't talk about sex'" (Brashear 1976).

In a study of graduate schools of social work, Murphy (1976) reported that the first discrete course in human sexuality was offered in the mid 1960s and by 1975, 55 of the 85 accredited schools of social work in the United States offered courses in human sexuality. The first social work textbook on the subject, Human Sexuality and Social Work, edited by Gochros and Schultz, wasn't published until 1972; and it was Gochros (1970) who argued for the addition of discrete courses in human sexuality to the curricula of graduate schools of social work.

The first social work program for the study of sexuality was founded at the University of Hawaii School of Social Work in 1975 (Kunkel, 1979). Its purpose parallels that of the Center for the Study of Sex Education in Medicine which was established some seven years earlier (referred to earlier in this chapter). Both were established for the purpose of improving professional training in human sexuality within their respective fields.

A number of studies report that social work students score lower on tests of sexual knowledge and attitude than other groups (Abramowitz, 1971; Carrera and Rosenberg, 1973; Starsten, 1977; Manes, 1978). A study of 40 social work students (Abramowitz, 1971) compared their sex knowledge inventory scores with those of other professional students and revealed lower

knowledge scores than students representing law, medicine, and nursing. Second year social work students did not fare significantly better than first year students. Abramowitz concluded that graduate schools of social work should orient curricula to close this gap.

In an attempt to close the gap created by the earlier lack of human sexuality training in graduate social work curricula, Carrera and Rosenberg (1973) developed an inservice education program for social workers already in practice. Three areas of training were included: a cognitive component, an affective component, and a skills component. The program was evaluated by participants as quite useful in helping them to increase their diagnostic and treatment skills and allowing them to develop more comfort in eliciting material dealing with sexual functioning in client interviews.

In a comparative study of 70 social workers who dealt with general marital problems and seven specialists who dealt with marital sexual dysfunctioning only Starsten (1977) found that the specialists scored significantly higher than the generalists in the four areas of practice studied. These included sexual knowledge, sexual values, special practice theory, and interventive repertoire. Starsten concluded that since the generalists dealing with marital issues invariably were faced with sexual issues of their clients, it was most important that coursework in this area be included in their professional training.

Manes (1978), in a comparative study of graduate students in psychology, counseling, and social work, used the SKAT to assess sexual attitudes, knowledge, and experience. Results indicated that psychology students were more liberal in their sexual attitudes and experiences, rejected sexual myths more often, and had more factual knowledge. Psychology students were followed by social work students and counseling students were

last. Manes concluded that although there is a disparity among the three groups, even the highest scoring psychology students scored relatively low as compared to the SKAT norming groups. Therefore, it was important that the professional training of counselors, psychologists and social workers be strengthened in the area of human sexuality.

Massed Versus Distributed Practice

Learning theory generally suggests that distributed or spaced practice over an extended period of time and interspersed with other activities leads to better performance than massed practice concentrated in a relatively short period of time (Clifford, 1981). In support of this statement, Clifford refers to research by Underwood (1969), Ciccone (1973), Shaughnessy, Zimmerman, and Underwood (1974), and Hintzman (1974).

Underwood (1969) reported on six learning experiments comparing distributed practice and massed practice methods of learning new words. Results indicated that subjects who had used distributed practice had significantly greater recall of the learned words than did the massed practice subjects. Underwood concluded that the results contradicted the "total time" hypothesis of Cooper and Pantle (1967). Cooper and Pantle had hypothesized that "...a fixed amount of time is necessary to learn a fixed amount of material, regardless of the number of individual trials into which the time is divided." They developed this hypothesis based on a review of learning research, but offered no experimental data to support it. Ciccone (1973) extended the work of Underwood on recall performance to generalization of verbal discrimination and again found that subjects who had distributed practice performed better than those who had massed practice. Similar support for this thinking was developed by Shaughnessy et al (1974) in a research project involving learning of paired words. Hintzman (1974) offered

a theoretical explanation for these findings, suggesting that distributed or spaced practice allows for more time and encourages more rehearsal than does massed practice.

On the other hand, Waechter (1966), and Braffet (1976) report apparently contradictory findings. Waechter (1966) studied the effects of distributed versus massed courses in an Elements of Earth Science Course.The findings showed no significant differences between the two groups in change scores (post minus pre test) reflecting achievement, retention, and attitudes toward science. Braffet (1976) studied differences between the two formats in an experiment involving training special education teachers to produce classroom materials through a self-instruction multi-media model. Braffet concluded that spacing over a period of time "did not result in significant differences in either higher performance or more positive attitudes over the single massed learning version of the program."

While the findings of Waechter and Braffet appear to be contradictory to the findings of Underwood, note must be taken of the different types of learning involved in the various experiments. Underwood's work, and the work of those whose findings support it, appears to have involved cognitive learning of simple tasks. Waechter and Braffet, on the other hand, experimented with much more complex tasks and included measurements of attitude as well as cognitive learning.

In the area of professional training in human sexuality, minimal research can be found which offers systematic quantitative data supporting one position or the other. One such experiment is reported by Vines (1974). Vines studied differences in outcomes between students who participated in a massed course, students in a distributed course and students in a control group which received no training at all. While both experimental groups

showed significant increases in knowledge and liberalization of attitudes as compared with the control group, no significant differences appeared between the scores of the two experimental groups.

Maddock and Dickman (1972), Mims et al (1974, 1976), and Lamberti and Chapel (1977) all report increased knowledge and more accepting attitudes as outcomes of massed workshops of two, three and five days duration. On the other hand, similar results are reported by Gochros (1970), Johnson and Matek (1974) and Marcotte et al (1976) in reviewing sexuality courses distributed over the traditional semester or quarter. The matter of choice of format is either not addressed, or is a matter of preference or convenience. For example, Marcotte et al (1976) suggest that a spaced program is as effective as a massed program and better suited to medical school scheduling.

Further, at least two programs are described which combine massed and distributed training programs, at the University of Minnesota Medical School (Garrard et al, 1972) and the Northwestern University Medical School (Alouf, 1978). Both offer two day workshops essentially designed for attitude reassessment. These are followed by spaced didactic programs of two weeks duration at the University of Minnesota and a full academic semester at Northwestern University.

Thus, there appears to be no compelling evidence, as yet, supporting distributed practice over massed practice in the area of human sexuality training for helping professionals. The weight of data in other learning research suggests that distributed practice may be more effective for cognitive content. However, in the affective area, there appears to be little evidence to support either position over the other.

Therefore, because the current research project focuses on attitude change, it would appear to make no difference which format is selected for the "treatment." As a matter of time convenience and availability, this author has chosen to use a massed practice program, the Sexual Attitude Reassessment (SAR) program of Northwestern University as the "treatment" for experimental groups. This program will be discussed in detail in Chapter III.

Attitude Change as an Instructional Goal

It has generally been recognized that because the training of helping professionals has as its ultimate goal the improvement of service to the client or patient, the training program in human sexuality must focus on attitudes of the learners as well as on acquisition of knowledge and development of skill in the training content. For purposes of this study, attitude change in the context of human sexuality training for social workers and other helping professionals is viewed as having two component goals. The program must help the trainee to examine his or her own attitudes and values in the sexual area and to develop awareness, understanding, and comfort with these. Additionally, it must help the trainee to develop acceptance of a broad range of sexual values, preferences, and behaviors representing the range of client experiences. "Dealing with value conflicts has long been a concern of social work..." (Brashear, 1976) and a favorite cliche of social workers involves the need to "start where the client is". In order to intervene effectively, the social worker must be comfortable in dealing with issues of sexuality, aware of his or her own values and able to accept the potentially differing values and experiences of the client.

Little research, but much theoretical thinking, appears in the literature concerning the relative importance of the cognitive, affective, and skills

components of specialized learning in human sexuality. Carrera and Rosenberg (1973), Maddock (1976), and Lamberti and Chapel (1977), for example, articulate what appears to be a thrust for equal balance of all three factors in training helping professionals. Several writers specificially ascribe primary importance to the affective goal of attitude change or reassessment (Braverman, 1974; Reed and Munson, 1976; Marcotte et al, 1977). Gebhard (1976) seems to be in the minority with the position that teaching of information is primary and a cognitive approach is preferable to a "massed attack on attitude modification." One additional expert opinion appears to emerge in reviewing the literature. This opinion suggests that while all three learning goals are equally important, the affective goal must be attended to first in order to facilitate the cognitive and skills goals. Johnson and Matek (1974) hold that attitude change is a prerequisite to objectively integrating cognitive course content because they find that students "often diagnose pathology based on their own attitudes towards specific sexual activities." Maddock (1976) writes that professionals's attitude about sex is crucial to the quality of sex related practice and that the attitude which the professional learner brings to the learning situation will affect the way in which he or she learns and integrates the cognitive content. Alouf (1978) also regards attitude reassessment or change as a prerequisite for additional training. To this end, the Northwestern University Medical School program in human sexuality starts with an intensive two day weekend workshop focused on Sexual Attitude Reassessment (SAR). Once attitudes have been "opened" students can receive didactic training in the traditional distributed courses followed by interventive skills training in advanced electives.

Thus, the relationship of attitude to knowledge and skills has not been established for professional training in human sexuality by systematic

investigation. There does, however, seem to be overwhelming support for inclusion of attitude modification or reassessment as at least equally important to the other two.

The current study focuses on measurement of attitudinal change as a result of the experimental subjects' participation in an SAR program.

Psychophysiological Measures

Over the past 30 years researchers have shown an increased interest in the area of measurement of physiological indices of arousal, activation, emotion and psychological stress. In a review of the literature, Ray (1970) suggested several reasons for the increased popularity of psychophysiological measures. These included the greater "objectivity" relative to self-reports, the assumption that processes below the level of complete awareness can be identified by such measures, and thirdly the assumption that behavioral techniques are less precise than psychophysiological techniques. Ray cautioned that while there have been tremendous improvements in the recording of autonomic responses and the development of computer processes to analyze these recordings efficiently, there are still sources of error in such measurements and, therefore, they should be used in conjunction with behavioral techniques, not in lieu of them.

Grings and Dawson (1978) indicate that there are two general historical views regarding the relationship between bodily reactions and emotional experiences. The first and earlier theory expounded by James in 1890 suggests that bodily reactions play a controlling function in the emotions and to some degree control and determine what we feel. According to Grings and Dawson this early theory was almost completely displaced by the newer and more currently accepted point of view which suggests that bodily reactions are secondary effects of emotions and, rather than controllers of emotions,

they may be viewed as indices of emotional state. The authors credit Cannon with this neurophysiological theory of emotions and refer to it as the Cannon-Bard theory.

Both Ray (1970) and Grings and Dawson (1978) in their extensive reviews of the literature and research indicate that, in spite of the continually increasing sophistication of measuring instruments, research technology, and statistical analysis, there is not yet available one universally accepted theory relating bodily response to emotional state. Both investigators offer possible reasons for this continued dilemma. These include personality differences between subjects, cognitive factors, emotional state of subjects, variations in type and intensity of stimulus, and the interaction of all of these.

Ray concludes:

> "... that at least three concepts must be considered when studying the patterns of autonomic response to environmental events or, as in the proposed research, experimental representations of environmental events. The three factors are: (1) situational stereotype (characteristics of the stimulus which elicit certain patterns of autonomic response); (2) individual differences (experiential and/or personality factors); and (3) the interaction of individual differences and situational factors."

One approach used by investigators to sharpen the understanding and findings of their research is the use of multiple physiological measures. For example, Ray (1970) combined galvanic skin response (GSR) and heart rate together with self-report in examining the interaction of the level of sex guilt of subjects and visual erotic stimuli. In addition to the physiological measurements, Ray used the Mosher True False Sex Guilt Scale to determine the personality trait of sex guilt (this shall be discussed in greater detail in a succeeding section), self-report of the subjects on the state of sex guilt and

the state of arousal, and a rating scale by the subjects of the explicit sexual slides they viewed.

Other examples of the use of combinations of psychophysiological and cognitive instruments may be found throughout the literature. The most familiar of these involve the detection of deception. See, for example, Cutrow, Parks, Lucas, and Thomas (1972) who used nine psychophysiological measures in studying the detection of deception. In related research DeCsipkes and Rowe (1977) studied the arousal of anxiety using a combination of GSR, heart rate, blood pressure, and subject self-reports.

Vorgeas (1973) administered 177 tests, both cognitive andpsychophysiological, before and after units of sex education were taught to a group of prospective teachers. The SKAT test was used in combination withmeasurements of heart rate, respiration rate and respiration amplitude. These latter psychophysiological measures were administered while subjects were exposed to "emotionally charged sexual auditory and visual stimuli."

The current study combines elements of both Ray (1970) and Vorgeas (1973). Control and experimental subjects were exposed to sexually explicit visual stimuli while GSR and pulse rate were monitored in pre and post tests. Experimental subjects attended an SAR weekend, and all subjects completed the SKAT, the Mosher True False Guilt Inventory, and several other cognitive instruments.

Galvanic Skin Response (GSR)

One of the most commonly used psychophysiological measures is galvanic skin response (GSR), also referred to as electrodermal response. Grings and Dawson (1978) indicate that the skin has electrical properties which are associated with psychological processes, such as attention and emotion, and that during emotional states there is an increase in the level of

skin response and an increase in the size and frequency of these responses. In other words, the skin becomes a better conductor of electricity during emotional states. The most usual method of measuring skin conductance is through the application of a small electrical voltage across two metal electrodes placed on either the skin of the palms or the fingers. With the instrumentation provided by a polygraph, the investigator can measure the basal conductance level of the skin as well as momentary phasic increases in conductance responses which may be elicited either by the presentation of environmental stimuli or spontaneously, in the absence of such external stimuli.

Following a comprehensive study of the literature related to GSR, Ray (1970) concludes:

> "... although the literature is extremely controversial about just what the GSR measures, most writers agree that the presence or absence of a GSR is interrelated with changes in the significance of the stimulus situation or with the individual's perception of the demands of the situation. For the purposes of this paper, the presence of a GSR will be considered indicative of patterns of psychological activity, involving the atuonomic nervous system, which signifies the organism's response to environmental stimulation. The level of activity as measured by the GSR will be shown by changes in the resistance of the skin, with decrease in resistance being indicative of increased response."

In the present study as well, Ray's final statement above will also hold true. That is, a decrease in skin resistance as measured by the GSR will be viewed as indicative of increased response to external stimuli.

Heart Rate - Pulse Rate

According to Grings and Dawson (1978) the most common psychological measure of heart activity is the heart rate (HR) and this is usually expressed in terms of beats per minute (BPM). The adult human heart normally has a rate of approximately 70 BPM with fluctuations from over 100 BPM to less

than 50 BPM as a result of emotions or other factors. The heart rate is often measured by the electrocardiogram (EKG or ECG) which measures the electrical potentials produced by the heart during each contraction. The EKG recorded on a polygraph allows for counting of beats per minute and thus a heart rate can be calculated. It is more convenient to use a cardiotachometer. This device triggered by the EKG electrical signal produces a print out which gives a beat by beat actual heart rate at any given moment.

In a study by Ray (1970), already cited and to be discussed in greater detail in a succeeding section, the heart rate measurements were taken using an electronically programmed electrocardiograph and a polygraph.

Another method of measuring heart rate is possible using the finger pulse. Measuring the pulse beat at the finger tips gives a direct reflection of the heart beat. The finger pulse is used in the current study.

One instrument for measuring pulse at various extremities of the body is the photoelectric plethysmograph, which operates on the principle that light is absorbed into tissue in proportion to the amount of blood in that tissue. The plethysmograph directs a small beam of light towards an area of the skin and the amount of light reflected back from the skin is proportional to the amount of blood in this area of tissue. A photocell serves to measure the amount of light reflected back from the skin. This result is recorded on a continuous polygraph and the individual pulse beats (heart beats) can be counted from the polygraph recording. The device used in the investigation under discussion is a photoelectric plethysmograph measuring finger pulse.

Following a rather comprehensive survey of the literature related to autonomic responses and, specifically, heart rate, as indicators of autonomic measures of psychological states, Ray (1970) reports that there does not seem

to be unanimity in experience or findings. However, Ray suggests some directions that are indicated as appropriate for future and continued study.

> "... increased heart rate is associated with a reduction in sensitivity to stimulation. Increased heart rate should facilitate "rejection of the environment" and should occur in situations where external distractions would interfere with performance in problem solving activities; that is, when it is necessary to shut out information from the environment in order to concentrate on internal processes. Conversely, decreased heart rate should be associated with increased sensitivity to stimulation and should occur in situations which require sustained attention to the external environment."

Some eight years later, Grings and Dawson (1978), following an extensive review of the literature on the same subject, use almost the same language in suggesting a hypothesis that says "intake of environmental stimuli is associated with heart rate deceleration, whereas rejection of environmental stimuli or attention to internal states is associated with heart rate acceleration".

In the current study, decrease in heart rate is interpreted as intake of or attention to environmental stimuli, while the converse interpretation is made in the case of heart rate acceleration.

The Trait of Sex Guilt

In a study of the relationship of sex guilt, visual erotic stimuli and autonomic responses one of the major independent variables studied by Ray (1970) was the personality trait of sex guilt. The instrument used for measurement of sex guilt and assignment of subjects to high guilt and low guilt groups was the Sex Guilt Scale of the Mosher True False Guilt Inventory (Mosher, 1966). The MTFGI was developed within the framework of Rotter's Social Learning Theory (Rotter, 1954) and measures three sub-scales of guilt: hostile guilt, morality-conscience guilt and sex guilt. This same sex guilt scale was also used by Kutner (1971) and Ogden (1974) in studying the interaction of sex guilt with sexual attitudes and behavior.

Ogden (1974) found that high sex information was negatively related to sex guilt and positively related to liberalized attitudes on sex related subjects. High sex guilt was positively related to conservative attitudes towards sexual information. In a study of professional psychologists, Primeau (1977) found that there was a strong significant relationship between a high level of sex information, diverse sexual behavior, liberal attitudes, low sexual guilt, and a favorable response to sexually explicit films. Among the conclusions was one that suggested that sexual guilt contributes more to sexual attitudes and behavior than does level of information. The findings of Ogden (1974) and Primeau (1977), if confirmed by replication, and further study, could have significant implications for the structure and content of courses in human sexuality for the helping professions. If a major goal of such training is the liberalization of sexual attitudes and an increased acceptance of a range of different sexual behaviors, then the issue of the level of the trait of sex guilt of the students must be considered. Such consideration would most probably focus on means of reduction of sex guilt.

However, such an educational goal may be difficult to achieve in light of the findings of a study by Nagy (1977). Nagy investigated the effects of a ten week instruction course on undergraduates students at the University of Florida using the Mosher Forced Choice Guilt Inventory sex guilt sub-scale as one of the instruments. Among the results was the finding that there were no significant differences between experimental and control subjects on sexual guilt after the treatment as compared to pretest measurements. This finding is consistent with the concept that sex-guilt, a personality trait, would not be expected to change over a short period such as a ten week course. Thus, unless some new factors, specifically designed to reduce sex guilt, are introduced, this goal may not be easily achieved. This would appear to be a

fertile area for further investigation and is partially addressed in the current research.

Summary

The current study examines changes in sexual attitude, state of guilt and psychophysiological responses to several sexual stimuli. These changes are examined by comparing quantifications of these variables before and after the experimental subjects attended an SAR massed workshop. Comparisons with similar change scores of non-attending control subjects are also examined, as are the relationship and interaction of these variables.

All subjects were women students matriculated in a graduate school of social work. The cognitive instruents were the SKAT and the MTFGI and the psychophysiological measures were made using GSR and finger pulse rates. The treatment administered to the experimental subjects was an SAR massed two day workshop.

Chapter III

EXPERIMENTAL PROCEDURE

A. Subjects

The subjects of the study were forty-four volunteer subjects from a population of female married and unmarried, matriculated, graduate social work students at the School of Social Work of Loyola University of Chicago, who were 21 years of age or older and who responded to a classroom invitation to participate as subjects in the research. These subjects were randomly assigned to four groups of 11 subjects each, two experimental groups and two control groups. One subject in experimental group one chose not to complete the Sexual Attitude Reassessment (SAR) workshop because of her displeasure with the procedure and content. One subject in control group two could not complete the post testing because of illness. Thus, 42 subjects completed the procedure. Following completion of the post testing, one subject from experimental group two and one subject from control group one were randomly eliminated from the research. This allowed for each of the four groups to have ten subjects.

The mean age of all subjects was 30.7 years; 15 were single and 25 married. In control group one, ages ranged from 26 to 36 years with a mean of 32.7; two were single and eight married. In control group two, ages ranged

from 22 to 36 years with a mean of 32.2; two were single and eight married. In experimental group one, ages ranged from 24 to 36 years with a mean of 27.6; six were single and four married. In experimental group two, ages ranged from 26 to 36 with a mean of 30.2; five were single and 5 married. A summary of age and marital status by group is found in Table 1.

B. Apparatus

Apparatus consisted of seven units: (1) the experimental room; (2) the stimulus presentation apparatus; (3) the stimuli; (4) the equipment for measuring pulse rate and GSR; (5) Mosher's True-False Guilt Inventory (Female Form) (Mosher, 1968); (6) the Sex Knowledge and Attitude Test (SKAT) (Lief & Reed, 1972) and (7) various rating forms.

The Experimental Room

An unused library room in Siedenberg Hall on the Water Tower Campus of Loyola University was used for the experimental phase of the research. The subject and all equipment were placed in the same room. Additionally, a writing desk was placed along one wall. The female research assistant remained in the room behind the subject during the testing, presentation of stimuli, and rating of the stimuli.

The Stimulus Presentation Apparatus

The stimuli were projected onto a 6' by 6' screen which was placed approximately 9' from the subject and slightly above eye level when she was seated. Each stimulus was projectd for a 30 second interval by a Kodak Carousal 750H slide projector equipped with a zoom lens. All lights in the room were turned off while the subject viewed the stimuli. During the rating phase of the experimental session, a small high-intensity light was turned on to allow an adequate light source for completion of the rating scale. The

TABLE 1

Subjects by Group, Age, and Marital Status

Group	N	Age Range	Mean Age	Single	Married
Control 1	10	26-36	32.7	2	8
Control 2	10	22-36	32.2	2	8
Experimental 1	10	24-36	27.6	6	4
Experimental 2	10	26-36	30.2	5	5
All Subjects	40	22-36	30.7	15	25

projector was manually operated by the research assistant who was seated behind the subject and out of her line of vision.

Stimuli

The stimuli consisted of four slides, each measuring 2" x2", one slide of each of four sexual situations (see appendix): dating, petting, female masturbation, and heterosexual coitus. The slides were selected from a series obtained by courtesy of the Presidential Committee on Obscenity and Pornography (1969). All but the petting stimulus were the same as those used by Ray (1970). They were specifically designed for research purposes and were identical in all features except the sexual activity portrayed.

Pulse Rate and GSR Measuring and Recording Equipment

Pulse rate and GSR were recorded by means of a physiograph mounted on a rolling cabinet, MK-IV (Narco Bio-Systems, Inc., Houston, Texas) located in the same room as the subject and stimulus presentation apparatus and approxiately 3' behind the subject's seat. The physiograph chart was running at a rate of 5 mm/sec. and recorded events with a time mark every 30 seconds.

For measuring GSR, a current of ten microamperes DC through the subject's finger was constant throughout the experimental session. Ray (1970) used seventy microamperes DC in similar research. However, since that time more sensitive equipment has become available so that a reduction in amperage is possible without danger of distorting results.

Electrodes for GSR Measurement

The GSR electrodes were taped to the middle finger of the left hand of each subject with ordinary hand lotion used to insure contact between the electrodes and the contact point on the skin. The 1" by 3/4" lead plates were bent to the contour of the finger and firmly taped to insure contact.

Photo-Electric Pulse Transducer

Pulse rate was measured through a photo-electric pulse transducer type 323 (Narco Bio-Systems, Inc., Houston, Texas) attached to the index finger of the left hand and held firmly in place by a Velcro band.

The SKAT

Developed by Lief and Reed (1972) and revised by the same authors in 1973, the SKAT (Sex Knowledge and Attitude Test) is an omnibus instrument designed to be used flexibly in a variety of teaching and research situations. It consists of four parts: (1) Attitudes; (2) Knowledge; (3) Basic Information about the testee; and (4) Frequency of Sexual Encounters. Originally developed as an evaluation tool for the human sexuality course at the University of Pennsylvania Medical School, it has become widely established as a major research instrument throughout the country as indicated by the review of the literature.

Part 1, Attitudes, consists of 35 items and deals with such topic areas as sexual activities within and outside of marriage and before marriage, sexual variance, causative agents and remedial or punitive actions, autoeroticism and abortion. The 35 alternative Likert-type items yield four attitude scales. These consist of the Heterosexual Relations Scale (HR), the Sexual Myths Scale (SM), the Autoeroticism Scale (M) and the Abortion Scale (A).

The HR scale measures an individual's attitude towards pre and extramarital heterosexual encounters. Those with high HR scores regard such encounters as acceptable or desirable, while individuals with low scores demonstrate a conservative or disapproving attitude towards such activities.

The SM scale deals with an individual's attitude toward common sexual myths. Individuals with high SM scores would generally reject such myths while those with low scores tend to accept these myths.

The M score deals with attitudes toward autoerotic activities. High scores indicate an attitude that masturbation is an acceptable means of relieving tension and achieving pleasure and suggest the view that parents should not prohibit children from masturbating. Low scores indicate an attitude rejecting masturbation as unhealthy and a behavior which parents should prohibit.

The A scale measures social, medical and legal attitudes toward abortion. High A scores suggest that individuals see abortion as an acceptable form of birth control which should be available at the discretion of the mother. Low scores indicate an attitude which sees abortion as murder and which should be available rarely and under strict medical supervision.

Since the subject of abortion was not included in the content of the SAR, this latter scale was not studied in this research.

The reliability estimates for the attitude scales on comparable samples of population range from .68 to .86 and intercorrelations among the scales range from .30 to .59 (Lief and Reed, 1972). Since no item is included in more than one scale, there is no spuriousness in any of the correlations due to item overlap.

Mosher's True False Guilt Inventory

The Mosher True False Guilt Inventory (MTFGI) (Mosher, 1968) yields three guilt scores: Sex-Guilt (SG), Hostility-Guilt (HG), and Morality-Conscience (MC). Ray (1970) and Mosher (1968) describe the development of this test in some detail. Both provide strong arguments for both the reliability as well as the construct validity of the Inventory.

The Sex Guilt sub-scale of the female form of the MTFGI consists of 50 true-false items with a possible range of scores from 38 to -38. It has a split-

half reliability coefficient of .95 (Mosher, 1968) and is relatively free of a social desirability response bias.

A low score (-38) indicates relatively total freedom from sex guilt while a high score (+38) would suggest a high degree of sex guilt.

Ray (1970) used the MTFGI as a screening device in order to divide experimental subjects into high sex guilt (HSG) and low sex guilt (LSG) groups.

Stimulus Rating Forms

The Stimulus Rating Forms were exactly the same as those used by Ray (1970). Ray developed these rating forms based on the work of Osgood, Suci, and Tannenbaum (1965). These forms were composed of five Semantic Differential-like scale. Each stimulus was rated by each subject on all five scales.

Adjective Checklist for Sexual Arousal and Guilt

Each subject was asked to respond to an adjective check list before and after reviewing the stimuli. This check list, designed to assess the subject's state of sexual arousal and state of sexual guilt is exactly the same as the one used by Ray (19790). Ray developed this check list based on the work of Mosher and Greenberg (1969) and Byrne and Sheffield (1965).

C. Treatment

Subjects in both experimental groups participated in two full days of Sexual Attitude Reassessment training at Northwestern University. Developed in 1972, the SAR Program has been modified and adapted continuously to its present format (Alouf, 1978). Alouf describes the essential components of the workshops as "desensitization, resensitization, integration, and implosion" (Alouf, 1978). The objectives of the program, as specified in the SAR Registration Brochure and Application (1980) follow:

"The SAR PROCESS:

-endorses our right to know about the broad range of human sexual behavior.
-Encourages self-knowledge as a necessary base upon which sexual health and tolerance are built.
-strengthens the individual's right to his or her own beliefs and convictions about sex and sexuality.
-encourages self-acceptance and the right to select and direct our own relationships with others as sexual and sensual beings.
-aims at increasing our understanding and tolerance toward people whose sexual attitudes and behaviors differ from our own."

The methods used in the two day workshop include films, slides, tapes, panel presentations, non-verbal exercises, and small group (same sex) meetings. The audiovisual materials include "hard core" explicit genital activity for purposes of desensitization; these are followed by films designed specifically to represent "relational" sexual activity between caring partners as part of the process of "resensitization."

D. Experimental Procedure

All pre-testing and post-testing procedures followed exactly the same pattern. All testing was administered by a female research assistant.

Subjects were individually contacted and appointments made for both parts of the testing procedure. Part one, consisting of the SKAT, the female form of Mosher's TFGI, and signing an experimental consent form, was handled on a small group or individual basis depending on subjects' class schedules and available time.

The second part of the experimental procedure was administered to each subject individually. Each subject was invited into the experimental room, seated at the writing table and asked to complete the adjective check list designed to measure the states of sexual arousal and guilt. The subject was then seated in the chair in front of the screen, the GSR electrode taped to the middle finger of the left hand, and the photo-electric pulse transducer attached to the index finger of the left hand. Instructions were given by the

research assistant to the subject following which she moved behind the subject and out of her line of vision.

The subject was informed that she was to relax until further instructions; the physiograph was started and a neutral landscape screen was projected on the screen in order to allow two minutes of adaptation to the procedure. This adaptation period was designed to reduce resulting responses as much as possible and to help the subject to become comfortable with the procedure.

Following this, ANS base line data were recorded for a period of thirty seconds (base period) at the end of which the subject was informed of the nature of the stimulus slide she would next see and ANS data were recorded for thirty seconds of this anticipation period (alert period). The stimulus slide was then projected for thirty seconds and ANS data were recorded (stimulus period). During all base and alert periods, a slide with the word "relax" was projected on the screen. In random order (six different orders of the possible twenty-four orders of presentation were randomly selected and used), each of the four experimental stimulus slides was announced for an alert period of thirty seconds, projected for thirty seconds and followed by a "relax" instruction for thirty seconds of baseline data collection. Following this, the GSR and finger pulse leads were removed from the subjects' fingers.

The subject was then given instructions for rating the stimuli and asked if there were any questions. The four stimuli were then presented in the same order as previously, with ten seconds for each. After the initial viewing, the slides were again presented with twenty second intervals to view, twenty seconds to rate, and twenty seconds to relax before the succeeding stimulus was presented.

Following presentation of the stimulus for rating, the same adjective check list to determine state of sex guilt and arousal that had been used at the beginning of the experimental session was presented to the subject with a request that she complete this for a second time. The post-test of both the SKAT and MTFGI were then administered. When this was done the experimental session was complete.

Table 2 presents the experimental proccedure in outline form.

The total experimental session including collection of the pre and post stimulus data, required approximately 64 minutes per subject.

E. Experimental Design

In the analysis of the data, three independent variables were evaluated: (1) type of treatment (SAR participation or not); (2) degree of sex guilt (measured by MTFGI); (3) type of sexual situation pre and post (dating, petting, masturbation, and coitus).

Six dependent variables were examined: (1) three SKAT subscales in the post test; (2) galvanic skin response, pre and post; (3) finger pulse rate pre and post; (4) stimulus rating forms; (5) state of sexual arousal before and after viewing stimuli, pre and post and (6) state of sexual guilt before and after viewing stimuli; pre and post.

Three GSR measures were made: (1) numbers of GSR's, defined as the number of decreases in resistance of 500 ohms or more during each alert, stimulus and rest or base period; (2) maximum GSR, defined as the largest number of decreases in resistance of 500 ohms or more occurring in the first ten seconds of each of the three periods: alert, stimulus and base; and (3) conductance change, defined as the difference between the base level and the post stimulus level. For purposes of this change measure, the base level is the conductance value during the one second interval before the beginning of

TABLE 2

Outline of Procedure

1.	Self-Report Data		
	Adjective Checklist		3'
2.	Autonomic Data Preparations and Instructions		
	Attach GSR and Finger Pulse Leads		3'
	Instruction for Autonomic Measures		3'
3.	Autonomic Data Collection		
	Adaptation Period	2'	
	Alert Period	30"	
	1st Stimulus Slide	30"	
	Baseline	30"	
	Alert 30"		
	2nd Stimulus Slide	30"	
	Baseline	30"	
	Alert 30"		
	3rd Stimulus Slide	30"	
	Baseline	30:	
	Alert 30"		
	4th Stimulus Slide	30"	
	Baseline	30"	8'
	Remove GSR and Finger Pulse Leads		1'
4.	Stimulus Rating		
	Instructions for Rating Stimuli		3'
	Brief Presentation of Four Stimuli		40"
	Relax Period		20"
	Rating of Stimuli (Four Stimuli)		
	View Stimulus	20"	
	Rate Stimulus	20"	
	Relax	20"	4'
5.	Self-Report Data		
	Adjective Check List		3'
	SKAT & MTFGI (Post-tests)		35'
	Total Time		64'

each period and the post stimulus level is the highest conductance level during the first ten seconds after the beginning of the alert, the stimulus, and the base periods. Conductance change, too, was measured by number of changes of 500 ohms.

Finger pulse rate was calculated for the first, second, and third ten second interval of each alert, stimulus, and base period.

In exact duplication of the Ray (1970) segment, five values of stimulus rating were used: four preference values, defined as the scores of four semantic differential scales (good - bad; pleasant - unpleasant; safe - dangerous; appealing -disgusting), and one sexual arousal rating defined as the score on the sexually arousing - not sexually arousing semantic differential scale.

Similarily, Ray's (1970) two state measures were exactly duplicated: (1) state of sexual arousal, defined as the total score on an adjective check list design to measure sexual arousal; and (2) state of sexual guilt, defined as a total score on an adjective check list designed to measure sex guilt.

Table 3 presents the various variables, the measurement made, and the type of quantification used.

Research Design

The research design consisted of subjects randomly assigned to two control and two experimental groups. One of each of these was given the pre-test while the other was not, Kerlinger (1973) labels this Design 19.6: Four-Group, before after (Solomon) and offers the following model:

Y_b	X	Y_a	(Experimental 1)
Y_b	$\sim$X	Y_a	(Control 1)
	X	Y_a	(Experimental 2)
	$\sim$X	Y_a	(Control 2)

TABLE 3

Variables, Measurement Made, and Quantification

1.	GSR	1.	Number of resistance decreases of 500 ohms or more.	1.	Number
2.	Maximum GSR	2.	Maximum decrease in resistance during lst 10" of stimulus.	2.	Number
3.	Conductance Change	3.	Difference between values of last 1" of each period lst 10" of succeeding period.	3.	Number
4.	FP1	4.	Finger pulse rate during lst 10" of each period.	4.	Pulse Rate
5.	FP2	5.	Finger pulse rate during 2nd 10" of each period	5.	Pulse Rate
6.	FP3	6.	Finger pulse rate during 3rd 10" of each period.	6.	Pulse Rate
7.	Preference Value	7.	Rating score on each scale for each stimulus.	7.	Number
8.	State of Sexual Arousal	8.	Total score on Adjective Check List for 7 Adjectives	8.	Sum
9.	State of Guilt	9.	Total score on Adjective Check List for 7 Adjectives	9.	Sum
10.	Trait of Sex Guilt	10.	Total score MTFGI Sexual Guilt sub-scale.	10.	Sum
11.	SKAT HR	11.	Scaled score on SKAT Hetero-sexual relations sub-scale.	11.	Scaled Score
12.	SKAT M	12.	Scaled score on SKAT Auto-eroticism sub-scale	12.	Scaled Score
13.	SKAT SM	13.	Scaled score on SKAT Sexual Myths sub-scale.	13.	Scaled Score

Campbell and Stanley (1963) have labeled this Design 5, The Solomon Four-Group Design, and offer the following similar model:

R	O	X	O
R	O		O
R		X	O
R			O

The current research, using labels consistent with the language of this paper is diagrammed in Table 4.

Research Hypotheses

The following research hypotheses were advanced and tested statistically:

1. The mean scores on each of the three attitudinal scales of the SKAT (HR, M, SM) will be significantly higher for the eaxperimental groups than for the control groups as measured in the post-test.
2. Post-test guilt state scores of the experimental groups will be lower than those of the control groups as measured by the adjective check lists; there will be no significant difference in post-test arousal scores of the experimental groups and control groups as measured by the adjective check list post-test.
3. There will be no significant difference in the trait of guilt, as measured by the MTFGI, between pre-test and post-test scores within both experimental and control groups.
4. The experimental group will demonstrate a significantly greater change in ANS responses from pre-test to post-test scores than will the control group.

TABLE 4

Design of Research

	Pre-Test	Treatment (SAR)	Post-Test
Control Group 1	No	No	Yes
Experimental Group 1	No	Yes	Yes
Control Group 2	Yes	No	Yes
Experimental Group 2	Yes	Yes	Yes

5. There will be significant interaction between type of group, level of guilt, and type of stimulus situation for the preference ratings of three of the four stimulus situations (petting, masturbation, coitus).

Hypotheses one, two, four and five were converted to the form for analysis purposes. Hypothesis three was not converted because it is already stated in the null form.

The .05 level of significance was used to test all statistical hypotheses.

Hypothesis one was tested by using independent t-tests for the experimental and control groups which had both pre and post-tests and again for the experimental and control groups which had only post-tests; the procedure was repeated for each of the three attitude scales.

A similar t-test analysis was used to test hypothesis two.

Hypothesis three was tested using the dependent t-test, but only for the control and experimental groups which had both pre and post-testing.

Hypothesis four was tested using a Repeated Measures Split Plot Factorial procedure, for only the control and experimental groups which had both pre and post tests. All ANS scores were converted to change scores by subtracting the pre-ANS scores from the post-ANS scores.

Hypothesis five was tested, similarily, using the Repeated Measures Split Plot Factorial procedure. For the control and experimental groups which had both pre and post tests, the change score was used; and for the control and experimental group which had only the post test, that post test score was used.

Additionally, to check for possible effects of differences in order of presentation of the four visual stimuli, one way analysis of variance procedures were applied to the post-test scores of all 40 subjects for each

stimulus with each ANS score for base, alert, and stimulus periods and for each stimulus with the five preference rating scales. These ninety-two procedures are summarized in Table 6, Chapter IV.

Chapter IV

RESULTS

The purpose of this research was to investigate the relationship and interaction of types of sexual stimuli and a personality trait, guilt, and their effect on heart rate, galvanic skin response, and self-report measures, before and after a training program designed to reassess attitudes towards human sexuality. Five hypotheses were advanced. No hypotheses were totally supported, four were partially supported, and one was not supported by the experimental data. An elaboration of the results of this research follows.

The group means and standard deviations for the data are found in Appendix K, Tables 29-32.

Because six different orders of presentation of the four stimulus slides were used and these were randomly assigned to the subjects as they appeared for their experimental sessions, it was not possible to include examination of order effects in the statistical testing of the hypotheses. Therefore, one-way analysis of variance tests were performed on post-test results for all subjects for each stimulus with all ANS scores and all preference ratings. A summary of the six orders used appears in Table 5; Table 6 summarizes the results of this series of tests. Of 92 such tests performed, four yield statistical significance at the .05 level and two at the .01 level. These six significant results included four on the GSR scores and one each on the Max GSR and conductance change scores. No

Table 5

Order of Presentation of Stimuli

Order	1st	2nd	3rd	4th
1	D	P	M	C
2	D	M	C	P
3	P	P	M	C
4	P	M	D	C
5	M	C	D	P
6	C	D	P	M

D=Dating
P=Petting
M=Masturbation
C=Coitus

Table 6

Summary of Analysis of Variance Test Results of Order Effects

Source	Stimulus	F Values	Pr. F
GSR Base	Dating	0.21	0.957
GSR Alert	Dating	3.37	0.014**
GSR Stimulus	Dating	1.54	0.202
GSR Base	Petting	0.71	0.617
GSR Alert	Petting	2.88	0.028*
GSR Stimulus	Petting	2.78	0.033*
GSR Base	Masturbation	2.95	0.026*
GSR Alert	Masturbation	1.20	0.328
GSR Stimulus	Masturbation	1.36	0.263
GSR Base	Coitus	1.36	0.263
GSR Alert	Coitus	1.82	0.136
GSR Stimulus	Coitus	0.84	0.530
Max GSR Base	Dating	0.63	0.675
Max GSR Alert	Dating	0.42	0.834
Max GSR Stimulus	Dating	0.79	0.564
Max GSR Base	Petting	2.37	0.060
Max GSR Alert	Petting	1.28	0.294
Max GSR Stimulus	Petting	1.39	0.252
Max GSR Base	Masturbation	1.11	0.376
Max GSR Alert	Masturbation	2.10	0.089
Max GSR Stimulus	Masturbation	0.61	0.694
Max GSR Base	Coitus	0.78	0.572
Max GSR Alert	Coitus	3.23	0.017*
Max GSR Stimulus	Coitus	0.54	0.745
Cond. Change Base	Dating	0.09	0.944
Cond. Change Alert	Dating	1.82	0.136
Cond. Change Stimuls	Dating	3.57	0.011*
Cond. Change Base	Petting	1.22	0.319
Cond. Change Alert	Petting	1.95	0.112
Cond. Change Stimulus	Petting	1.61	0.183
Cond. Change Base	Masturbation	1.00	0.432
Cond. Change Alert	Masturbation	0.47	0.799
Cond. Change Stimulus	Masturbation	0.83	0.540
Cond. Change Base	Coitus	1.72	0.156
Cond. Change Alert	Coitus	0.75	0.593
Cond. Change Stimulus	Coitus	0.21	0.955
FP1 Base	Dating	0.57	0.722
FP1 Alert	Dating	0.27	0.926
FP1 Stimulus	Dating	0.07	0.996
FP1 Base	Petting	0.74	0.602
FP1 Alert	Petting	0.67	0.650
FP1 Stimulus	Petting	0.27	0.924
FP1 Base	Masturbation	0.61	0.690
FP1 Alert	Masturbation	0.61	0.691
FP1 Stimulus	Masturbation	0.58	0.713

Table 6 (continued)

FP1 Base	Coitus	0.34	0.885
FP1 Alert	Coitus	1.00	0.434
FP1 Stimulus	Coitus	0.34	0.888
FP2 Base	Dating	0.45	0.809
FP2 Alert	Dating	0.38	0.858
FP2 Stimulus	Dating	0.38	0.561
FP2 Base	Petting	0.97	0.448
FP2 Alert	Pettinng	0.33	0.894
FP2 Stimulus	Petting	0.56	0.733
FP2 Base	Masturbation	0.24	0.941
FP2 Alert	Masturbation	0.25	0.937
FP2 Stimulus	Masturbation	0.21	0.954
FP2 Base	Coitus	0.37	0.869
FP2 Alert	Coitus	0.33	0.890
FP2 Stimulus	Coitus	0.68	0.639
FP3 Base	Dating	0.81	0.547
FP3 Alert	Dating	0.34	0.888
FP3 Stimulus	Dating	0.75	0.589
FP3 Base	Petting	0.67	0.650
FP3 Alert	Petting	0.72	0.614
FP3 Stimulus	Petting	0.18	0.969
FP3 Base	Masturbation	0.36	0.874
FP3 Alert	Masturbation	0.65	0.655
FP3 Stimulus	Masturbation	0.51	0.769
FP3 Base	Coitus	0.66	0.655
FP3 Alert	Coitus	0.55	0.740
FP3 Stimulus	Coitus	0.48	0.789
Pref. Scale Good-Bad	Dating	0.49	0.784
Pref. Scale Good-Bad	Petting	0.25	0.937
Pref. Scale Good-Bad	Masturbation	0.70	0.624
Pref. Scale Good-Bad	Coitus	1.00	0.432
Pref. Scale Pleasant-Unp.	Dating	0.58	0.713
Pref. Scale Pleasant-Unp.	Petting	0.09	0.993
Pref. Scale Pleasant-Unp.	Masturbation	0.93	0.474
Pref. Scale Pleasant-Unp.	Coitus	0.38	0.957
Pref. Scale Safe-Danger	Dating	0.40	0.844
Pref. Scale Safe-Danger	Petting	2.07	0.094
Pref. Scale Safe-Danger	Masturbation	2.40	0.058
Pref. Scale Safe-Danger	Coitus	0.73	0.607
Pref. Scale Appeal-Disgust	Dating	0.70	0.625
Pref. Scale Appeal-Disgust	Petting	0.08	0.995
Pref. Scale Appeat-Disgust	Masturbataion	0.35	0.878
Pref. Scale appeal-Disgust	Coitus	0.36	0.869
Pref. Scale SA-Not SA	Dating	2.01	0.101
Pref. Scale SA-Not SA	Petting	0.45	0.808
Pref. Scale SA-Not SA	Masturbation	0.57	0.724
Pref. Scale SA-Not SA	Coitus	1.09	0.384

* $p < .05$
** $p < .01$

statistical significance was found in any of the finger pulse scores nor in the stimulus preference rating scores. Since only six of these ninety-two tests yielded statistical significance, it appears reasonable to assume that order effect of the stimuli was not a confounding factor in this research.

Research hypothesis 1: The mean scores on each of the three attitudinal scales of the SKAT (HR, M, SM) will be significantly higher for the experimental groups than for the control groups as measured by the post-test.

Research hypothesis one was not supported on any of the three attitudinal scales. Independent t-tests were performed for post-test scores on each scale and no significant differences were found between the scores of experimental and control groups which had pre-tests, nor were any found between the scores of the experimental and control groups which had only post-tests. For further verification, analysis of variance tests were done for the pre-test scores of the control and experimental groups to which these were administered and on the post test scores for all four groups. The data may be found in Tables 7 - 10. None of these tests were statistically significant.

Reseach hypothesis 2: Post-test guilt state scores of the experimental groups will be lower than those of the control groups as measured by the adjective check lists; there will be no significant difference in post-test arousal scores of the experimental groups and control groups as measured by the adjective check list post-test scores.

T-tests were performed on state of guilt and state of arousal group mean scores for both the period before subjects viewed the stimuli and the period after viewing, during the post-test experimental session. F (folded) tests were used to test variance for equality or unequality. Where variances were unequal, the degrees of freedom (df) were adjusted to compensate for the lack of homogeneity by using the formula:

Table 7

Group Mean Scores on 3 SKAT Scales

	HR SCALE		M SCALE		SM SCALE	
Group	Pre	Post	Pre	Post	Pre	Post
Control 1		53.477		58.234		54.946
Control 2	50.869	51.892	55.813	54.602	54.784	54.786
Experimental 1		54.695		57.989		53.880
Experimental 2	51.565	54.868	53.632	56.781	59.325	60.205

Table 8

T-Test Comparisons for Post-Test Group Mean Scores
On 3 SKAT Attitudinal Scales

	N	Mean	Std.Dev.	Std.Error	t	df	Prob. (T)
			HR Scale				
Control 1	10	53.477	10.760	3.403	-0.295	18	0.771
Experimental 1	10	54.695	7.381	2.334			
		(Variances Equal)					
			M Scale				
Control 1	10	58.234	10.096	3.193	0.067	18	0.947
Experimental 1	10	57.989	5.377	1.700			
		(Variances Equal)					
			SM Scale				
Control 1	10	57.946	6.220	1.967	1.172	18	0.257
Experimental 1	10	53.880	9.041	2.859			
		(Variances Equal)					
			HR Scale				
Control 2	10	51.892	9.694	3.066	-0.709	18	0.487
Experimental 2	10	54.868	9.062	2.866			
		(Variances Equal)					
			M Scale				
Control 2	10	54.602	8.308	2.627	-0.585	18	0.566
Experimental 2	10	56.781	8.344	2.639			
		(Variances Equal)					
			SM Scale				
Control 2	10	54.786	8.378	2.649	-1.501	18	0.151
Experimental 2	10	60.205	7.761	2.454			
		(Variances Equal)					

Table 9

Analyses of Variances for Pre-Test
Scale Scores, Control Group 1 and Experimental Group 2

Source	df	SS	MS	F	PR. (F)
HR Scores	1	2.422	2.422	0.03	0.855
Error	18	1268.106	70.450		
M Scores	1	23.784	23.784	0.43	0.519
Error	18	989.800	54.989		
SM Scores	1	103.103	103.103	1.46	0.243
Error	18	1272.624	70.701		

Table 10

Analyses of Variance for Post-Test Scale Scores, All Four Groups

Source	df	SS	MS	F	Pr. (F)
HR Scores	3	56.685	18.895	0.22	0.883
Error	36	3117.061	86.585		
M Scores	3	82.604	27.535	0.41	0.748
Error	36	2425.504	67.375		
SM Scores	3	254.533	84.844	1.35	0.273
Error	36	2257.789	62.716		

$$df = \frac{\left(\hat{\sigma}_1^2/n_1 + \hat{\sigma}_2^2/n_2\right)^2}{\frac{(\hat{\sigma}_1^2/n_1)^2}{n_1 - 1} + \frac{(\hat{\sigma}_2^2/n_2)^2}{n_2 - 1}}$$

This classic Behrens-Fisher problem is discussed in Kendall and Stuart, Theory of Advanced Statistics (1969).

Examination of Table 11 indicates that research hypothesis two was not supported for the state of guilt scores. In each group, post-test guilt scores were lower after viewing the stimuli than before the viewing, although the score decreases were minimal, as is indicated in Figure 1.

Research hypothesis two was partially supported for the state of arousal scores as indicated in Table 12. In all cases except the t-test comparison for control group 1 and experimental group 1 before and after viewing the stimuli, the difference in group mean scores was not significant at the .05 level. In that comparison, experimental group 1 showed a higher state of arousal than control group 1. This is graphically represented in Figure 2.

Research hypothesis 3: There will be no significant differences in the trait of guilt, as measured by the MTFGI between pre and post-test scores within both experimental and control groups.

Dependent (or correlated) t-tests were run on the pre and post-test MTFGI scores for control group 2 and experimental group 2. The result, appearing in Tables 13 and 14 indicate partial support for research hypothesis three. Control group 2 showed a non-significant increase in the trait of sex guilt while experimental group 2 showed a significant decrease in that same trait.

Table 11

T-Test Comparisons for Group Mean Scores
on Post-Test State of Guilt

Group	N	Mean	Std.Dev.	Std.Error	t	df	Prob. (T)
Before Viewing Stimuli							
Control 1	10	7.9	1.853	0.586	-1.946	12.7	0.07
Experimental 1	10	10.6	3.978				
After Viewing Stimuli							
Control 1	10	7.4	0.966	0.306	-2.002	9.9	0.07
Experimental 1	10	10.2	4.315	1.365			
			(Variances Unequal)				
Before Viewing Stimuli							
Control 2	10	9.3	4.270	1.350	0.357	18	0.72
Experimental 2	10	8.7	3.164	1.001			
			(Variances Equal)				
After Viewing Stimuli							
Control 2	10	8.8	5.007	1.583	0.540	11.0	0.60
Experimental 2	10	7.9	1.663	0.526			
			(Variances Unequal)				

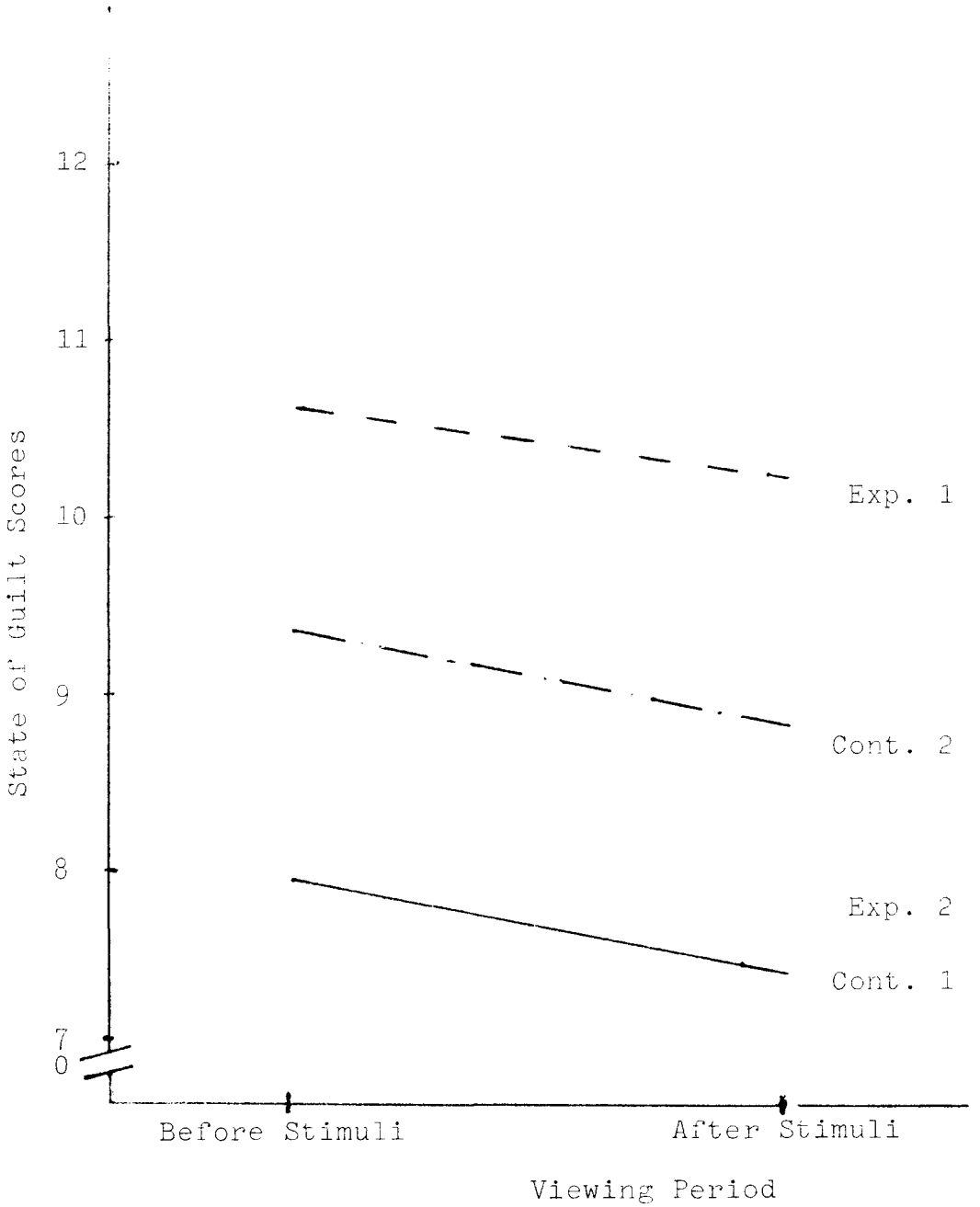

Figure 1. Post-test state of guilt group mean scores.

Table 12

T-Test Comparisons for Group Mean Scores
on Post-Test State of Arousal

Group	N	Mean	Std.Dev.	Std.Error	t	df	Prob. (T)
Before Viewing Stimuli							
Control 1	10	10.9	3.725	1.178	-2.050	18	0.006**
Experimental 1	10	17.1	5.301	1.676			
			(Variances Equal)				
After Viewing Stimuli							
Control 1	10	15.6	4.326	1.368	-2.802	18	0.01*
Experimental 1	10	20.8	3.967	1.254			
			(Variances Equal)				
Before Viewing Stimuli							
Control 2	10	8.4	2.119	0.670	-0.604	18	0.55
Experimental 2	10	9.2	3.615	1.143			
			(Variances Equal)				
After Viewing Stimuli							
Control 2	10	14.7	4.968	1.571	1.644	18	0.12
Experimental 2	10	11.4	3.950	1.249			
			(Variances Equal)				

* $p < .05$
** $p < .01$

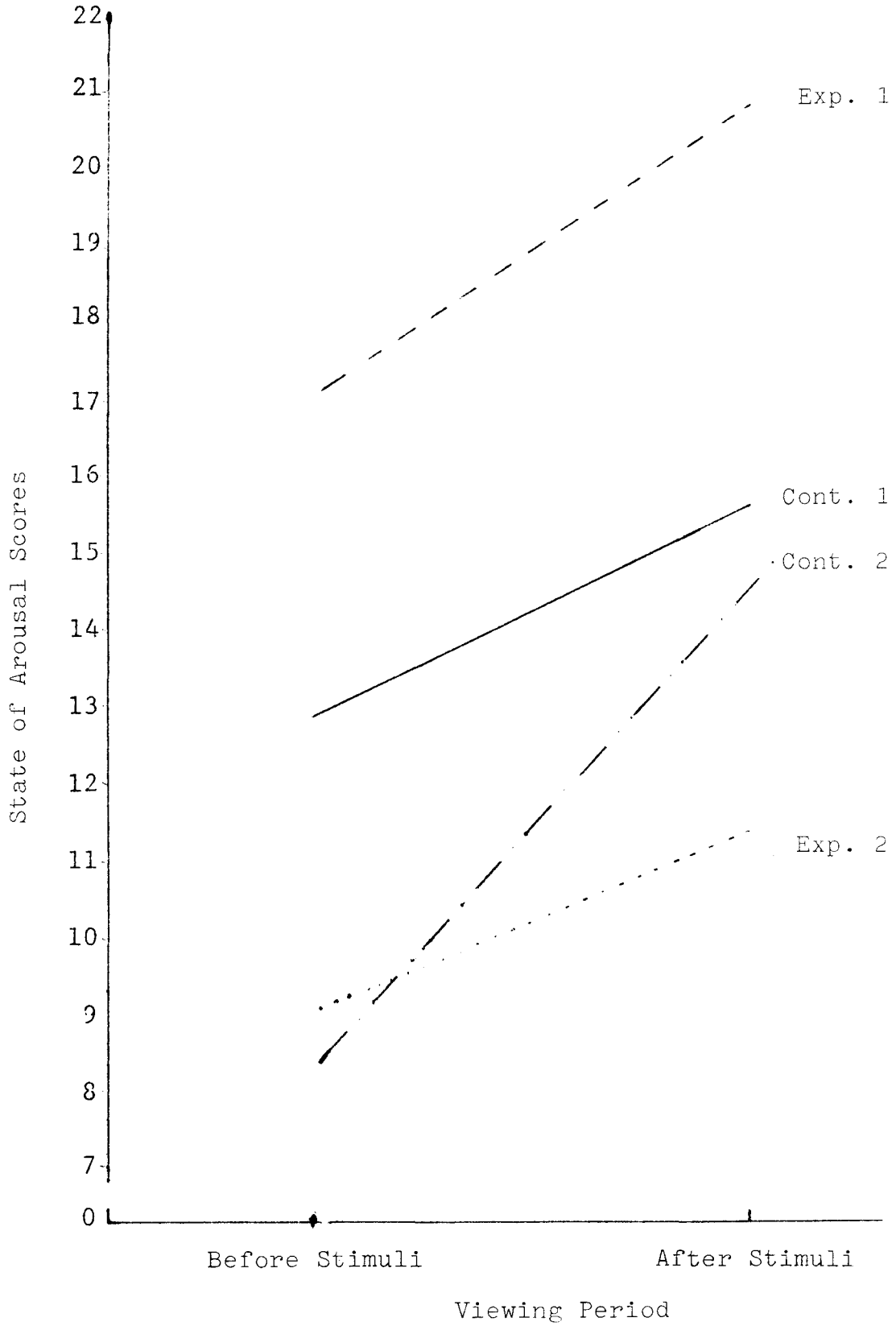

Figure 2. Post-test state of arousal group mean scores.

Table 13

Correlated T-Test Comparison of
MTFGI Change Scores

Source	W	Mean	Std.Dev.	Std.Error	t	Pr. (T)
Control 2 Change	10	0.60	4.061	1.284	0.47	0.6514
Experimental 2 Change	10	-2.30	3.020	0.955	-2.41	0.0395*

* $p<.05$

Table 14

MTFGI Pre and Post Group Means

Group	Pre	Post	Change
Control			
HSG	----	-27.2	----
LSG	----	-33.0	----
Total	----	-30.1	----
Experimental 1			
HSG	----	-30-2	----
LSG	----	-36.0	----
Total	----	-33.1	----
Control 2			
HSG	-26.2	-25.2	+1.0
LSG	-35.8	-35.6	+0.2
Total	-31.0	-30-4	+0.6
Experimental 2			
HSG	-28.2	-30.6	-2.4
LSG	-33.0	-35.2	-2.2
Total	-30.6	-32.9	-2.3

Research hypothesis 4: The experimental group will demonstrate a significantly greater change in ANS response from pre-test to post-test scores than will the control group.

Split-plot factorial analysis of variance tests (Kirk, 1968) with repeated measures were run for each ANS test (GSR, maximum GSR, conductance change, finger pulse 1, finger pulse 2, and finger pulse 3) to examine the relationship and interaction of ANS changes scores (post-test minus pre-test scores), group, level of sex-guilt (HSG, LSG) and stimulus period (base, alert and stimulus). A model of this procedure is shown in Figure 3 and Table 15.

Because the subjects were assigned to high and low sex guilt (HSG and LSG) cells based on MTFGI results and not on a random basis, the usual assumptions for this type of statistical analysis were not met. To compensate for this condition, a conservative compound symmetry test, the sphericity test (Anderson 1958), was conducted on all 24 combinations of ANS and stimulus conditions. The calculated probabilities for each of these appear in Table 16. Where the probability is .05 or less, results of the analysis may be subject to serious question. This is the case in 4 of the 24 calculations. Only the analyses of Max GSR and conductance change in combination with the masturbation and coitus stimuli are subject to such question.

All ANS scores were converted to change scores (post-test minus pre-test) before the repeated measures SPF-22.3 analysis was done.

The analysis of the GSR scores yielded no significant differences between change scores of the control and experimental groups for the dating and petting stimuli. They did, however, for the masturbation and coitus stimuli as indicated in Tables 17 and 18, respectively. Where these significant differences appeared, cell means were compared, using Tukey's ratio (Kirk, 1968).

a_1 = control group 2
a_2 = experimental group 2 (p=2)

b_1 = base period
b_2 = alert period
b_3 = stimulus period (q=3)

c_1 = high sex guilt
c_2 = low sex guilt (r=2)

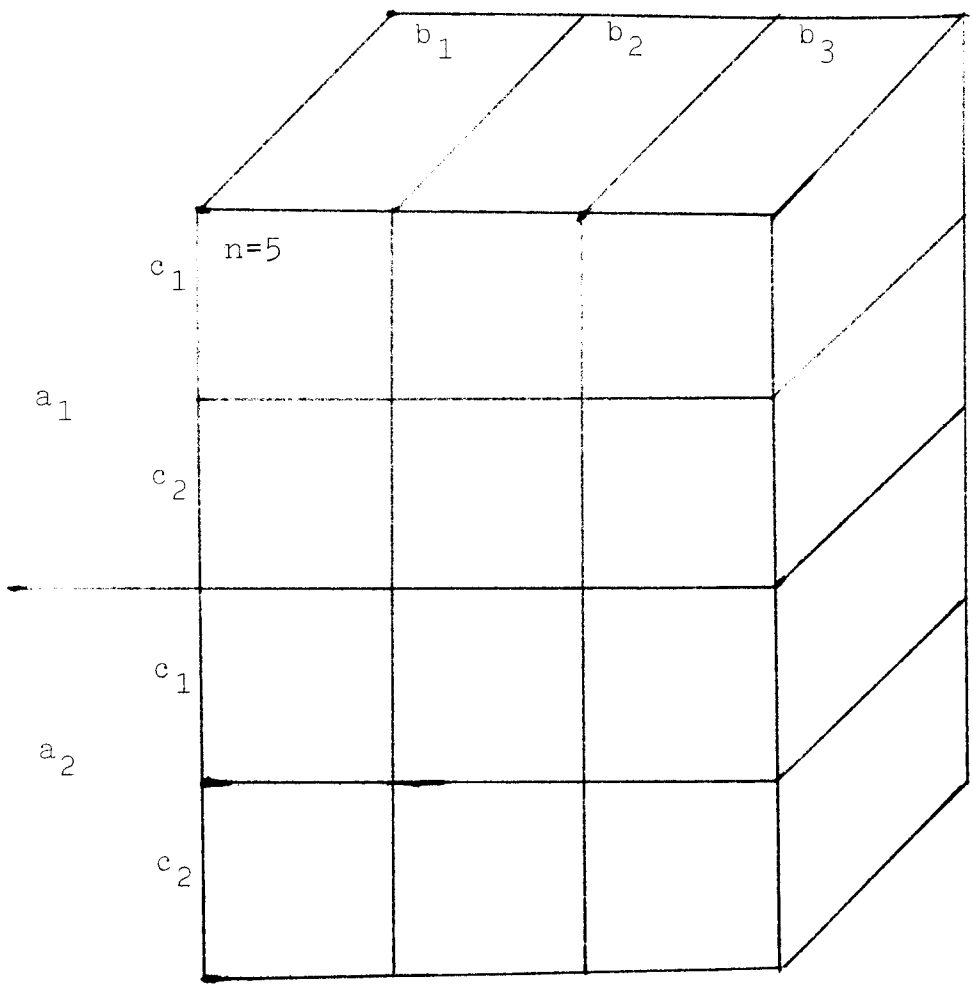

Figure 3. Schematic diagram of SPF-22.3 design.

Table 15

Analysis of Variance Table for Type
SPF-22.3 Design

	Subjects	SS	df	MS	F
1.	Between subjects		19	(2/ 5)	
2.	A (group)		1	(2/ 5)	
3.	C (sex-guilt)		1	(3/ 5)	
4.	AC		1	(4/ 5)	
5.	Subj. within groups		16		
6.	Within subjects		40		
7.	B (stimulus)		2	(7/11)	
8.	AB		2	(8/11)	
9.	BC		2	(9/11)	
10.	ABC		2	(10/11)	
11.	Bx Subj. with grps.		32		
	Total		59		

Table 16

Compound Symmetry Probabilities for All ANS and Stimulus Combinations

	Dating	Petting	Mast.	Coitus
GSR	.250	.220	.346	.602
Max GSR	.373	.170	.003**	.034*
Cond. Change	.674	.999	.010*	.0001**
Finger Pulse 1	.988	.074	.376	.403
Finger Pulse 2	.629	.892	.670	.280
Finger Pulse 3	.523	.276	.177	.929

* $p<.05$
** $p<.01$

Table 17

Split-Plot Factorial Analysis of Variance For
GSR Change Scores with Masturbation Stimulus

Source	SS	df	MS		F
1. Between subjects	95.400	19			
2. A (group)	2.400	1	2.400	(2/ 5)	0.59
3. C (sex-guilt)	15.000	1	15.000	(3/ 5)	3.70
4. AC	13.067	1	13.067	(4/ 5)	0.09
5. Subj. within groups	64.933	16			
6. Within subjects	110.500	40			
7. B (period)	4.275	2	2.138	(7/11)	0.92
8. AB	18.775	2	9.388	(8/11)	4.06*
9. BC	6.775	2	3.388	(9/11)	1.46
10. ABC	6.608	2	3.304	(10/11)	1.43
11. Bx. Subj. With Groups	74.067	32	2.315		
Total	205.900	59			

* $p < .05$

Table 18

Split-Plot Factorial Analysis of Variance for GSR Change Scores with Coitus Stimulus

Source	SS	df	MS		F
1. Between subjects	108.001	19			
2. A (group)	0.067	1	0.067	(2/ 5)	0.01
3. C (sex-guilt)	2.400	1	2.400	(3/ 5)	0.39
4. AC	8.067	1	8.067	(4/ 5)	1.32
5. Subject within groups	97.467	16	6.092		
6. Within subjects	67.499	40			
7. B (period)	15.925	2	7.962	(7/11)	7.09**
8. AB	1.358	2	0.679	(8/11)	0.61
9. BC	11.425	2	5.712	(9/11)	5.09*
10. ABC	2.858	2	1.429	(10/11)	1.27
11. Bx Subj. with groups	35.933	32	1.123		
Total	175.500	59			

* $p < .05$
** $p < .01$

Comparisons indicate that for the GSR-masturbation combination, the experimental group showed a significant difference from the control group during the alert period. This is seen in figure 4.

In the GSR-coitus combination, two comparisons yield significance. All subjects combined showed a significantly smaller change in GSR's during the stimulus phase than during either the base or the alert phases, as is indicated in Figure 5.

A comparison of all subjects divided by level of sex guilt indicates that the LSG subjects showed a significantly greater change than the HSG subjects in GSRs during the base period of the coitus stimulus, as is indicated in Figure 6.

Analysis of the Max GSR change scores indicates no significant differences or inter-actions for either the dating or coitus stimuli. This set of ANS change scores, however, does indicate some significant results for the petting and masturbation stimuli.

The Max GSR change scores for the petting stimulus indicates that all subjects combined showed a significantly greater change in both the base and stimulus periods than in the alert period, as indicated in Table 19. The same analysis (Table 20) indicates significant inter-action between the stimulus period and the group. In the experimental group's change scores there is a significant difference between the base and the alert periods and between the alert and the stimulus periods. These, the only two significant results of the Tukey's ratio examination can be seen on Figure 7.

In the analysis of the Max GSR change scores for the masturbation stimulus (Table 21), only one significant finding appears in the change scores of all subjects combined for this stimulus. The scores for the stimulus period are significantly different than those for the base and alert periods as can be seen in Figure 8.

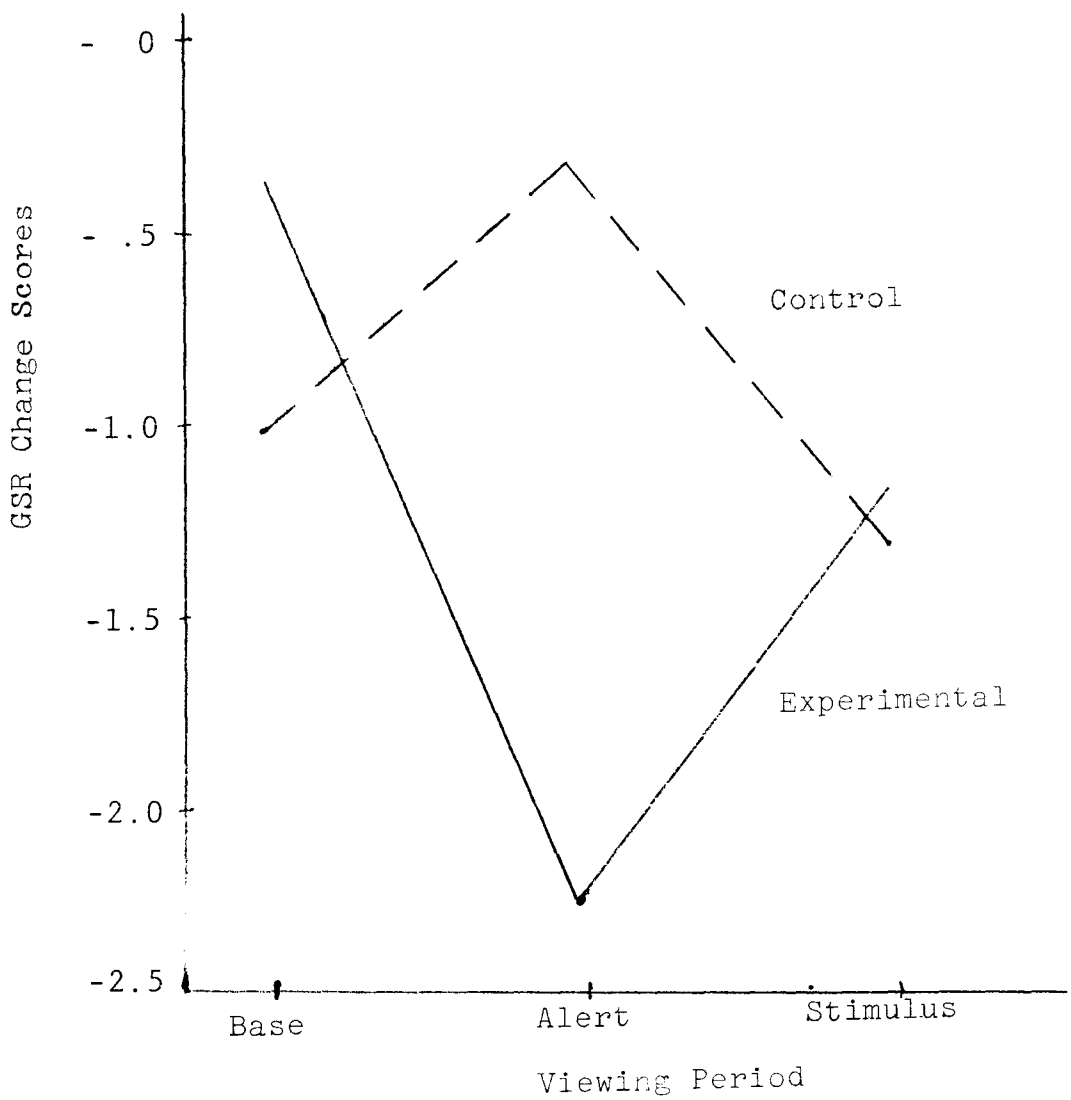

Figure 4. GSR change scores by group, masturbation stimulus.

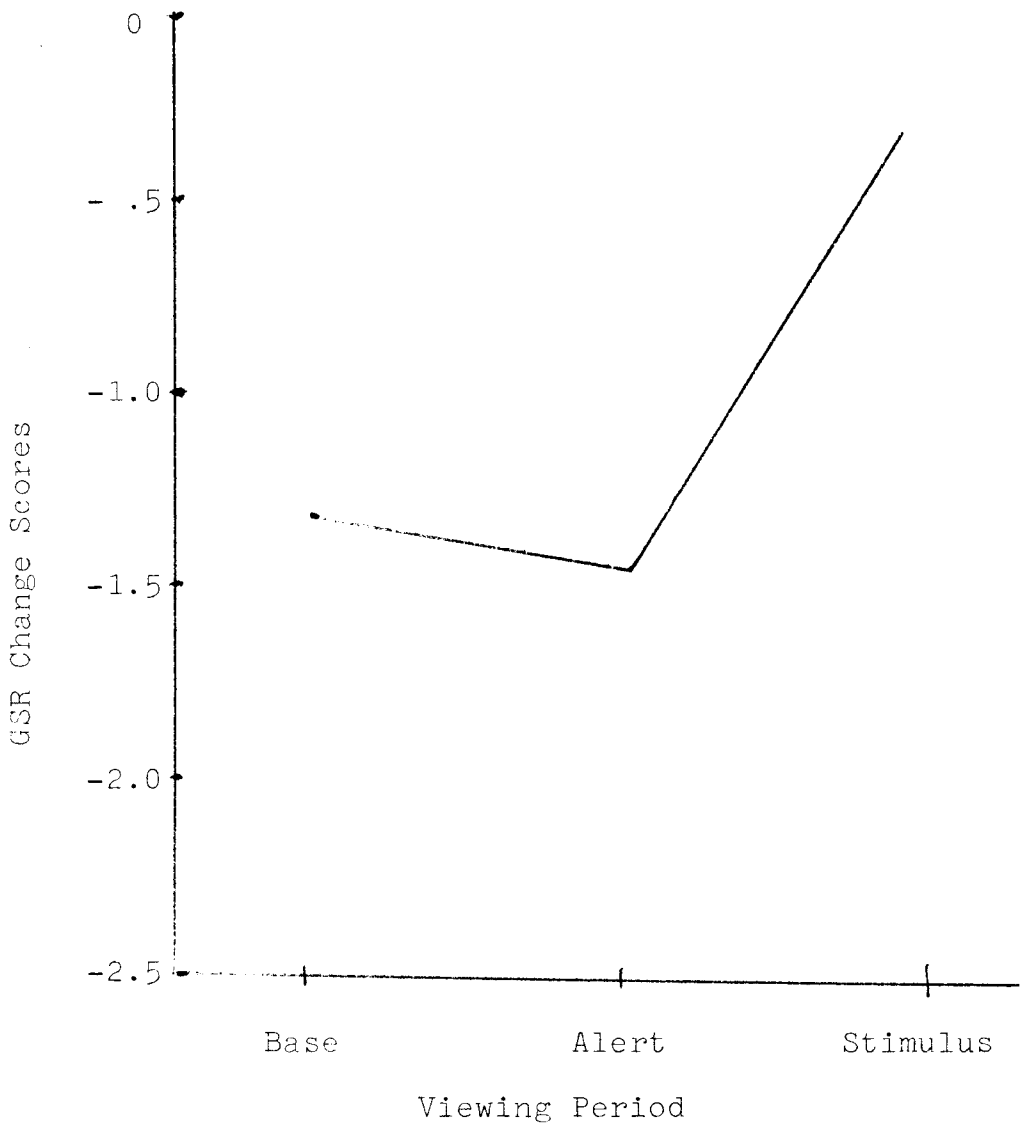

Figure 5. GSR change scores, all subjects, coitus stimulus.

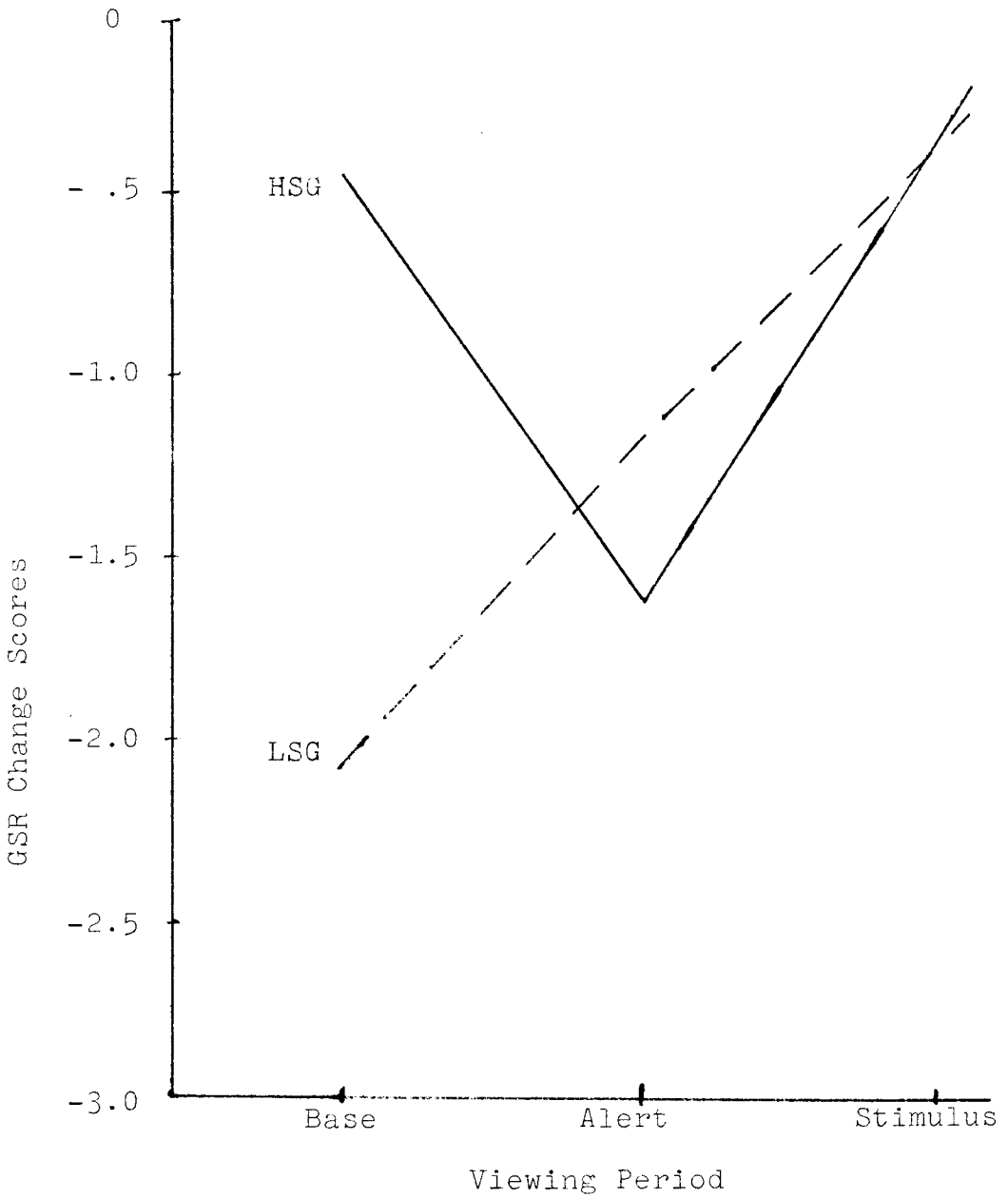

Figure 6. GSR change scores by guilt, coitus stimulus.

Table 19

Split-Plot Factorial Anallysis of Variance for
Max GSR Change Scores with Petting Stimulus

Source	SS	df	MS		F
1. Between subjects	473.079	19			
2. A (group)	3.504	1	3.504	(2/ 5)	0.13
3. C (sex-guilt)	3.038	1	3.038	(3/05)	0.11
4. AC	30.104	1	30.104	(4/ 5)	1.10
5. Subj. within groups	436.433	16	27.277		
6. Within subjects	270.666	40			
7. B (period)	42.108	2	21.054	(7/11)	4.61*
8. AB	49.758	2	24.879	(8/11)	5.45**
9. BC	23.425	2	11.712	(9/11)	2.57
10. ABC	9.308	2	4.654	(10/11)	1.02
11. Bx. subj. with groups	146.067	32	4.565		
Total	743.745	59			

* $p < .05$
** $p < .01$

Table 20

Group Means Max GSR Change Scores
For Petting Stimulus

	Control	Experimental	All Subjects
Base	-2.40	-2.70	-2.55
Alert	-1.55	+0.19	-0.725
Simulus	-1.05	-3.85	-2.45

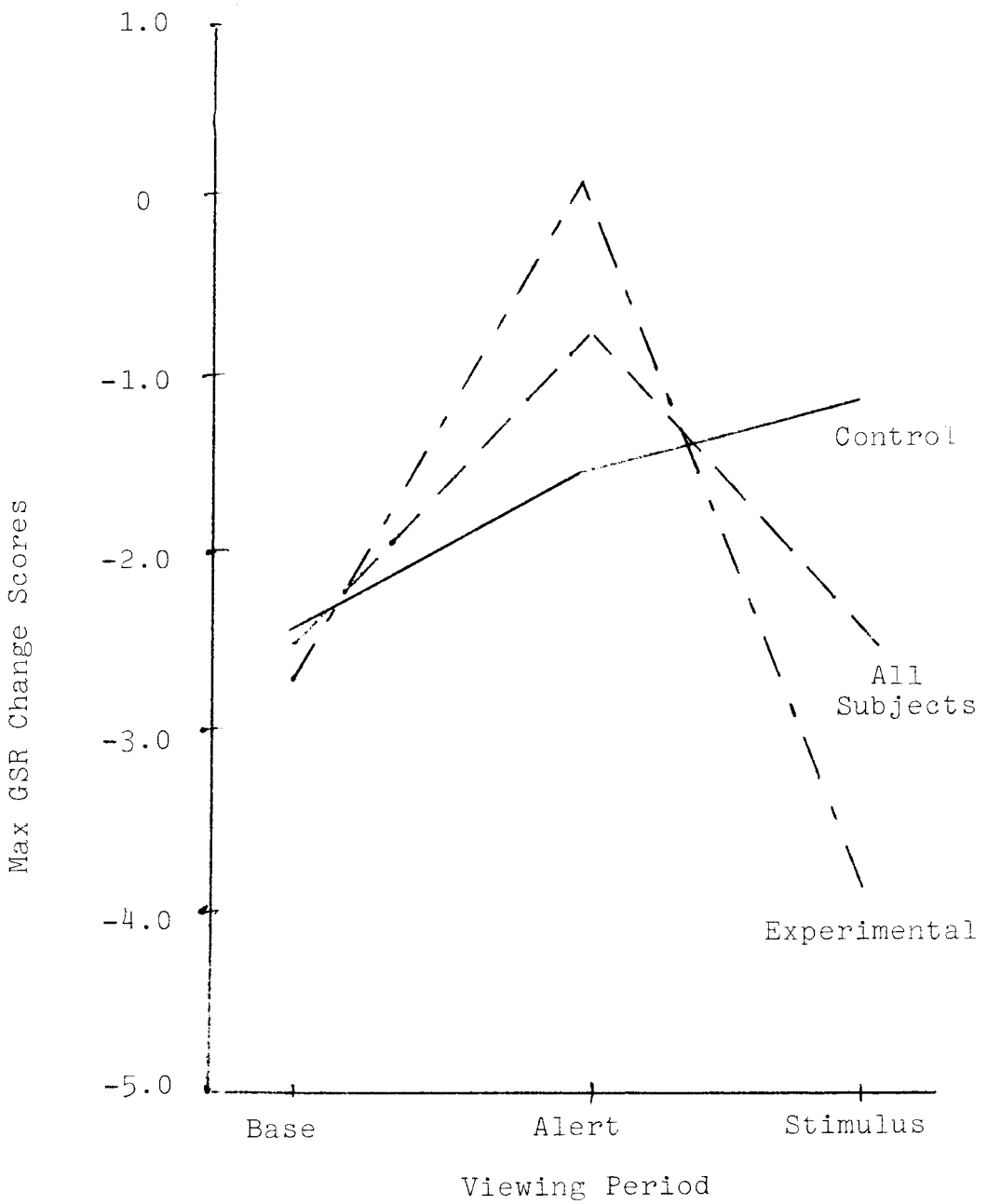

Figure 7. Max GSR change scores by group, petting stimulus.

Table 21

Split-Plot Factorial Analysis of Variance for
Max GSR Change Scores with Masturbation Stimulus

Source	SS	df	MS		F
1. Between subjects	512.414	19			
2. A (group)	10.838	1	10.838	(2/ 5)	0.38
3. C (sex-guilt)	36.038	1	36.038	(3/ 5)	1.26
4. AC	6.338	1	6.338	(4/ 5)	0.22
5. Subj. within grps	459.200	16	28.700		
6. Within subjects	1,042.333	40			
7. B (period)	301.458	2	150.729	(7/11)	7.96*
8. AB	31.275	2	15.638	(8/11)	0.83
9. BC	94.375	2	47.188	(9/11)	2.49
10. ABC	9.525	2	4.762	(10/11)	0.25
11. Bx subj. with grps	605.700	32	18.928		
Total	1,554.747	59			

* $p < .05$
** $p < .01$

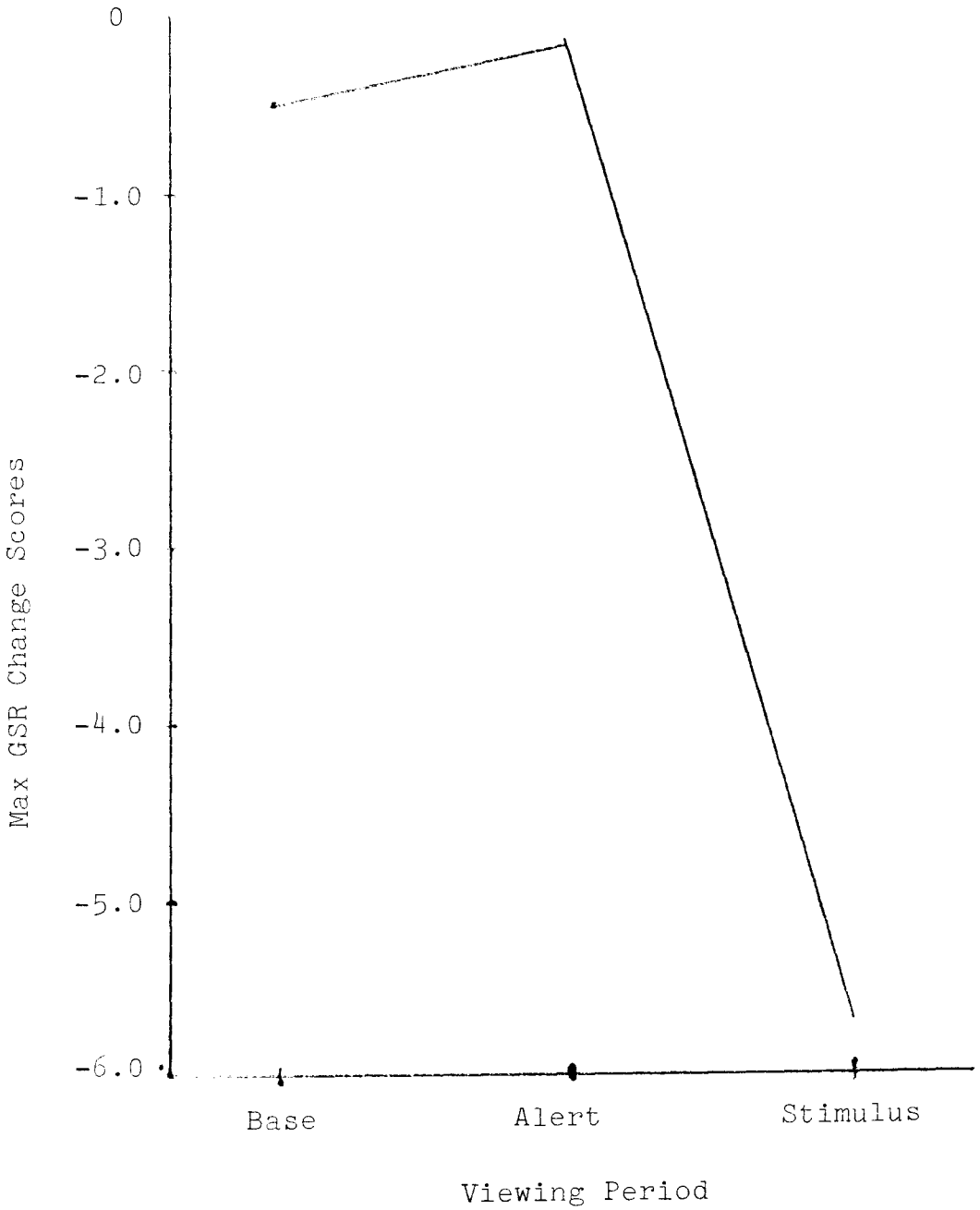

Figure 8. Max GSR change scores for all subjects, masturbation stimulus.

The conductance change (CC) change scores, when analyzed, yield only one significant change for the masturbation stimulus. There were none for the other three stimuli. In the analysis of the CC change sores for the masturbation stimulus (Table 22), statistical significance was found for all subjects with the stimulus period. As can be observed in Figure 9, the difference between the base and alert periods was significant.

A review of all the analyses of finger pulse change scores yielded significance only in the third ten second unit (FP3) of this ANS measurement. The first (FPl) and second (FP2) units of ten seconds each yielded no significant findings.

The FP3 change sores for the dating, petting and masturbation stimuli showed some significant differences while those for the coitus stimulus showed none.

The FP3 change scores for the dating stimulus yielded one significant finding, three-way inter-action between the stimulus period, the group and level of sex-guilt as can be seen in Table 23. Application of the Tukey's ratio to the cell means yields two significant findings as can be seen in Figure 10. The base score for the HSG experimental group was significantly different than for the other three cells (exp. LSG, cont. HSG and cont. LSG). It is also significantly different from the stimulus score for the same cell.

In the FP3 analysis for the petting stimulus, significant inter-action between the level of sex-guilt and the stimulus period were identified, as can be seen in Table 24. Using Tukey's ratio to examine means, it can be seen that the HSG, combined experimental and control, change scores for the stimulus period are significantly different from their own scores in the alert period and from the LSG in the stimulus period. This is graphically seen in Figure 11.

Table 25, the analysis for FP3 change scores with the masturbation stimulus indicates significant inter-action between levels of sex-guilt and the stimulus

Table 22

Split-Plot Factoral Analysis of Variance for
Conductance Change Change Scores with Masturbation Simulus

Source	SS	df	MS		F
1. Between subjects	1.82.484	19			
2. A (group)	9.600	1	9.600	(2/ 5)	1.00
3. C (sex-guilt)	17.067	1	17.067	(3/ 5)	1.78
4. AC	2.017	1	2.017	(4/ 5)	0.21
5. Subj. within grps	153.800	16	9.612		
6. Within subjects	166.999	40			
7. B (period)	34.358	2	17.179	(7/11)	4.54*
8. AB	5.425	2	2.712	(9/11)	0.72
9. BC	4.008	2	2.004	(9/11)	0.53
10. ABC	2.008	2	1.004	(10/11)	0.27
11. Bx subj. with grps	121.200	32	3.788		
Total	349.483	59			

* $p < .05$
** $p < .01$

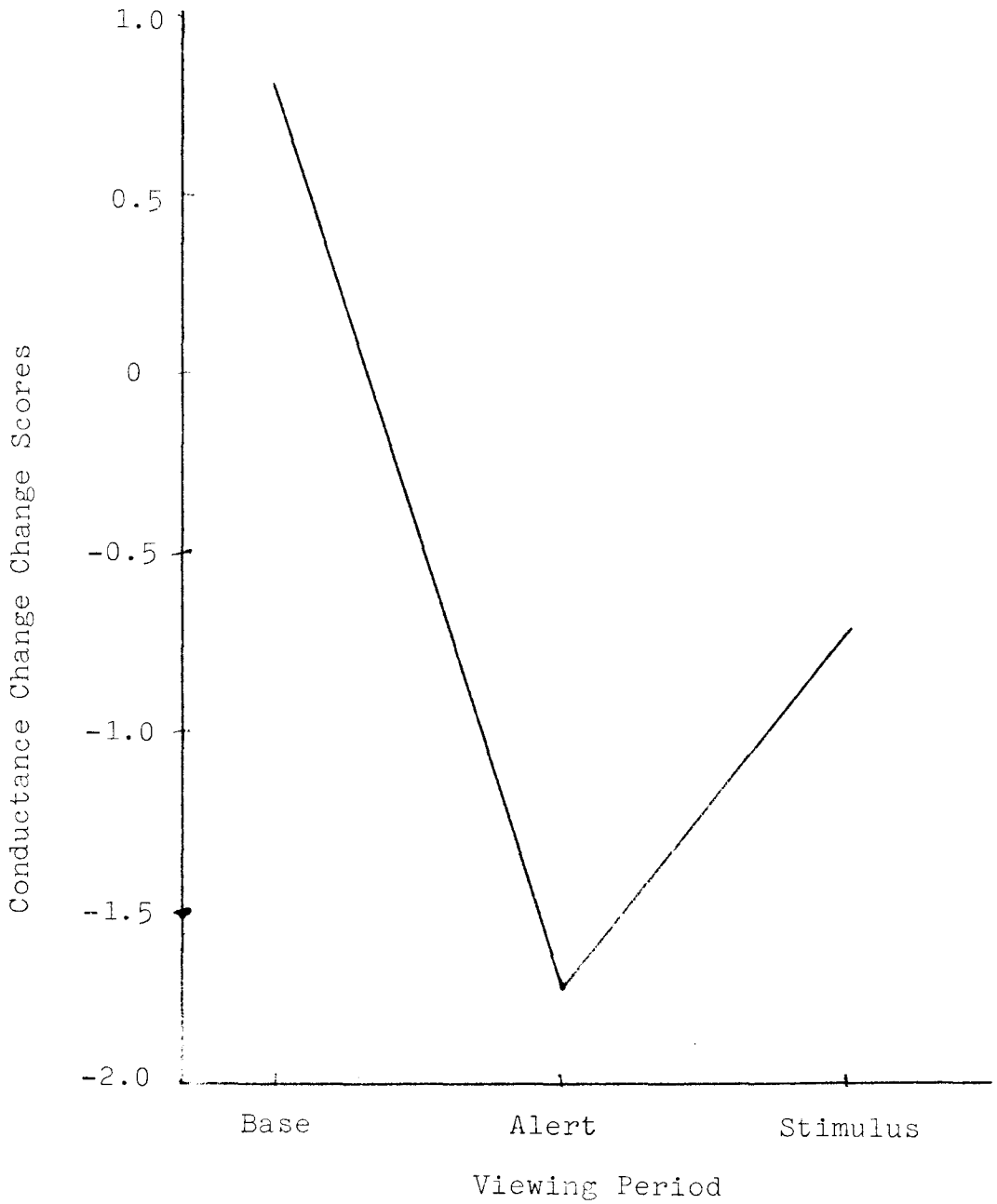

Figure 9. Conductance change change scores for all subjects, masturbation stimulus.

Table 23

Split-Plot Factorial Analysis of Variance for
F.P. 3 Change Scores with Dating Stimulus

Source	SS	df	MS		F
1. Between subjects	17.884	19			
2. A (group)	0.963	1	0.963	(2/ 5)	0.97
3. C (sex-guilt)	0.963	1	0.963	(3/ 5)	0.97
4. AC	0.011	1	0.011	(4/ 5)	0.01
5. Subject within grps	15.974	16	0.997		
6. Within subjects	9.145				
7. B (period)	0.165	2	0.083	(7/11)	0.40
8. AB	0.197	2	0.099	(8/11)	0.48
9. BC	0.533	2	0.267	(9/11)	1.28
10. ABC	1.605	2	0.803	(10/11)	3.87*
11. Bx subj. with grps	6.645	32	0.208		
Total	27.029	59			

* $p < .05$
** $p < .01$

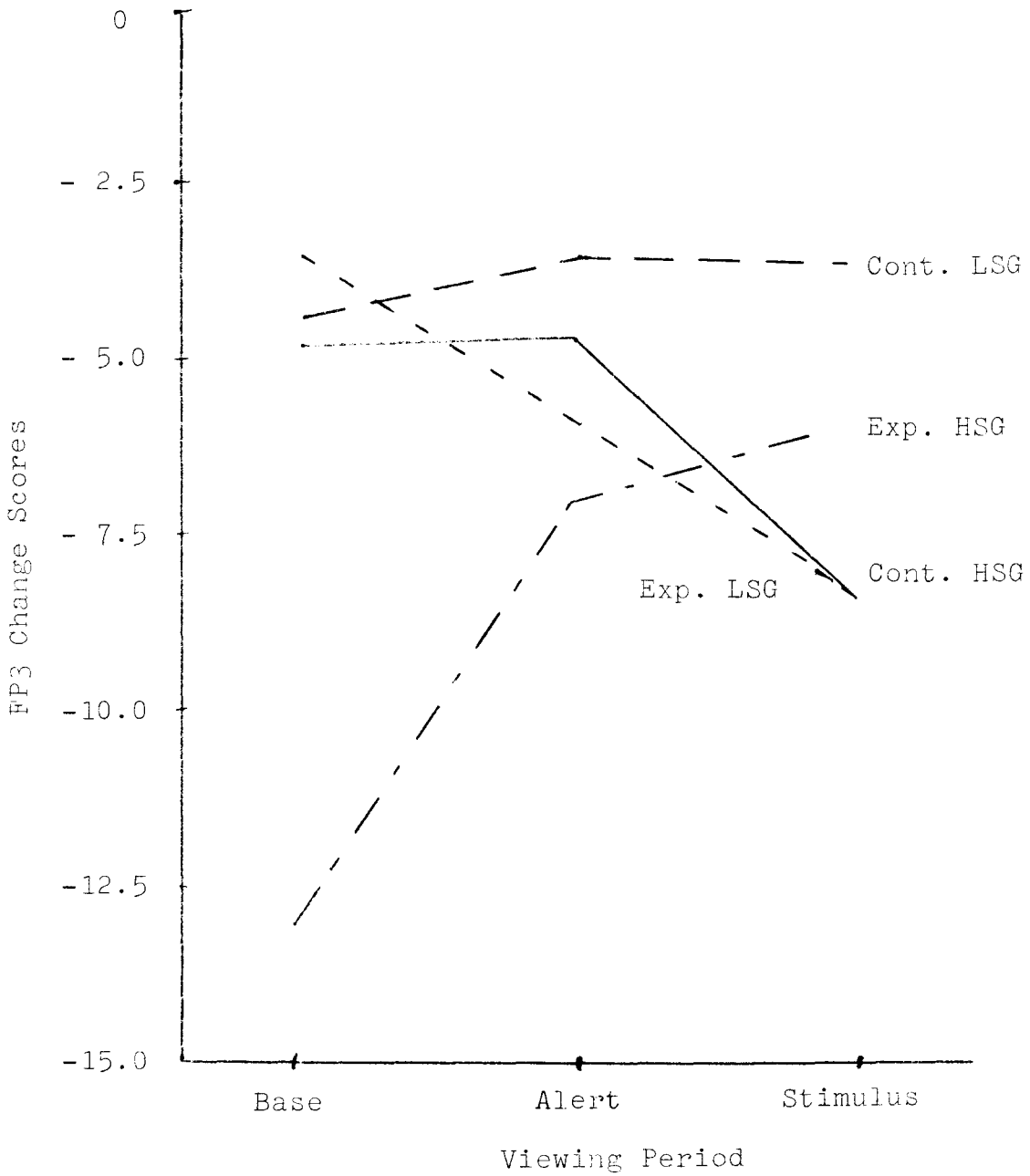

Figure 10. FP3 change scores by group and sex guilt for dating stimulus.

Table 24

Split-Plot Factorial Analysis of Variance for F.P. 3 Change Scores with Petting Stimulus

Source	SS	df	MS		F
1. Between subjects	38.514	19			
2. A (group)	2.646	1	2.646	(2/ 5)	1.18
3. C (sex-guilt)	0.054	1	0.054	(3/ 5)	0.02
4. AC	0.006	1	0.006	(4/ 5)	0.00
5. Subject within grp.	35.808	16			
6. Within subjects	13.200	40			
7. B (stimulus period)	0.972	2	0.486	(7/11)	1.68
8. AB	0.468	2	0.234	(8/11)	0.81
9. BC	2.412	2	1.206	(9/11)	4.17*
10. ABC	0.084	2	0.042	(10/11)	0.15
11. Bx Subj. with grps	9.264	32	0.290		
Total	51.714	59			

* $p < .05$
** $p < .01$

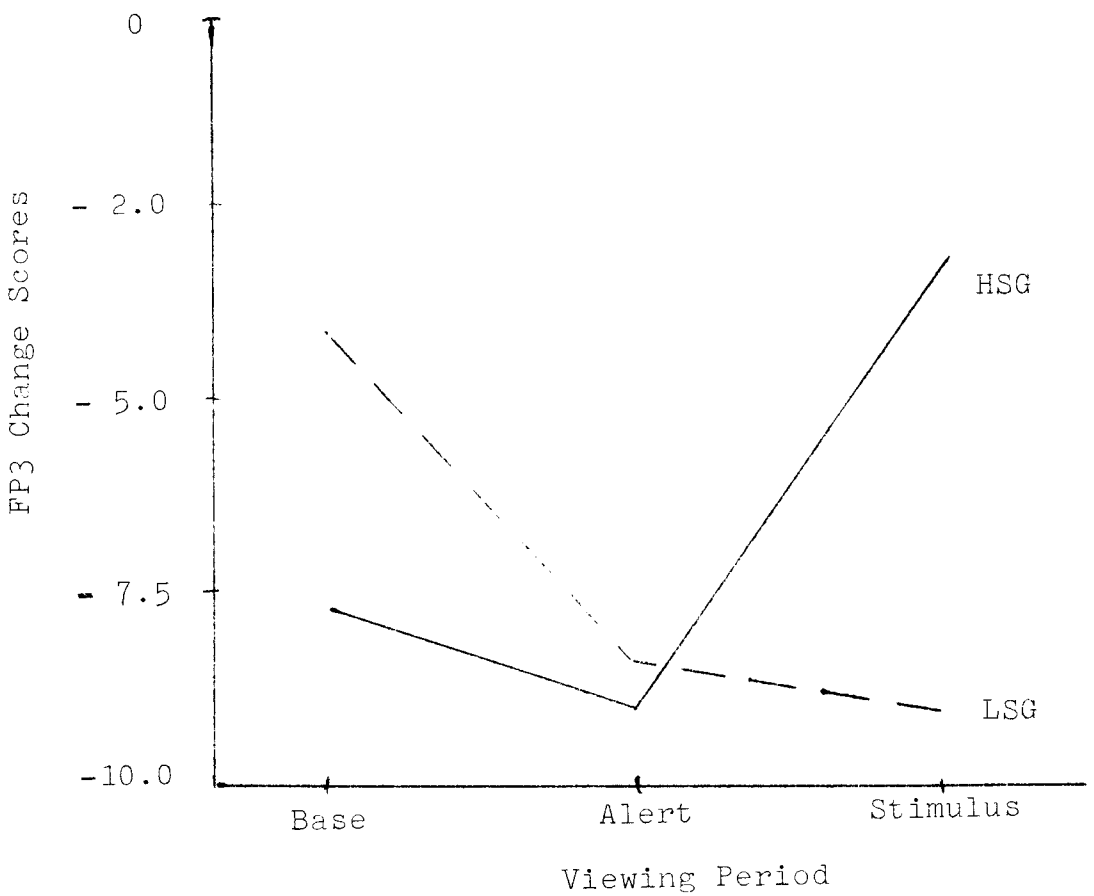

Figure 11. FP3 change scores by sex guilt for petting stimulus.

Table 25

Split-Plot Factorial Analysis of Variance for
F.P. 3 Change Scores with Masturbation Stimulus

Source	SS	df	MS		F
1. Between subjects	32.120	19			
2. A (group)	2.054	1	2.054	(2/ 5)	1.09
3. C (sex-guilt)	0.002	1	0.002	(3/ 5)	0.00
4. AC	0.014	1	0.014	(4/ 5)	0.01
5. Subject within grps	30.050	16	1.878		
6. Within subjects	15.420	40			
7. B (stimulus period)	0.417	2	0.208	(7/11)	0.58
8. AB	0.237	2	0.118	(8/11)	0.33
9. BC	2.289	2	1.144	(9/11)	3.31*
10. ABC	1.053	2	0.526	(10/11)	1.47
11. Bx subj. with grps	11.424	32	0.357		
Total	47.540	59			

* $p < .05$
** $p < .01$

period. Significance between the HSG base period scores and the HSG stimulus period scores as well as between HSG and LSG scores in the base period can be seen graphically in Figure 12. Thus, research hypothesis four was partially supported.

Research hypothesis 5: There will be significant inter-action between type of group, level of guilt, and type of stimulus situation for the preference ratings of three of the four stimulus situations (petting, masturbation, coitus).

The data were analyzed in exactly the same procedures as were the data in hypothesis four, using the split plot factorial analysis of variance procedure with repeated measures. A model of this procedure is indicated in Figure 13.

These analyses showed no interaction as hypothesized. However, significant differences were found for all subjects between the dating and masturbation stimuli on two of the five preference rating scale change scores, the Pleasant-Unpleasant scale and the Appealing-Disgusting scale. These can be seen in examination of Tables 26 and 27 and figures 14 and 15. Thus, it may be said that hypothesis 5 was partially supported.

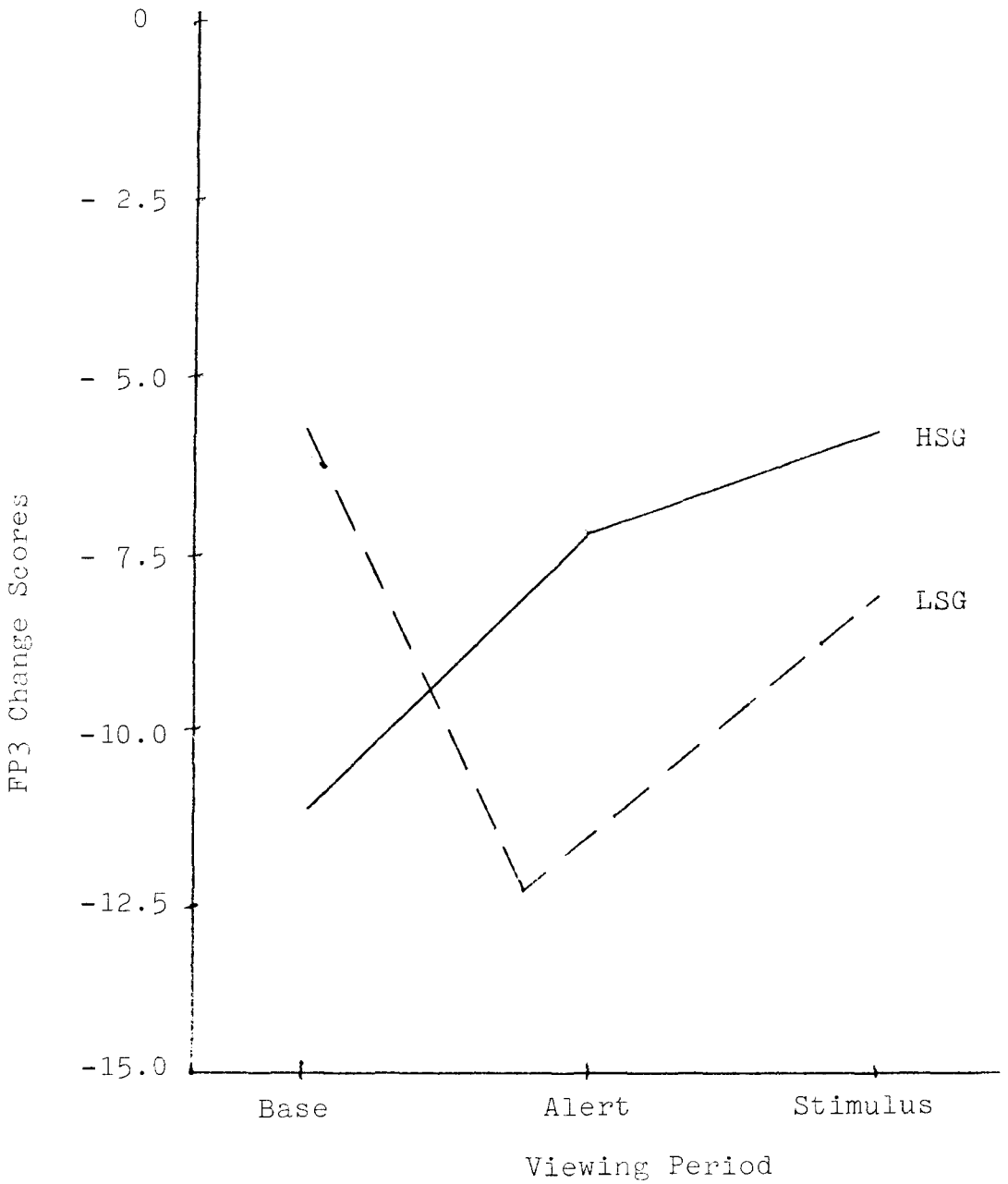

Figure 12. FP3 Change scores by sex guilt for masturbation stimulus.

a_1 = control group 2
a_2 = experimental group 2 (p=2)

b_1 = dating stimulus
b_2 = petting stimulus
b_3 = masturbation stimulus
b_4 = coitus stimulus (q=4)

c_1 = high sex guilt
c_2 = low sex guilt (r=2)

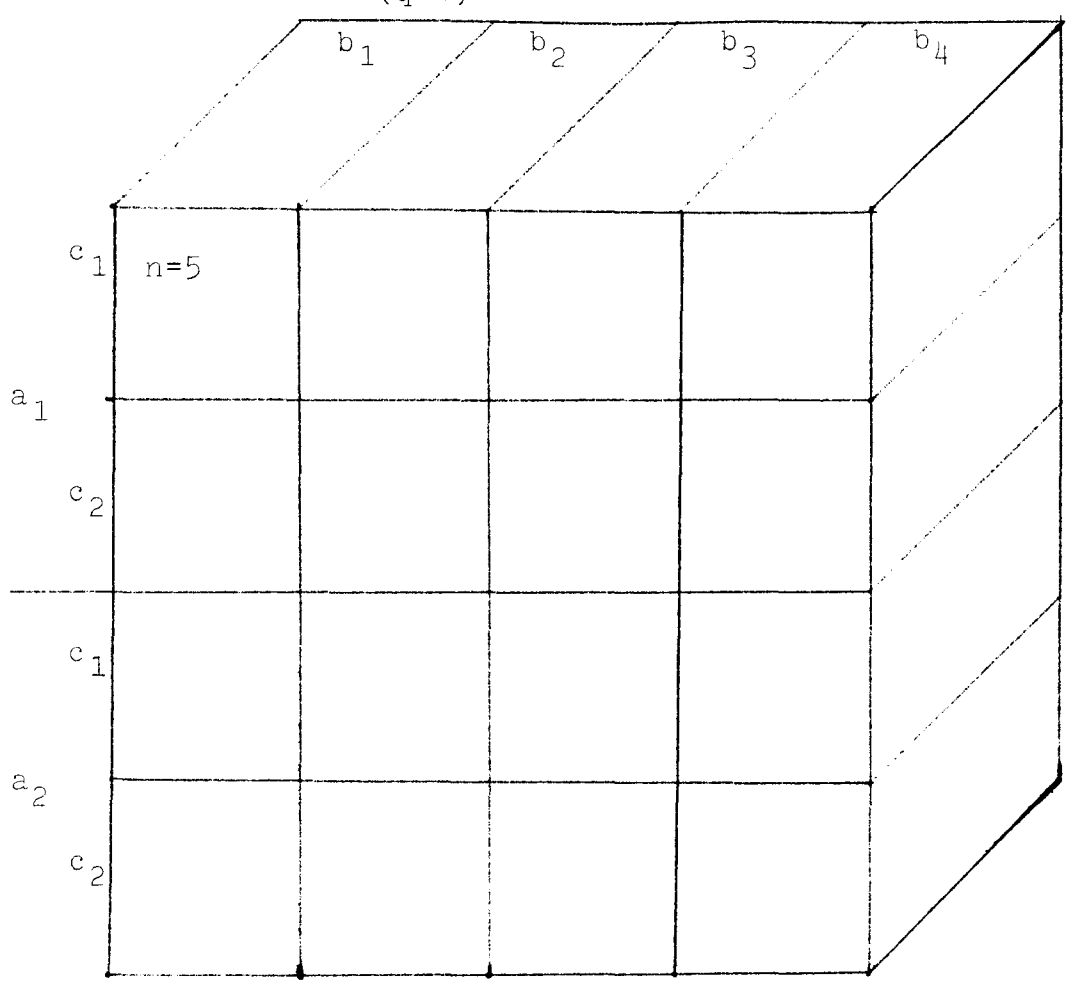

Figure 13. Schematic diagram of SPF-22.4 design

Table 26

Split-Plot Factorial Analysis of Variance for
Pleasant-Unpleasant Preference Rating Change Scores for all Stimuli

Source	SS	df	MS		F
1. Between subjects	37.136	19			
2. A (group)	1.512	1	1.512	(2/ 5)	0.80
3. C (sex-guilt)	1.012	1	1.012	(3/ 5)	0.54
4. AC	4.512	1	4.512	(4/ 5)	2.40
5. Subject within grps	30.100	16	1.881		
6. Within subjects	43.252	60			
7. B (stimuli)	6.938	3	2.312		3.62*
8. AB	2.238	3	0.746		1.17
9. BC	0.938	3	0.312		0.49
10. ABC	2.438	3	0.812		1.27
11. Bx subj. with grps	30.700	48	0.640		
Total	80.388	79			

* $p < .05$
** $p < .01$

Table 27

Split-Plot Factorial Analysis of Variance for
Appealing-Disgusting Preference Rating Change Scores for All Stimuli

Source	SS	df	MS		F
1. Between subjects	38.950	19			
2. A (group)	1.250	1	1.250	(2/ 5)	0.54
3. C (sex-guilt)	0.800	1	0.800	(3/ 5)	0.35
4. AC	0.200	1	0.200	(4/ 5)	0.09
5. Subject within grps	36.700	16	2.294		
6. Within subjects	47.000	60			
7. B (stimuli)	7.250	3	2.417	(7/11)	3.29*
8. AB	2.850	3	0.950	(8/11)	1.29
9. BC	0.700	3	0.233	(9.11)	0.32
10. ABC	0.900	3	0.300	(10/11)	0.41
11. Bx subj. with grps	35.300	48	0.735		
Total	85.950	79			

* $p<.05$
** $p< .01$

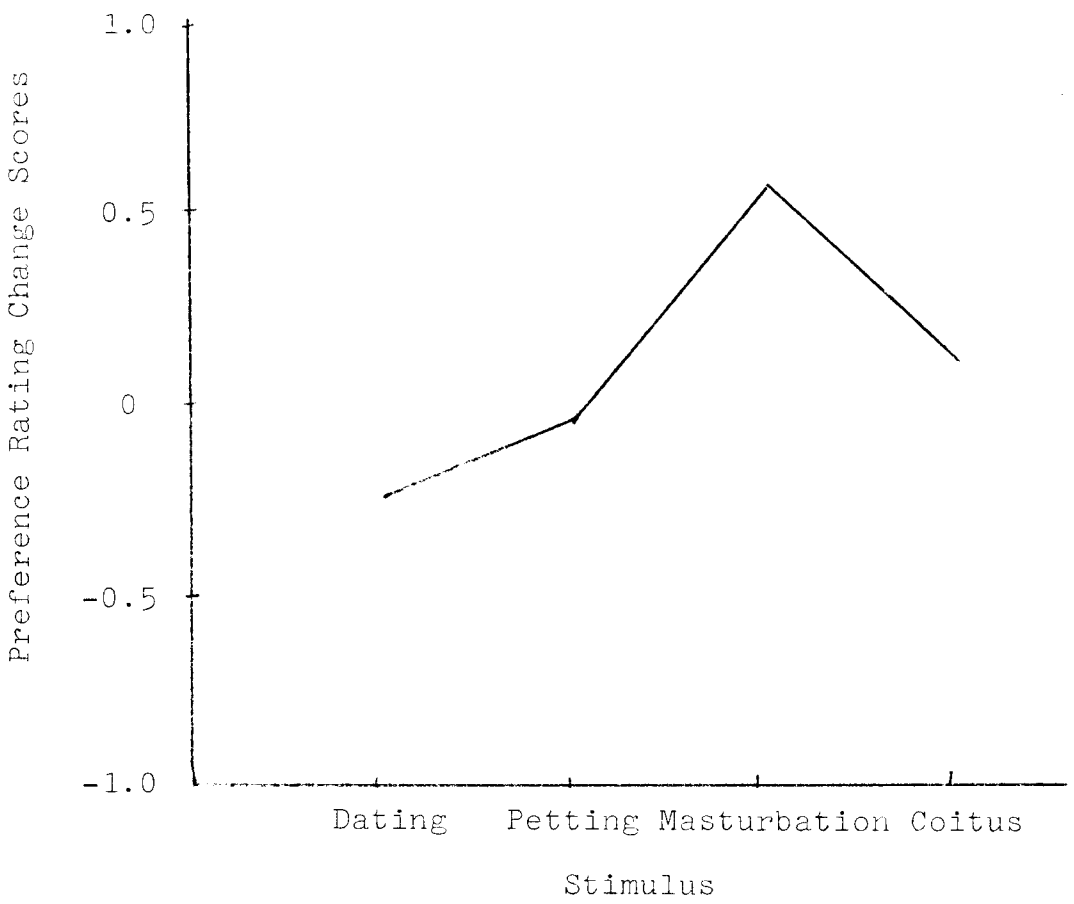

Figure 14. Pleasant-Unpleasant preference rating change scores for all stimuli, all subjects.

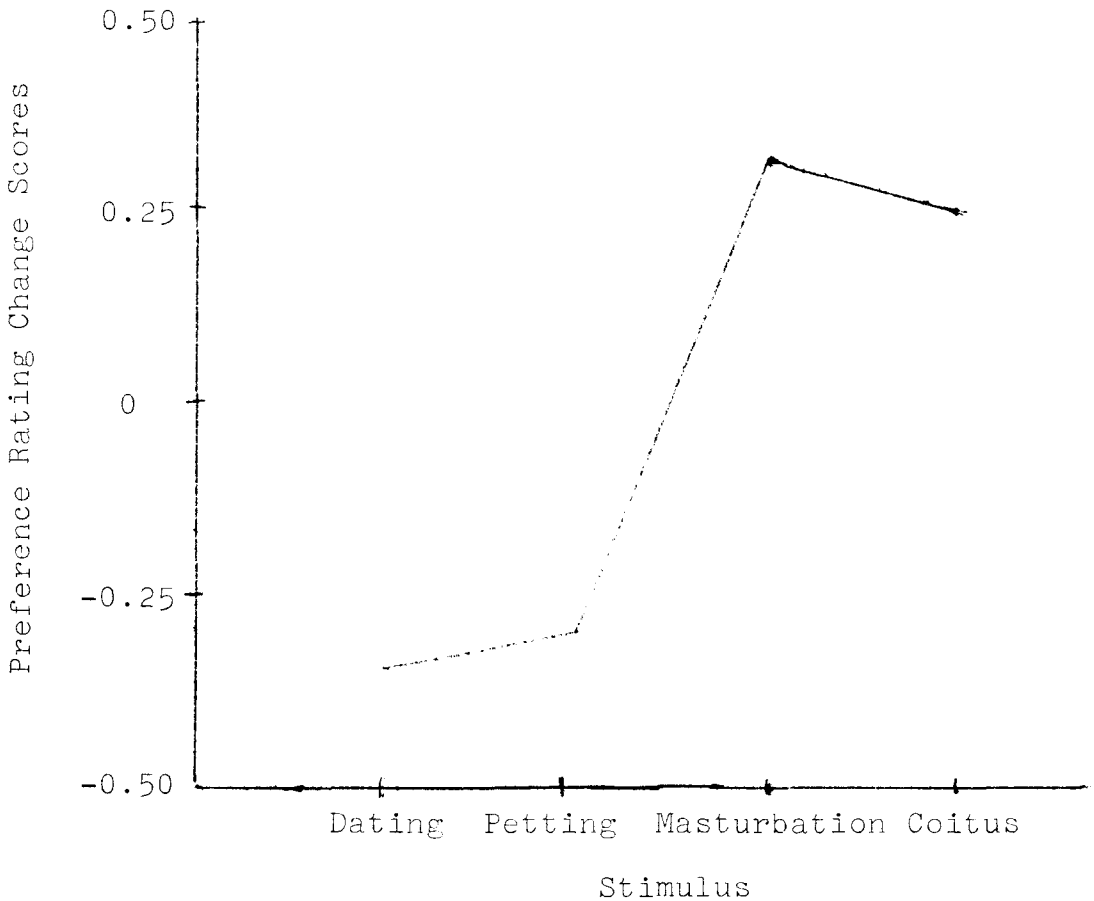

Figure 15. Appealing-Disgusting preference rating change scores for all stimuli, all subjects.

Chapter V

DISCUSSION AND CONCLUSIONS

A. Discussion

The purpose of this research was to examine the relationship and interaction of types of sexual stimuli and a personality trait, guilt, and their effect on pulse rate, galvanic skin response, self-report measures and attitudes before and after a training program designed to reassess attitudes towards human sexuality. Forty women students matriculated in a graduate school of social work volunteered as subjects.

Five hypotheses were advanced. Four were partially supported and one was not supported.

Research Hypothesis 1: The mean scores on each of the three attitudinal scales of the SKAT (HR, M, SM) will be significantly higher for the experimental groups than for the control groups as measured in the post-test. This hypothesis was not supported by the results of the research. An examination of the scores on the three attitudinal scales studied in this research indicates that the pre and post test mean scores of all groups were generally higher than those of the standardization groups used by Lief and Reed (1972) combined with subsequent results of follow-up work by those researchers. In almost every case, group mean scores of the present subjects were higher than those of the standardization groups, standard deviations

smaller and ranges narrower, as can be seen in Appendix K, Table 28. Thus, the subjects in this research appear to be more open and knowledgeable in their attitudes towards hetero-sexual relations, masturbation and sexual myths than the Lief and Reed standardization groups.

Several possible explanations for these differences occur to the author. First, the SKAT was designed and scaled by 1972 and the comparison group's scores were compiled up to January 1973. Testing for the current research was completed in April 1980, approximately seven years later. During this period (1973-1980) it would appear that societal behavior has become more open in the areas of discussion and understanding of sexual issues. Further, it appears to the author, there is an increasingly greater understanding of human sexuality and a wider recognition of differences in this area than existed at the beginning of the decade. If this is true, it would appear appropriate to suggest revising the SKAT to reflect current knowledge and attitudes.

Another possibility worthy of consideration is that women social work graduate students as a population tend to differ from the three standardization groups in both sexual knowledge and sexual attitudes.

Self-selection of the volunteer subjects is an additional area which might well be a factor. It is conceivable that students who were interested and knowledgeable in the area of human sexuality would volunteer to participate more readily in this research than would students who were less knowledgeable and interested. This supports the observation of Mandel (1976) as reported in Chapter III.

Finally, it should be noted that the pre-test scores of those groups to whom the pre-test was administered were all above 50. By definition, subjects who are more sexually knowledgeable and more accepting of sexual differences would score

at this level. Therefore, the limited gain scores in this population are possibly attributable to a ceiling effect within the SKAT.

Research Hypothesis 2: Post-test guilt state scores of the experimental groups will be lower than those of the control groups as measured by the adjective check lists; there will be no significant difference in post-test arousal scores of the experimental groups and control groups as measured by the adjective check list post-test.

A comparison of the state of guilt scores of matched control and experimental groups shows no significant differences in state of guilt scores either significant changes in these scores from before to after viewing in the post-test for any of the four groups. Thus, the first part of researh hypotheses 2 was not supported. This finding is similar to that of Ray and Walker (1973) who hypothesized in a similar experiment that "high sex guilt subjects would report an increase and low sex guilt subjects would report a decrease in the state of sexual guilt after viewing the erotic stimuli." Their hypothesis, too, was not supported; they, too, found a nonsignificant decrease in all subjects after viewing the same stimuli that were used in the current study. In the Ray and Walker report, the authors speculate that their subjects were predominantly seniors who might be acting on feelings that "they are too sophisticated to acknowledge feeling guilty about sexual material." In the current study, the subjects were even older and were graduate students in social work. Additionally, this finding is not surprising if one examines the trait of guilt scores as determined by the MTFGI. This instrument has a possible range of scores from +38 for high sex guilt to -38 for low sex guilt. Not one subject in the total project, pre or post-test, had a score higher than -15. Thus, almost all subjects might be viewed as being in the lowest quartile

of the range. One might reasonably expect that a subject population with such relatively low trait of guilt scores would also report relatively low state scores in this same personality variable.

Additionally, the erotic quality of the four visual stimuli might be considered rather commonplace at the time of this research. The slides were developed for research purposes in 1969 (Presidential Commission on Obscenity and Pornography, 1969). Similar explicit scenes are now depicted in a variety of readily accessible media. Societal standards for what was considered erotic in 1969 apparently have broadened in the eleven year period to 1980.

On the other hand, the second part of research hypothesis two was supported in two of the four comparisons made between equivalent control and experimental groups. The comparison of the state of arousal scores in the post-test viewing by experimental and control groups 1 (no pre-test) before and after viewing the stimuli showed statistical significance at the .05 or less level while the same comparisons for control and experimental groups 2 did not. Both control and experimental groups 1 reported an almost equal increase in state of arousal after viewing. As a matter of fact, all four groups reported a substantial increase in state of arousal from before to after viewing. A similar finding was made by Ray and Walker (1973).

Research Hypothesis 3: There will be no significant difference in the trait of guilt, as measured by the MTFGI, betgween pre test and post test scores within both experimental and control groups.

This hypothesis was supported for the control group but not supported for the experimental group. As indicated earlier, all MTFGI scores, measuring the trait of sex guilt, were low for all subjects and groups in both pre and post-tests (group means, pre and post, ranged from -30.1 to -33.1). When all groups were divided into high and low sex guilt cells, the cell means for all groups, pre and post, still yielded

a rather small range in the lowest quartile of the possible range (-25.2 to -36.0). The only significance found in statistical analysis of all MTFGI scores was a decrease in the score of experimental group 2 from pre to post. This would suggest that participation in the SAR weekend might have been a factor in the reduction of sex guilt for the subjects in this group.

It is important to observe that since all MTFGI scores were at the low end of the sex guilt range, the division of each group into high and low sex guilt cells might be seen as arbitrary due to a floor effect. It would seem worthwhile to consider refinement of the instrument to develop greater sensitivity to populations such as those studied in this research as well as to the current societal standards of erotica.

The floor effect in the MTFGI scores and the ceiling effect in the SKAT scores referred to earlier in this chaper may very well have combined to comfound the findings of this study.

Research Hypothesis 4: The experimental group will demonstrate significantly greater change in ANS responses from pre-test to post-test sccores than will the control group.

In reviewing the results of the ANS measurements and examining change scores (post-test minus pre-test) eight significant differences were found in the total of twenty-four combinations (six ANS measures by four stimuli). Of these eight, two were subject to serious question as indicated inn the sphericity test results discussed in Chapter IV.

The GSR results in combination with the masturbation stimulus indicate that the experimental group showed less reaction to the anticipation of seeing the stimulus than did the control group, but there was no significant difference between groups for the rest (base) period or the actual viewing (stimulus) period.

With the coitus stimulus, the GSR results indicate two areas for consideration. First, the post-test viewing of the stimulus by all subjects showed significantly less change from the pre-test socres than did the scores for the rest and anticipation periods. Further, the LSG subjects showed a significantly lower GSR for the post-period rest period than did the HSG subjects. Since the GSR is an attention or orienting response, this suggests that the LSG subjects were not as attentive as the HSG subjects and perhaps not as threatened by the possibility of seeing the stimuli again.

In examining the Max GSR-petting stimulus results, two observations are noteworthy. First, all subjects showed less post-test reaction during the rest and reviewing period than during the anticipation period. This same observation is more pronounced for the experimental group than for the control group. This suggests the posibility that the SAR training was helpful in desensitizing the experimental group during the base and actual stimulus periods but not during the alert period. Anticipation appears not to have changed.

The results of the Max GSR in combination with the masturbation stimulus, indicate that all subjects combined showed almost no change from pre to post test for the base and alert periods and a major decrease for the actual viewing period. That is, there was little change in anticipation of the stimulus, but the post-test reaction to actually seeing the masturbation slide was much lower than the pre-test. However, this observation is one of those which is subject to question because of the sphericity test results discussed in Chapter IV. Because subjects were assigned to high and low sex guilt cells based on the MTFGI rather than on a random basis, this finding should not be viewed as significant.

Also subject to question for the same reason is the only significant observation in the conductance change (CC) results. This CC result, in

combination with the masturbation stimulus, showed that all subjects combined had a significant decrease from pre to post-test for the alert period and amost no change at all for the base period. Again, this result should not be viewed as significant for precisely the same reason discussed in the previous paragraph. Both of those questionable findings suggest an interesting dilemma when they are viewed in conjunction with the stimulus preference rating scores. In this set of ratings, all subjects scored the masturbation stimulus as more pleasant and more appealing in the post-test than in the pre-test.

In reviewing the analysis involving finger pulse measurements, it is interesting to observe that only FP3 showed any significant results. That is, only in the third ten second units of measurement were any findings significant, with none appearing in the first twenty seconds (FP1 and FP2) of each period examined. In this cluster there were three noteworthy findings.

FP3 rates for the dating stimulus showed interaction between the groups, the stimulus and the level of sex guilt. Specifically, the experimental HSG group change scores for the base period showed a significant difference two ways. It was significantly lower than the base period scores for the other three cells of subjects and also from the stimulus period scores for the same group. As a means of checking, the pre-test scores for all four cells were examined, but no significant differences were found, with the experimental HSG and LSG showing exactly the same pulse rate in the pre-test. For some reason, this cell (experimental HSG) exhibited a lower pulse rate in the post-test rest period for the dating stimulus. This stimulus, of the four used, might be labelled the least explicit and most neutral. Thus, one is hard-pressed to explain the reason for, or meaning of, this difference.

However, when the FP3 change scores paired with the petting stimulus are examined, one finds a result consistent with the work of Ray (1970). In the current research all LSG subjects showed a significant deceleration of pulse rate, as compared with all HSG subjects, during the stimulus period. Ray (19790) found similar results with LSG subjects responding to sexual stimuli with cardiac deceleration, interpreted to mean that they were more responsive to external clues.

Another finding consistent with Ray's (1970) work, was in the combination of FP3 with the masturbation stimulus. The base period change score for the HSG subjects was significantly greater than for LSG subjects as well as for HSG subjects during the stimulus period. That is, HSG subjects showed a greater decrease in post-test base (or rest) period than did the LSG but this was reversed for the observation of the actual stimulus slide.

Research Hypothesis 5: There will be significant interaction between type of group, level of guilt, and type of stimulus situation for the preference ratings of three of the four stimulus situations (petting, masturbation, coitus). In the analysis of the personal preference rating scales two significant findings were noted and both dealt with exactly the same difference. The change scores for all subjects on both the Pleasant-Unpleasant scale and the Appealing-Disgusting scale showed significant difference for all subjects between the dating and the masturbation stimuli. On both scales, the post-test scores for the dating stimulus were lower than the pre-test scores (less pleasant, less appealing) while the reverse is true for the masturbation stimulus, with post-test scores higher than pre-test scores (more pleasant, more appealing).

Ray (1970) using the same stimuli, but whose research did not include pre and post-tests, found all subjects rating the dating stimulus higher than the

masturbation stimulus on both scales. That is, they perceived the dating stimulus as more pleaseant and more appealing than the masturbation stimulus. This finding is the same as the pre-test results for all subjects in the current study, although the differences between the two stimuli are not significant in the current study as they were in Ray's findings.

However, the ratings are reversed in the post-test results of the current study, with all subjects finding the masturbation stimulus more pleasant and appealing than the dating stimulus. In considering why this reversal in preference ratings occurred, one can speculate that both treatment and test-effect may have contributed to the change. Examination of the cell means shows that while both control and experimental groups followed the same directional trend, the experimental group showed a greater change score than did the control group. Thus, one might speculate that continued exposure to the two stimuli as well as the SAR training program contributed to the subjects developing greater acceptance of the more sexually explicit behavior of masturbation.

B. Conclusions

Five research hypotheses were tested in this research. Four were partially supported and one was not supported. Based on the data generated in this study, the following statements may be made:

1. Graduate female social work students are as, or more, accepting in their attitudes toward a range of hetero-sexual relations and masturbation than are the SKAT standardization groups. They are also as, or more, rejecting of sexual myths than these standardization groups.
2. There is no significant difference in the amount of guilt reported by experimental or control groups after viewing the erotic stimuli.

3. There is a significant increase in the state of arousal reported by all subjects as a result of viewing the erotic stimuli.
4. Graduate female social work students scored in the lowest possible quartile on the trait of sex guilt as measured by the MTFGI.
5. Of the four visual stimuli used in the experiment, significant differences in ANS responses were found most often for the masturbation stimulus (4) and least often for the coitus and dating stimuli (1 each).
6. For the four visual stimuli used in the experiment, personal preference ratings yielded significant differences between the masturbation and dating stimuli.

C. Recommendations

Based on this study and its results, it is the opinion of the writer that several recommendations are appropriate.

1. Further study of the attitudes of graduate female social work students toward human sexuality appears warranted. Larger groups of subjects from a range of different schools would yield more data. Additionally, male graduate social work students should be tested in similar research in order to be able to generalize more fully.
2. Consideration should be given to revision of the SKAT and MTFGI to more adequately and sensitively reflect and measure current knowledge and attitudes in the area of human sexuality.

3. If further researach supports the finding of this study that female graduate social work students are already open, knowledgeable and highly accepting of differences in their attitudes towards human sexuality, it would appear appropriate to reexamine social work curricula in this area. Perhaps it is appropriate to reconsider the great emphasis on affective learning which appears to be more heavily weighted within most training programs and courses.

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APPENDIX

APPENDIX A
Invitation to Volunteer as Subject

January 18, 1980

Dear Student:

I am writing to invite and request your participation as a subject in my doctoral research during February and March of this semester.

I need 44 women graduate social waork students who will give of their time for my experiment which deals with knowledge of and attitudes about human sexuality. All planned testing is completely safe physically. There is, however, a very minimal risk of psychological trauma, since the work involves some explicit sexual pictures and written questions relating to subjects' beliefs and feelings. Of course, confidentiality will be strictly observed; subjects will be identified only by code numbers; and all actual testsing will be done by a female research assistant. The project has been approved by Loyola's Committee on Research with Human Subjects, the School of Social Work and the School of Education (where I am a doctoral candidate).

While I hope that all volunteers will participate through completion of the experiment, such participation is voluntary and subjects do have the right to withdraw at any point. Such withdrawal, of course, could seriously affect statistical analysis of results.

Specifically, the 44 volunteers will be assigned to one of four groups, of 11 subjects each, by a random drawing. Time involved, to be scheduled at mutually convenient times, is as follows:

Group 1.	Approximately 1 1/2 hours in March
Group 2.	Approximately 1 1/2 hours in February and 1 1/2 hours hours in March.
Group 3.	Approximately 2 day S.A.R.* Workshop, Sat.-Sun., March 1 and 2 and 1 1/2 hours in March.
Group 4.	Approximately 1 1/2 hours in February and 2 day S.A.R.* Workshop, Sat.-Sun., March 1 and 2 and 1 1/2 hours in March.

The S.A.R.* Workshop (Sexual Attitude Reassessment, Brochure enclosed) is recognized as one of the outstanding programs of this kind nationally and is offered at the Northwestern campus within walking distance of our school. The participation fee for those students assigned to groups 3 and 4 will be paid by me.

Should you be willing to participate in this research, please complete the attached form and return it to my mailbox at the school office.

Obviously, your participation or non-participation, will in no way be shared with anyone and will in no way affect your school standing, grades or evaluations. I do believe that participation will be a really interesting experience for you and will make a contribution to knowledge.

Please volunteer! Thank you.

Joe Lassner, A.C.S.W.

APPENDIX B
Confirmation of SAR Registration

DEAR SAR PARTICIPANT:

We have received your registration form and check for the SAR Workshop. We are happy to reserve a space for you, and we hope that the weekend will be a valuable learning experience.

During the past years, more than 1,500 persons have attended the SAR Workshops and rated them a positive experience. Each Workshop is somewhat different, because the participants would not have met before and, as a total group, may most probably never meet again. However, over the years we have evolved a framework for the Workshop, and the enclosed time schedule can be used as a guide. Please hold on to it for your information. To derive maximum benefit from the experience, it is important for each participant to be present the entire time.

The SAR Workshop will be held on the Evanston Campus of Northwestern University, Norris University Center, 1999 Sheridan Road, Room 2-G on the second floor. A map of the campus with suggested parking places is attached for your convenience. Since many activities are scheduled for the weekend, parking places will be hard to get; however, you should have little difficulty in parking if you arrive at the designated time, i.e., 9:00 - 9:30 a.m.

If you take public transportation, take the Howard Street elevated going north to Howard Street (end of the line), then the Evanston train to the Foster Street stop. Proceed east on Foster for two blocks and cross Sheridan Road. Walk east past Nathaniel Leverone Hall and through the Northwestern University Library Plaza. Norris University Center is the last building on the west sign of the lagoon.

DRESS CASUALLY AND BRING A
COMFORTABLE CUSHION FOR SITTING ON THE FLOOR.

The number of participants for every Workshop is limited. In case your plans change, please notify us either by phone, (312) 649-8059, or by mail.

Your tuition fee is non-refundable after Friday, February 22, 1980.

REGISTRATION IS 9:00 A.M. - 9:30 A.M. The
PROGRAM BEGINS SHARPLY AT 9:30 A.M. PLEASE BE PROMPT.

APPENDIX C

Experiment Consent form

I hereby volunteer to participate as a test subject in an experiment being conducted under the supervision of Loyola University of Chicago which involves the investigation of attitudes towards human sexuality and autonomic responses to visual and sexual stimuli.

I understand: that because of the nature of the variables being studied, it may not be possible to fully inform me about the nature and purpose of the procedures to be followed; that a complete explanation of the procedures and purpose of this experiment will be given to me, if I request it, following completion of the total experiment; that there is no reason to anticipate that by participating in this experiment, I put myself in unusual physical or mental danger; that I may withdraw from participation at any time without prejudice; and that I will be given a copy of this form.

I further understand: that the data obtained will be identified only by code number and will not bear my name; that the fact of my participation or non-participation will not be shared with anyone and will in no way affect my school grades or evaluation; that the data will be kept strictly confidential and will be used only for professional, educational and research purposes.

Signed: _____

Date: _____

APPENDIX D

Initial Instructions

"First of all we want to thank you for participating in this experiment, and we also want to again assure you that all your responses will be held in confidence. You will note that we have used code numbers on all the questionnaires that you fill our during the experiment. These numbers allow us to match the data so we can analyze it and at the same time they ensure that your responses will remain anonymous; i.e., we will not use your name in analyzing the data. Only your code number will be used.

"We have used thse code numbers and guaranteed you anonymity so that you will feel free to respond openly and honestly about how you really feel. You need not fear that your name will be attached to your responses nor that any future embarrassment will come from your having participated in this experiment.

"Now, please fill out these questionaires for us."

APPENDIX E

Date:_____ Subject Code No._____

B _____ A _____

ADJECTIVE CHECK-LIST

Please check the appropriate category which best describes your feelings at this moment. Do not try to remember how you checked similar items earlier in the test. Make each judgment separate and independent based on how you feel now. Do not worry or puzzle long over individual items. It is your immediate feelings that we want. On the other hand, please do not be careless because we want your true feelings.

Please check one category for each adjective.

Hot:		Sensuous:	
Definitely applies	( )	Definitely applies	( )
Slightly applied	( )	Slightly applies	( )
Undecided	( )	Undecided	( )
Definitely does not apply	( )	Definitely does not apply	( )
Contrite:		Ashamed:	
Definitely applies	( )	Definitely applies	( )
Slightly applies	( )	Slightly applies	( )
Undecided	( )	Undecided	( )
Definitely does not apply	( )	Definitely does not apply	( )
Angry:		Entertained:	
Definitely applies	( )	Definitely applies	( )
Slightly applies	( )	Slightly applies	( )
Undecided	( )	Undecided	( )
Definitely does not apply	( )	Definitely does not apply	( )
Tantalized:		Blameworthy:	
Definitely applies	( )	Definitely applies	( )
Slightly applies	( )	Slightly applies	( )
Undecided	( )	Undecided	( )
Definitely does not apply	( )	Definitely does not apply	( )
Repentant:		Conscience-stricken:	
Definitely applies	( )	Definitely applies	( )
Slightly applies	( )	Slightly applies	( )
Undecided	( )	Undecided	( )
Definitely does not apply	( )	Definitely does not apply	( )
Excited:		Passionate:	
Definitely applies	( )	Definitely applies	( )
Slightly applies	( )	Slightly applies	( )
Undecided	( )	Undecided	( )
Definitely does not apply	( )	Definitely does not apply	( )

Bored:
Definitely applies ( )
Slightly applies ( )
Undecided ( )
Definitely does not apply ( )

Titillated:
Definitely applies ( )
Slightly applies ( )
Undecided ( )
Definitely does not apply ( )

Remorseful:
Definitely applies ( )
Slightly applies ( )
Undecided ( )
Definitely does not apply ( )

Aroused:
Definitely applies ( )
Slightly applies ( )
Undecided ( )
Definitely does not apply ( )

Guilty:
Definitely applies ( )
Slightly applies ( )
Undediced ( )
Definitely does not apply ( )

Disgusted:
Definitely applies ( )
Slightly applies ( )
Undecided ( )
Definitely does not apply ( )

Anxious:
Definitely applies ( )
Slightly applies ( )
Undecided ( )
Definitely does not apply ( )

APPENDIX F

Instruction for Autonomic Responses

"The purpose of this experiment is to determine whether viewing different types of stimuli has any effect on physiological responses. I am going to show you some pictures projected on the screen in front of you. We want you to look at each picture during all the time it is projected. Do not look away from it at other objects in the room. Some of the pictures may involve sexual activity; others will not. Between each presentation of pictures there will be a short interval during which you are to relax. A slide which says "Relax" will be projected during this period. This relax period is necessary so that your autonomic responses can return to base level.

"Before each picture is presented, I will tell you what it will be about. Then there will be a short period of time before the picture is actually projected onto the screen. During this time a "Relax" slide will be projected on to the screen.

"Because these are very sensitive instruments, I will ask you to make yourself as comfortable as possible and then try to make no movements. Coughing, very deep breathing, or moving your hand or your body will disturb the recording of the measurements. May I emphasize again that any body movement will distrub the recording by the instruments. The recording period is not very long (approximately 9 minutes), so I do not think you will find not moving for that short a period too uncomfortable, and it is very important for my experiment that you remain as quiet as possible.

"Now I want you to relax for a few moments while we let your galvanic skin response and pulse rate stabilize, and while I pick them up on the recording instruments. Then the slides will be projected. Remember the sequence of presentation: relax, an alerting announcement telling you what the next picture

will be about, a short "Relax" period, then the picture. The you are to relax and the sequence will be repeated for each picture. I will tell you when the series of pictures is over."

"Do you have any questions?"

APPENDIX G

Stimulus Alerting Announcements

"You will soon see a slide of ..."

Dating	"a clothed male and female."
Petting	"depicting a male and female petting."
Masturbation	"depicting a female masturbating."
Coitus	"depicting male-female coitus."

APPENDIX H

Instruction for Rating Stimuli

We are interested in how you feel about these slides you have just seen. I have here some rating forms which I want you to use to indicate your feelings or opinions about each picture. Please read the instructions about how to use these forms."

(Wait while subject reads)

"There are, of course, no right or wrong answers. No matter what your rating is, you may be sure that many other people would agree with you.

"Now I am going to show you the pictures you are going to rate. I will first show you all three pictures for ten seconds each. I want you just to look at the pictures to get a context before rating them. Then I will present them again for a longer period of time. Look at each picture until the relax slide comes on. Then I want you to indicate how you feel about the picture which is being projected by checking the appropriate points on the rating form. Use a separate rating form for each picture. The forms are arranged in the order in which the pictures will appear. The instructions are the same for each form, so you need not re-read them each time. Be sure and check a point on all five scales for each picture. Wait until the Relax Slide comes on before you begin rating.

"Do you have any questions?"

Stimulus Rating Form

The purpose of this stimulus rating is to measure the meaning of the picture to you by having you judge it against a series of descriptive scales. In rating this stimulus, please make your judgments on the basis of what it means to you. On each page you will find the name of the stimulus to be judged and beneath it a set of scales. You are to rate the stimulus on each of the scales in order.

Here is how you are to use these scales:

If you feel that the stimulus is very closely related to one end of the scale, you should place your check-mark as follows:

Good__X__:____:____:____:____:____:____Bad

OR

Good____:____:____:____:____:____:__X__Bad

If you feel the stimulus is quite closely related to one or the other end of the scale (but not extremely) you should place your check-mark as follows:

Good____:__X__:____:____:____:____:____Bad

OR

Good____:____:____:____:____:__X__:____Bad

If the stimulus seems only slightly related to one side as opposed to the other side (but is not really neutral), then you should check as follows:

Good____:____:__X__:____:____:____:____Bad

OR

Good____:____:____:____:__X__:____:____Bad

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you're judging.

If you consider the concept to be neutral on the scale, both sides of the scale equally associated with the stimulus, or if the scale is completely irrelevant, unrelated to the stimulus, then you should place your check-mark in the middle space.

IMPORTANT:

(1) Besure you check every scale for every stimulus. Do not omit any.

(2) Place your check-markes in the middle of spaces, not on the boundaries.

THIS NOT THIS

Good____:__X__:____:____X____:____:____Bad

(3) Never put more than one check-mark on a single scale.

Sometimes you may feel as though you've had the same item before on this rating. This will not be the case, so do not look back and forth through the items. Do not

try to remember how you checked similar items earlier. Make each item a separate and independent judgment. Work at fairly high speed. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the stimulus, that we want. On the other hand, please do not be careless, because we want your true impressions.

APPENDIX I

Stimulus Rating Form

(Name of Slide) Stimulus

Good____:____:____:____:____:____:____Bad

Pleasant____:____:____:____:____:____:____Unpleasant

Safe____:____:____:____:____:____:____Dangerous

Appealing____:____:____:____:____:____:____Disgusting

Sexually____:____:____:____:____:____:____Not Sexually

Arousing Arousing

APPENDIX J

Date_____ Subject Code No._____

Mosher "G" Inventory (Form F)

This inventory consists of 150 numbered opinions or statements which have been given by college students in response to the "Mosher Incomplete Sentences Tests." These students were asked to complete phrases such as "When I tell a lie ...", "The idea of murder is ...", etc. Their responses make up the 150 items in the Mosher "G" Inventory. The stems are in capital letters, their responses are in lower case letters.

You are to read each statement and decide whether it is true as applied to you or false as applied to you (or whether you agree with the opinions expressed or disagree with the opinions expressed). All answers are to be marked on the answer sheet. If a statement is TRUE or MOSTLY TRUE as it applies to you (or if you AGREE or MOSTLY AGREE with the opinion expressed), check the space headed T. If a statement is FALSE or MOSTLY FALSE as applied to you (or if you DISAGREE or MOSTLY DISAGREE with the opinion expressed), check the space headed F. Remember to give YOUR OWN opinion. There are no right or wrong answers. Answer every item.

1. WHEN I TELL A LIE I know it's not very serious.
2. AFTER A CHILDHOOD FIGHT, I FELT ashamed of myself.
3. SIN AND FAILURE is the worst thing that can happen to a person during his life.
4. IF I HAD SEX RELATIONS, I WOULD FEEL all right, I think.
5. WHEN ANGER BUILDS INSIDE ME, I try to think of something else.
6. CAPITAL PUNISHMENT should be abolished.
7. MASTURBATION is a common thing in childhood.
8. IF IN THE FUTURE I COMMITTED ADULTERY, I would be unworthy of my husband.
9. I COULD NOT DO IT BECAUSE I was not reared that way.
10. AFTER AN ARGUMENT I wish that I hadn't argued.
11. I SHOULD HAVE BEEN PUNISHED FOR yelling at my mother.
12. SEX RELATIONS BEFORE MARRIAGE are wrong and immoral.
13. PETTING is a normal way of releasing one's sexual drives.
14. IF I HAD SEX RELATIONS, I WOULD FEEL it is a very normal thing.
15. CAPITAL PUNISHMENT should not be abolished.
16. I PUNISH MYSELF seldomly.
17. I COULD NOT DO IT BECAUSE GOD has commanded us not to.
18. SEX RELATIONS BEFORE MARRIAGE are not good for anyone.
19. AS A CHILD, SEX PLAY was a forbidden practice not known about.
20. I HATE people who talk all the time and do not say anything of value when they are talking.
21. AFTER AN OUTBURST OR ANGER I usually hate myself for being so silly.
22. OBSCENE LITERATURE sometimes has a place.
23. PROSTITUTION if that's what people want to do -- who am I to say that they shouldn't?
24. MASTURBATION is sickening.
25. WHEN I WAS A CHILD, SEX did not interest me.

26. SEX RELATIONS BEFORE MARRIAGE should be permitted.

27. PETTING is just asking for trouble.

28. ARGUMENTS LEAVE ME FEELING distressed, unhappy and sad.

29. I DETEST MYSELF FOR not always listening to those who know better.

30. WHEN ANGER BUILDS INSIDE ME, I'm angry at myself.

31. AFTER AN OUTBURST OF ANGER, I wish that I had not done it.

32. OBSCENE LITERATURE is nauseating and should be banned.

33. WHEN SOMEONE SWEARS AT ME, it hurts my feelings.

34. I PUNISH MYSELF by denying myself pleasures.

35. AFTER AN ARGUMENT I feel the need to apologize.

36. SEX RELATIONS BEFORE MARRIAGE with the person I hope to marry is okay.

37. I DETEST MYSELF FOR nothing at the present.

38. AS A CHILD, SEX PLAY was unknown to me.

39. AFTER AN OUTBURST OF ANGER my tensions are relieved.

40. OBSCENE LITERATURE is fun to read once in a while.

41. PROSTITUTION makes me sick when I think about it.

42. IF I KILLED SOMEONE IN SELF-DEFINSE, I would feel that I had committed murder.

43. I PUNISH MYSELF when having done something I promised myself I wouldn't do.

44. I SHOULD HAVE BEEN PUNISHED FOR many things I kept secret.

45. TO KILL IN WAR is the right attitude if one is to win and is to be peace.

46. PETTING is justified with love.

47. UNUSUAL SEX PRACTICES are disgusting and revolting.

48. I DETEST MYSELF FOR very little

49. IF I FELT LIKE MURDERING SOMEONE, I'd see a psychologist.

50. WHEN I HAVE SEXUAL DESIRES, I try to go to sleep and forget them.

51. OBSCENE LITERATURE lowers one's morals and is of no value at all.

52. THE IDEA OF MURDER IS understandable to me at times.

53. I TRIED TO MAKE AMENDS for all the wrongs I do.

54. IF IN THE FUTURE I COMMITTED ADULTERY, I would never forgive myself.

55. IF I HAD SEX RELATIONS, I WOULD FEEL guilty, sinful, and bad.

56. AS A CHILD, SEX PLAY is experimental and not wrong.

57. ONE SHOULD NOT say "one should not".

58. WOMEN WHO CURSE in private are still ladies.

59. CAPITAL PUNISHMENT is wrong and should be stopped.

60. WHEN I HAVE SEXUAL DREAMS, I sometimes wake up feeling excited.

61. SEX RELATIONS BEFORE MARRIAGE are disgusting and unnecessary.

62. IF I HAD SEX RELATAIONS, I WOULD FEEL happy if I loved the boy and he loved me.

63. WHEN CAUGHT IN THE ACT, I try to get out of it the best I can.

64. I REGRET few things in my life.

65. IF I COMMITTED A HOMOSEXUAL ACT, I would be discrete.

66. PROSTITUTION needs to be understood.

67. AFTER AN ARGUMENT I feel happy if I won or still stick to my own views if I lose.

68. PETTING is not a good practice, until after marriage.

69. WHEN SOMEONE SWEARS AT ME, I'm sorry I made them so mad.

70. MASTURBATION is understandable in many cases.

71. I PUNISH MYSELF for acting foolishly and rashly.

72. AFTER A CHILDHOOD FIGHT, I FELT that i had triumphed.

73. SEX RELATIONS BEFORE MARRIAGE might help the couple to understand each other and themselves.

74. AS A CHILD, SEX PLAY is not right.

75. WHEN CAUGHT IN THE ACT, I make a fool of myself.

76. ONE SHOULD NOT lose his temper.

77. OBSCENE LITERATURE should be censored.

78. WHEN I HAVE SEXUAL DREAMS, I try to forget them.

79. I PUNISH MYSELF when I do wrong and don't get caught.

80. PETTING is a common thing among young people today, but it is also still evil and sinful.

81. ARGUMENTS LEAVE ME FEELING as if I might have accomplished something.

82. UNUSUAL SEX PRACTICES are all right if both partners agree.

83. IF I HAD SEX RELATIONS, I WOULD FEEL I was being used not loved.

84. CAPITAL PUNISHMENT is good for those who deserve it.

85. OBSCENE LITERATURE is created by perverted minds.

86. AFTER A CHILDHOOD FIGHT, I FELT good if I won.

87. "DIRTY" JOKES IN MIXED COMPANY do not bother me as long as they're just in fun.

88. AFTER AN ARGUMENT if I have won, I feel great.

89. SEX RELATIONS BEFORE MARRIAGE are against my beliefs.

90. SIN AND FAILURE depress me more than any other acts.

91. I DETEST MYSELF FOR - I never detest myself and rarely dislike myself.

92. IF I HAD SEX RELATIONS, I WOULD FEEL happy and satisfied.

93. WHEN ANGER BUILDS INSIDE ME, I let people know how I feel.

94. AFTER AN OUTBURST OF ANGER, I feel much better.

95. I REGRET the way I have behaved.

96. OBSCENE LITERATURE makes interesting reading.

97. UNUSUAL SEX PRACTICES are immature.

98. I DETEST MYSELF for my sins and failures.

99. WAHEN ANGER BUILDS INSIDE me I usually explode.

100. I TRIED TO MAKE AMENDS for all my misdeeds, but I can't forget them.

101. I PUNISH MYSELF for the evil I do.

102. UNUSUAL SEX PRACTICES are not so unusual.

103. I DETEST MYSELF for nothing, I love life.

104. I PUNISH MYSELF rarely.

105. AS A CHILD, SEX PLAY is not good for mental and emotional well being.

106. AFTER AN OUTBURST OF ANGER, I usually feel quite a bit better.

107. CAPITAL PUNISHMENT should be abolished.

108. MASTURBATION is a nauseating act of frustration.

109. I PUNISH MYSELF when I make mistakes.

110. PETTING is a form of education.

111. ARGUMENTS leave me feeling that it was a waste of time.

112. I DETEST MYSELF for very little.

113. AFTER AN OUTBURST OF ANGER I am jittery and all keyed up.

114. WHEN I WAS YOUNGER, FIGHTING seemed all right.

115. AFTER AN ARGUMENT I am disgusted that I allowed myself to become involved.

116. MASTURBATION is all right.

117. I PUNISH MYSELF very infrequently.

118. AFTER A CHILDHOOD FIGHT, I felt relieved.

119. SEX RELATIONS BEFORE MARRIAGE are OK if both partners are in agreement.

120. I DETEST MYSELF for not being more nearly perfect.

121. IF I HAD SEX RELATIONS, I would feel warm and very good.

122. AFTER AN ARGUMENT I feel proud in victory and understanding in defeat.

123. I PUNISH MYSELF by feeling nervous and depressed.

124. ARGUMENTS leave me feeling depressed and disgusted.

125. AFTER AN OUTBURST OF ANGER I realize that I have done wrong.

126. WOMEN WHO CURSE have an inadequate vocabulary and poor taste.

127. CAPITAL PUNISHMENT is totally acceptable for a capital crime.

128. IF I HATED MY PARENTS, I would rebel at their every wish.

129. OBSCENE LITERATURE is for people with sick minds.

130. IF I KILLED SOMEONE IN SELF-DEFENSE, I'd be glad to be alive.

131. I PUNISH MYSELF for very few things.

132. OBSCENE LITERATURE is all right if you like it.

133. I PUNISH MYSELF by denying myself a privilege.

134. I DETEST MYSELF FOR nothing, and only rarely dislike myself.

135. AFTER AN OUTBURST OF ANGER I feel ridiculous and sorry that I showed my emotions.

136. WHEN I HAVE SEXUAL DESIRES I fight them for I must have complete control of my body.

137. WOMEN WHO CURSE are foul mouthed females -- not women.

138. OBSCENE LITERATURE should not be sold.

139. CAPITAL PUNISHMENT is playing God.

140. AFTER AN ARGUMENT I usually feel good if I won.

141. THE IDEA OF MURDER is not a human instinct.

142. MASTURBATION should not be practiced.

143. AFTER A CHILDHOOD FIGHT, I felt hurt and alarmed.

144. AS A CHILD, SEX PLAY is quite widely spread.

145. CAPITAL PUNISHMENT is the only thing some criminals can understand.

146. IF I HATED MY PARTENTS they would know it, that's for sure.

147. AFTER A CHILDHOOD FIGHT, I felt guilty and ashamed.

148. WHEN I WAS YOUNGER, FIGHTING didn't bother me.

149. OBSCENE LITERATURE ought to be completely abolished.

150. SIN AND FAILURE ARE SOMETHING I never knew.

APPENDIX K

Table 28

A Comparison of Attitude Scale Scores of Present Subjects With Those of SKAT Standardization Subjects

	HR Scale			M Scale			SM Scale		
Group	Mean	SD	Range	Mean	S.D.	Range	Mean	S.D.	Range
Control 1 Post	53.48	10.8	68.09 - 33.30	58.23	10.1	69.13 - 44.92	57.95	6.2	66.07 - 45.76
Control 2 Pre	50.87	8.1	62.87 - 36.78	55.81	8.9	69.13 - 47.34	54.78	9.4	66.07 - 38.98
Post	51.89	9.7	62.87 - 38.52	54.60	8.3	69.13 - 47.34	54.79	8.4	68.33 - 45.76
Experimental 1 Post	54.70	7.4	64.61 - 43.74	57.99	5.4	69.13 - 49.76	53.88	9.0	66.07 - 38.98
Experimental 2 Pre	51.56	8.7	61.13 - 31.57	53.63	5.6	61.86 - 44.92	59.32	7.3	72.84 - 50.27
Post	54.87	9.1	62.87 - 31.57	56.78	8.3	71.55 - 44.92	60.20	7.8	70.59 - 50.27
All Subjects Pre	51.22	8.2	62.87 - 31.57	54.72	7.3	69.13 - 44.92	57.05	8.5	72.84 - 38.98
Post	53.74	9.0	68.09 - 31.57	56.90	8.0	71.55 - 44.92	56.70	8.0	70.59 - 38.98
Graduate Nurses	46.27	9.9	68.09 - 26.35	49.19	8.7	66.71 - 20.70	53.05	9.5	72.84 - 25.44
Graduate Medical Females	48.77	11.1	69.83 - 14.17	49.60	10.0	71.55 - 20.70	52.97	9.4	72.84 - 27.70
Graduate Non-Med Females	52.85	8.4	69.83 - 28.09	52.91	8.2	69.13 - 30.39	55.84	8.6	72.84 - 27.70

TABLE 29

SKAT Group Means

	Knowledge		H.R.		Masturbation		S.M.		Abortion	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Control 1										
Post	53.17	5.52	53.48	10.76	58.23	10.10	57.95	6.22	49.80	8.02
Experimental 1										
Post	52.41	7.01	54.70	7.38	57.99	5.38	53.79	9.04	43.08	7.84
Control 2										
Pre	56.59	5.05	50.87	8.05	54.81	8.02	54.78	9.40	47.95	10.87
Post	59.63	5.68	51.89	9.69	54.60	8.31	54.79	8.38	46.94	11.37
Experimental 2										
Pre	56.59	3.78	51.56	7.18	53.63	5.61	59.32	7.28	50.73	8.08
Post	56.40	4.39	54.87	9.06	56.78	3.44	60.20	7.76	50.30	8.71

Table 30

MTFGI Sex-Guilt Trait Scores

	Pre-Test		Post-Test	
	Mean	S.D.	Mean	S.D.
Control	-----	-----	-30.1	6.60
Experimental 1	-----	-----	-33.1	3.81
Control 2	-31.0	6.70	-30.4	-7.17
Experimental 2	-30.6	3.66	-32.9	5.15

Table 31

State of Guilt Scores

	Pre-Test				Post-Test			
	Before Viewing		After Viewing		Before Viewing		After Viewing	
Control 1	---	----	---	----	7.9	1.85	7.4	0.97
Experimental 1	---	----	---	----	10.6	3.98	10.2	4.32
Control 2	9.2	4.05	8.3	3.13	9.3	4.27	8.8	5.01
Experimental 2	8.4	2.55	8.0	2.11	8.7	3.16	7.9	1.66

Table 32

State of Arousal Scores

	Pre-Test				Post-Test			
	Before Viewing		After Viewing		Before Viewing		After Viewing	
Control 1	---	----	---	----	12.9	3.72	15.6	4.33
Experimental 1	---	----	---	----	17.1	5.30	320.8	3.97
Control 2	12.2	4.44	16.2	6.49	8.4	2.12	14.7	4.97
Experimental 2	13.6	4.35	17.8	3.68	9.2	3.61	11.4	3.94

APPENDIX L

DESCRIPTION OF EXPERIMENTAL STIMULI

Neutral Stimulus

The neutral stimulus depicts a fast flowing stream of water bordered by overhanging trees and several large rocks. A small amount of blue sky is seen through the trees. The total impression is one of serenity and relaxation.

Dating Stimulus

The couple in this stimulus slide appear to be in their middle to late twenties. The male has brown hair and is dressed in a shirt, tie, dark coat and slacks. The female has short platinum-blond hair and is dressed in a sleeveless two-piece street length dress. They are standing in the living room by an open door, and the scene suggests that they are about to go out for dinner and perhaps some form of entertainment.

Petting Stimulus

The petting stimulus depicts the same couple who appear in the dating stimulus. They are completely nude except that the male is wearing brief underpants and the female is wearing a bra and brief panties. The left hand of each is inside the underpants of the other and their right arms are loosely held around the other. The general impression is that each is stroking the other's genitalia.

Female Masturbaion Stimulus

The female masturbation stimulus depicts a nude female, the same model who appears in the two previous stimuli. She is reclining on a couch or a bed with her thighs spread, providing an explicit view of her vulval region. Her left hand is

caressing her right breast. With her right hand, she appears to be manipulating her clitoris. Her head is thrown back as though she is sexually aroused, and the general impression one receives is that she is approaching orgasm through masturbation.

Heterosexual Coitus Stimulus

The heterosexual coitus stimulus depicts a face-to-face, female-above coital position between the same couple shown in the previous stimuli. Both models are nude. The male is in a supine position on a couch or a bed with his hands resting on the female's outer thighs. She is crouching over the male, and the stimulus provide an explicit view of the penis and testicles as intromission begins.

APPROVAL SHEET

The dissertation submitted by Joseph Lassner has been read and approved by the following committee:

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirement for the degree of Doctor of Philosophy.

12/2/82
Date

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Director's Signature