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# Relationship of TAT sexual responses to sexual drive, sexual guilt and sexual conflict.

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# RELATIONSHIP OF TAT SEXUAL RESPONSES TO SEXUAL DRIVE, SEXUAL GUILT AND SEXUAL CONFLICT

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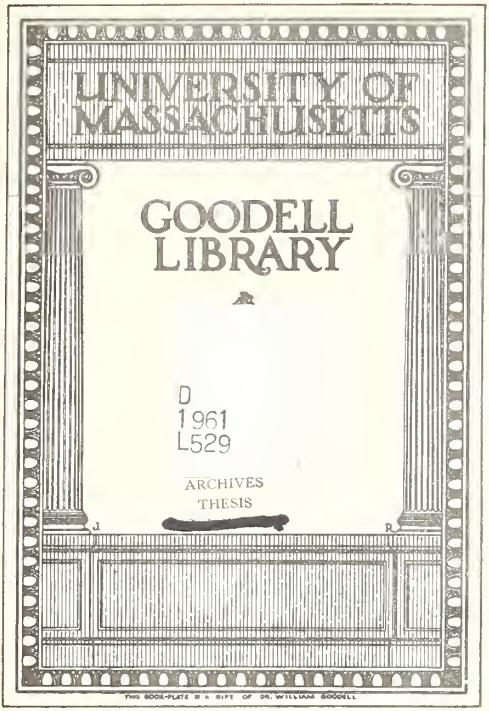
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# RELATIONSHIP OF TAT SEXUAL RESPONSES TO SEXUAL DRIVE, SEXUAL GUILT AND SEXUAL CONFLICT.

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## Introduction

Some attempts to apply the notions of Miller's Displacement Theory (Miller, 1948) to projective techniques have been made by Epstein and Smith (1956) and by Leiman and Epstein (1961). In these studies, subjects (Ss) were divided according to a behavioral variable (level of hunger in one case, sexual drive and guilt in the other) and responses to a thematic apperception-type test (TAT-type test) were investigated as the dependent variable. It was concluded that drive, inhibition and stimulus-relevance must be considered in evaluating a person's thematic responses. The present study will investigate further hypotheses based on Epstein and Smith's adaptation of the conflict model to projective techniques. The study is concerned with the influence of reported sexual drive, sexual guilt and sexual conflict on response to a TAT-type test. It differs from Leiman and Epstein's previous study in that an additional index of sexual drive, further aspects of stimulus cues, and a new criterion for conflict are investigated.

## Thematic Apperception and Drive

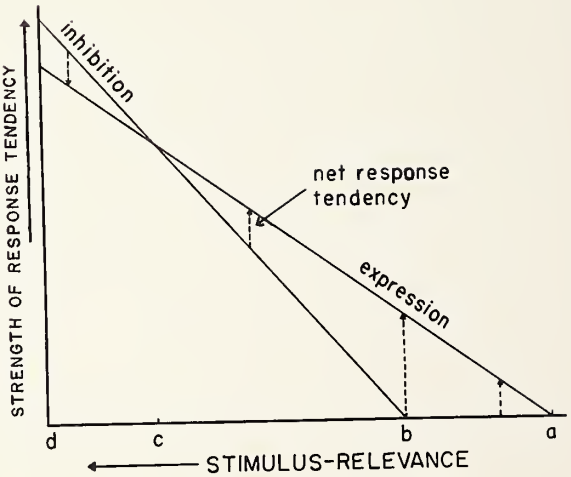
According to Epstein and Smith (1956), inhibition of thematic responses must be taken into account when studying any drive state whether associated with social taboos or not, but where social taboos are involved, such as in sex or hostility, the degree of inhibition is much greater.

In the area of sexual motivation, Clark (1952, 1955) found that a control group produced more sexual imagery and sexual guilt in its stories than did a group which had been experimentally stimulated by means of an alluring female experimenter or by pictures of attractive nude females. When sexual symbolism rather than direct sexual responses was investigated, the experimentally stimulated group produced more sexual symbolism in its stories than did the control group. When the experimental group was tested during a beer party, it produced more direct sexual responses than the control group, and this was interpreted as indicating a lowering of the inhibitory gradient under alcohol. It was concluded that both drive and inhibition must be considered in predicting drive-related responses to a projective test.

Conflict Theory

In addition to drive and inhibition, Epstein and Smith (1956) point out that a third factor, stimulus-relevance (the probability that the stimulus will elicit the type of response being studied) must be considered in predicting thematic responses. The basic viewpoint is diagrammatically presented in figure 1. Here, it can be seen that the balance between tendencies to express and inhibit responses to a projective test is affected by cues from the stimulus. When the cues are remote (up to point c), the difference between the expressive and inhibitory tendency favors expression. As the cues become more relevant, however, (between points c and d) the net

Figure 1.

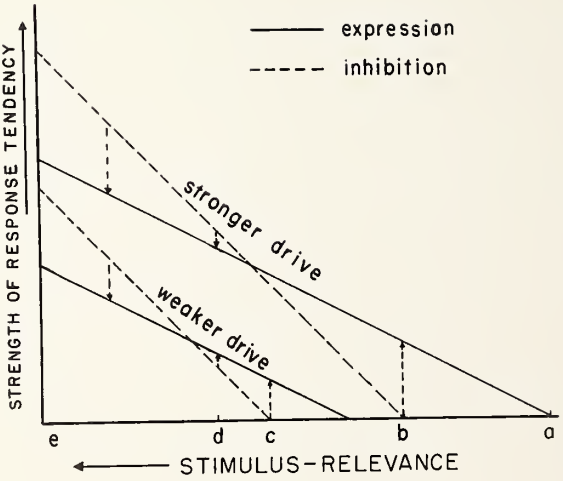

STRENGTH OF RESPONSE TENDENCY
inhibition
net response tendency
expression
d
c
b
a
STIMULUS-RELEVANCE

response tendeney, i.e., the differenee between expressive and inhibitory tendencies, favors inhibition, Epstein and Smith (1956) hypothesized that an inerease in drive strength shifts the interseetion of the expressive and inhibitory gradients in the direetion of decreasing drive-relevance along the stimulus dimension (see figure 2). This is based upon the assumption that the inereased drive produees increased eues, which favor inhibition.

Sexual Drive

In a study that predated the confliet model, Epstein and Smith (1957) investigated the relationship between projective sexual responses and sexual drive, with the latter inferred from self-reported sexual behavior. Using pictures of low stimulus-relevance, they found a direet relationship between sexual responses on TAT-type test and drive as measured by reported freqeney of orgasm. However, no relationship was found when drive was measured by time since last orgasm relative to average frequency. Clark (1952) had found that a control group produeed more sexual imagery in its stories than did an experimentally aroused group. Epstein and Smith (1957) explained the differenee between their results and Clark's by suggesting that sexual rate is influenced by the degree to whieh physieal expression of the sexual drive is aceeptable to the individual, i.e., inhibition is ineluded in the measure of drive. They assumed that rate of orgasm and sexual responses to a TAT-

Figure 2.


expression
inhibition
STRENGTH OF RESPONSE TENDENCY
stronger drive
weaker drive
e
d
c
b
a
STIMULUS-RELEVANCE

type test were similarly influenced by the combined effects of drive and inhibition. Clark, on the other hand, had manipulated drive independently of inhibition.

Following Epstein and Smith's conflict model (1956), Leiman and Epstein (1961) studied the relationship between men's sexual and guilt responses on a TAT-type test to sexual motivation and sexual guilt as determined from self-report. Leiman and Epstein's study confirmed Epstein and Smith's (1957) finding of a direct relationship between rate of orgasm and sexual responses to TAT-type pictures. A significant interaction was also found between drive as measured by time since last orgasm relative to rate (deprivation) and guilt as determined by a self-report questionnaire upon thematic sexual responses. With an increase in drive, there was an increase in sexual responses for Ss of low guilt and a decrease in sexual responses for Ss of high guilt. With regard to stimulus-relevance, Leiman and Epstein (1961) had hypothesized that there would be a more marked relationship between stimulus-relevance and thematic sexual responses in a group relatively low in reported sexual guilt than in a group relatively high in reported sexual guilt. This was not confirmed, although the difference was in the predicted direction. It was found that pictures of low stimulus-relevance were better measures of drive than pictures of high stimulus-relevance,

and that pictures of high stimulus-relevance were better measures of guilt than pictures of low stimulus-relevance.

The results of these studies on the sexual drive (Epstein and Smith, 1957; Leiman and Epstein 1961) partly support and partly fail to support the theoretical model of Epstein and Smith (1956) on which they were based. It was concluded that there is a need for further investigation with more refined and extended techniques. In the present study, an additional index of sexual drive, an increased number of steps along the stimulus-dimension and an improved measure of conflict are investigated.

Statement of the Problem

Applying an extension of Miller's model of displacement to projective techniques (Epstein and Smith, 1956), it is assumed that in order to predict sexual responses to a projective test, it is necessary to consider the interaction of sexual drive, sexual inhibition and sexual relevance of the stimulus.

Sexual drive is more difficult to estimate than a drive such as hunger, since it does not have a prescribed rate of gratification, analogous to three meals a day. The most practical method for obtaining information about sexual behavior in order to estimate sexual drive would appear to be through the use of a self-report questionnaire. The use of a questionnaire has some weakness in that it can be affected by poor recall and purposeful

falsification. Restricting the period reported on to a relatively recent interval should minimize forgetting. Assuring anonymity, allowing Ss not to answer questions they do not wish to, and appealing for cooperation for scientific purposes should reduce defensiveness. High precision in the criterion of drive is not necessary since group means can be compared for highly divergent groups.

Three possible indices of the sexual drive are investigated: rate of orgasm, time since last orgasm in relation to rate (deprivation), and rate of nocturnal emission. Rate of orgasm would appear to be the measure most associated with conscious control and therefore most apt to be associated with reported guilt, i.e., guilt as well as drive should determine rate. Time since last orgasm in relation to rate (deprivation) is analogous to time since last meal in studies on the hunger drive. Such a measure of drive would appear to be less under conscious control than rate, as it is determined by the accident of when S happens to be called for the experiment. Rate of nocturnal emission is also a less consciously controlled measure than rate of orgasm, as in sleep it may be presumed that conscious control is reduced. Rate of nocturnal emission can be viewed as the residual tension of sexual drive that is not discharged by S when he is awake.

A second factor involved in predicting projective

behavior is inhibition. It is assumed that for the sexual drive, guilt is a major cause of inhibition. One method of determining guilt has been by means of a questionnaire on sexual attitudes and reactions. The questionnaire used by Leiman and Epstein (1961) appeared valid to the extent that groups differentiated on the questionnaire reacted to stimulus pictures in the direction predicted from the theoretical model. The items on the questionnaire possess high face validity. Such a questionnaire does not require high reliability as it simply assumes that the mean guilt for Ss with extremely high scores is in fact higher than the mean guilt for Ss with extremely low scores. In the present study a similar questionnaire was constructed with items relating to sexual conflict, i.e., items indicating concurrent approach and avoidance or general disturbance with regard to sexual behavior, e.g., "I feel that I am continually wrestling with my sexual impulses". Leiman and Epstein (1961) had previously assumed that Ss who simultaneously obtained high scores on their measure of drive and guilt were in strong conflict. However, since their measure of drive and guilt were not completely independent, this presented a problem in that Ss with high guilt scores who were also of high rate may simply not have been as reliably high in either guilt or drive as appeared to be the case. A preferable procedure is to measure conflict independently from the measures of drive and guilt.

Relevance of stimulus-cues must be considered as a

third factor in predicting projective behavior, as it is presumed to influence the effect of drive and guilt upon drive-relevant responses. According to Epstein and Smith's (1956) extension of Miller's model of displacement to projective techniques, conflict should be indicated when excessive sexual themes are produced to pictures of low stimulus-relevance and insufficient sexual themes are produced to pictures of high stimulus-relevance. It is difficult at the present time to determine the nature of the low sexually relevant stimuli needed to elicit sexual themes by Ss in conflict. The low pictures used by Leiman and Epstein (1961), which elicited thematic sexual responses from 26% to 48% of the pooled sample, may have had too strong cues so that Ss who inhibited on high relevant pictures also inhibited on "low" relevant pictures. It would thus seem desirable to investigate pictures of lower drive relevance in order to test the conflict model.

As a framework for the investigation of the effects of drive, guilt, conflict and stimulus-relevance upon thematic responses, the following hypotheses were formulated:

1. Ss with high sexual conflict respond relatively strongly to pictures of low sexual relevance and relatively weakly to pictures of high sexual relevance when compared to Ss with low sexual conflict. This is derived directly from Epstein and Smith's extension of Miller's displacement model to projective techniques (Epstein and Smith, 1956).

2. There is a stronger direct relationship between sexual drive and sexual responses to pictures of low sexual relevance than to pictures of high sexual relevance. This follows from the assumption that inhibition has a minimal influence at the low-relevant end of the stimulus dimension, and is consistent with the findings in a previous study (Leiman and Epstein, 1961).

3. There is a stronger inverse relationship between sexual guilt and sexual responses to pictures of high sexual relevance than to pictures of low sexual relevance. This follows from the assumption that inhibition has a maximal influence at the high-relevant end of the stimulus dimension, and is consistent with the findings in a previous study (Leiman and Epstein, 1961).

Rate of orgasm, time since last orgasm in relation to rate, and rate of nocturnal emission were investigated as alternate measures of drive, and guilt and conflict determined from self-report questionnaire responses.

Subjects

All subjects (Ss) were unmarried male undergraduates enrolled in a general psychology course at the University of Massachusetts. They were selected from a pool of students who volunteered to participate in psychological experiments for extra course credits.

Stimulus Material

The TAT-type test consisted of six specially designed pictures arranged along a gradient of stimulus-relevance for the sexual drive. Stimulus-relevance refers to the strength of the stimulus in eliciting the type of response being studied, i.e., sexual responses in the present study. The pictures of low sexual relevance were of a young man sitting on a dock, and of a boy walking through a doorway. These pictures were found to be of 20% and 22% stimulus-relevance as determined by the percent of Ss obtaining need sex (n. sex) scores in a sample of 100 Ss tested in a recently completed study (Saltz, 1961). Two pictures from the study by Leiman and Epstein (1961) served as pictures of medium sexual relevance (previously found to be of 44% and 49%). The two pictures of high relevance consisted of one used by Leiman and Epstein (1961) with 95% sexual relevance and another specially designed for the study.

The pictures were presented so that those of low sexual relevance preceded those of high sexual relevance, in order that generalization of sexual responses from one

picture to the next would be held to a minimum (For examples of pictures, see Appendix A). Buffer pictures were interspersed among the six critical pictures in order to reduce the chance of an S becoming aware of the stimulus dimension. The pictures in order of presentation are:

1. A young man sitting on a dock. It appears to be early evening or morning.

2. A young man striding through a doorway in a house.

3. A young man sitting on a park bench at night.

4. Two figures walking in a field. Their sex is indistinguishable.

5. Buffer - A young boy joyously running and holding a card or letter in his hand.

6. A young man and woman lying on the ground in a scenic setting. They are possibly studying together, as one is holding a book, or they might be about to make love.

7. Buffer - A group of men lying on the ground TAT Card 9 BM).

8. A man lying down on a bed, holding and kissing a woman who is bending over him.

The procedure for presenting the TAT-type test was the same as that followed by Atkinson and McClelland (1948). The Ss were told that they were participating in a test of creative imagination. Each picture was exposed for twenty seconds, and a five minute period was then allowed for writing stories.

Questionnaire

The questionnaire, which was given immediately

following the TAT-type test, was used to obtain information on sexual drive, sexual guilt and sexual conflict (See Appendix B). Before the final set of items relevant to guilt and conflict were selected, a series of fifty items were compiled. Some of these were similar to or were actual items taken from Leiman and Epstein's (1961) previous questionnaire on guilt. Since conflict of the type being investigated involves both approach and avoidance tendencies, items were formulated to consider simultaneous sexual approach and resultant guilt reactions. The fifty items were then sorted by seven people, all of whom have had clinical experience, on a five point scale, once along a continuum of inhibition and again along a continuum of conflict. The scale ranged from A, absence of conflict or guilt, to E, definite conflict or guilt. The criterion for including an item in the final questionnaire was that it had either obtained an identical rating by four of the seven judges, or obtained an identical rating by three of the judges and no other judge disagreed by more than one scale point. In addition, an item was selected so that it met the criteria for either guilt or conflict, but not both. A total of twelve items pertaining to sexual guilt and twelve items pertaining to sexual conflict were retained in the final scale. Within each set, three items were rated A

(definitely no conflict or guilt), three were rated C (slight conflict or guilt), three were rated D (probable conflict or guilt) and three E (definite conflict or guilt). None of the items had been rated B, which with less certainty than A, referred to the absence of conflict or guilt.

Directions for the questionnaire were the same as those used by Leiman and Epstein (1961) where anonymity was assured, Ss were given the choice of not answering if they did not wish to, and an appeal was made for cooperation for scientific purposes.

Summary of Procedure

1. The Ss were presented a TAT-type test made up of pictures arranged along a dimension of stimulus-relevance in regard to sexual drive, with buffer pictures interspersed.

2. The Ss then filled out a self-report questionnaire from which measures of sexual drive, sexual guilt and sexual conflict were derived.

Scoring of TAT responses

Need Sex. Need Sex (n. sex) is defined by Murray (1943) as the need to "seek and enjoy the company of the opposite sex. To have sexual relations. To fall in love, to get married." A weighted score of 0 to 5 was given each story. The weights were assigned by the experimenter as follows:

1. The slightest reference to marriage or ro-

mance ("They are man and wife"; "They are on a date").

3. Reference to physical sexual contact other than sexual intercourse ("They are petting in the car": "He is kissing her").

5. Actual or implied sexual intercourse ("They are going to have relations"; "She has become pregnant").

Weighted scores of 2 and 4 were assigned to stories which fell between 1 and 3, and between 3 and 5 respectively. The basic weights were modified according to intensity of need, importance to the plot, frequency and duration. All stories were scored by the experimenter without knowledge of the drive, guilt, or conflict group into which the Ss fell. To check the reliability of the scoring procedure, sixty records were scored by another graduate student with experience in rating similar stories. The interscorer reliability was .95. The experimenter's scores were used in the analyses of the data. Examples of stories to each picture along with the weighted scores assigned are presented in Appendix C.

Scoring of the Questionnaire

Each item on the questionnaire was rated by S on a scale of +1 (disagree strongly) to +6 (agree strongly). As previously indicated, the individual items themselves had varied according to judges' ratings of their relevance to guilt or to conflict. Those judged as at level A (definitely no conflict or

guilt) were assigned a value of -2, those judged C a value of +1, those judged D a value of +2 and E a value of +3. The different weights were assigned since it was felt that acknowledgement of an item definitely indicative of conflict or guilt should contribute more to the total score than acknowledgement of an item less directly related to conflict or guilt. Negative weights were assigned to items which had been judged to be at level A because it was considered that acknowledgement of such an item should reduce the total conflict or guilt scores. The weights and category (guilt or conflict) for each item are indicated on the sample questionnaire presented in Appendix B. The weight assigned each item was multiplied by S's rating on the agree-disagree scale for the item. Conflict and guilt scores were obtained by summing all of the resultant weights for each S. Following this, item analyses were done in order to select only those items which measure what the scales as a whole measure. The Ss were divided into thirds, once on the basis of conflict scores, and again on the basis of guilt scores. The means for each item were then obtained for the groups in the lowest, middle and highest conflict or guilt categories on the pooled items. Items 10 and 12 (See questionnaire, Appendix B) were eliminated from the conflict scale because they did not differentiate the groups in the same direction as the pooled items and thus, did not measure

what the scale as a whole measured. Items 1 and 6 were eliminated from the guilt scale for the same reason. New totals were computed on the remaining items and used in the final selection of conflict and guilt groups. In order to make conflict scores positive, a constant of 21 was added. The range of total conflict scores then became 1 to 78, with a mean of 33.65. No constant was added to the guilt scores, which were all positive. The range of total guilt scores was 6 to 83, with a mean of 37.10.

Definition of Groups

Conflict. Initially, 120 Ss participated in the experiment. Seven married Ss, 5 Ss who gave incomplete information on their questionnaires, 3 Ss who gave obviously inaccurate information, and 5 Ss who had heard about the study and felt that their knowledge about it had influenced their stories, were automatically eliminated. A total of 100 Ss remained. For analysis of the data, 20 Ss who had the top, middle and bottom total conflict scores were selected for the conflict groups. These groups were designated as high, medium and low conflict respectively.

Sexual Drive. Of the 100 useable Ss, 10 reported an average rate of less than 1 orgasm per week, 17 of 1 per week, 33 of 2 per week, 15 of 3 per week, 12 of 4 per week, 6 of 5 per week, 3 of 6 per week, 1 of 7 per week, and 3 of 8 or more orgasms per week. Because

pictures were to be analyzed separately in order to test the second hypothesis, only two divisions of rate of orgasm were used in order to have a reasonable distribution for each picture. The selection of only two divisions was also guided by the consideration that each drive group would later be further subdivided into Ss of low and high guilt, resulting in a total of four groups. The division which separated the Ss as nearly as possible into two equal subgroups was found with the median cutting point of a rate of 2 or less times per week as opposed to 3 or more times per week. As a result, 60 Ss were placed in the low rate group (2 or fewer orgasms per week), and 40 Ss in the high rate group (3 or more orgasms per week).

Within each of the groups selected according to rate of orgasm, a division was made for time since last orgasm (deprivation) in a manner such as to divide the group as nearly as possible into two equal subgroups. In the low rate group, the cutting point was between 3 and 4 days of deprivation since last orgasm. Within this group, 27 Ss who reported their last orgasm within 3 days of testing were placed in a low deprivation subgroup, and 33 Ss who reported last orgasm as having occurred 4 or more days ago were placed in a high deprivation subgroup. In the group of high rate, the cutting point was between 1 and 2 days of deprivation since last orgasm. Within this group, 20 Ss who reported their last orgasm within a day

of testing were placed in the low deprivation subgroup, and 20 Ss who reported last orgasm as having occurred 2 or more days ago were placed in a high deprivation subgroup.

The third index of sexual drive considered was rate of nocturnal emission. Fifty-one Ss reported having no nocturnal emissions. Twenty-eight Ss reported a rate of nocturnal emission of less than 1 per week, 12 of 1 per week, 7 of 2 per week, 1 of 3 per week, and 1 of 5 per week. Those Ss reporting no nocturnal emissions were placed in the low nocturnal emission group. The other Ss were placed in the high nocturnal emission group.

Guilt. A cutting point of 35-36 divided Ss most nearly in half on guilt scores. Based on this division, 53 Ss were placed in the low guilt group and 47 Ss were placed in the high guilt group.

The Interaction of Drive and Guilt. The Ss were finally divided into groups according to both drive and guilt. Of those Ss with low guilt, 27 were of low rate and 26 of high rate. Of those Ss with high guilt, 33 were of low rate and 14 of high rate. A chi square value of 3.86 with 1 degree of freedom (1 df) indicated a significant inverse relationship between rate and guilt. When deprivation was used as the index of drive, of those Ss of low guilt, 21 were of low deprivation and 32 of high deprivation. Of these Ss of

high guilt, 26 were of low deprivation and 21 of high deprivation. A chi square value of 2.53 was not significant, suggesting that deprivation is more independent of guilt than is rate of orgasm, as had been hypothesized. Nevertheless, there is a tendency for an inverse relationship between deprivation and guilt. When rate of nocturnal emission was used as the index of drive, of those Ss of low guilt, 28 were of low rate of nocturnal emission and 25 were of high rate of nocturnal emission. Of those Ss of high guilt, 23 were of low rate of nocturnal emission and 24 were of high rate of nocturnal emission. A chi square value of .15 with 1 df was obtained, which is consistent with the hypothesis that nocturnal emission is the least related to guilt among the three indices of drive.

It was considered that guilt should be equated across groups in order to keep guilt and drive relatively independent. Special balancing of groups was found to be unnecessary because the ranges, means and standard deviations of guilt-groups in relation to either low or high drive were similar, i.e., the mean guilt scores for Ss classified as of low guilt were similar regardless of classification by rate of orgasm, and the same was true for the mean guilt scores of Ss classified as of high guilt. Thus, the mean guilt score for Ss of low guilt in relation to low rate was 23.56, and in relation to high rate was 25.19. The mean guilt score for Ss of high guilt in relation to low rate was 52.79 and in relation to high rate

was 52.64. The mean guilt scores for Ss classified as of low guilt were similar regardless of classification by deprivation and nocturnal emission also, and the same was true for the mean guilt scores of Ss classified as of high guilt, in relation to each of these indices of drive.

## Results

### Stimulus-Relevance

To obtain a measure of stimulus-relevance, per cent of Ss giving sex-related responses (n. sex score of 1 to 5) was computed. The results were as follows: picture 1, 18%; picture 2, 24%; picture 3, 52%; picture 4, 37%; picture 6, 92%; picture 8, 99%. The mean sex imagery scores for these pictures were as follows: picture 1, .26; picture 2, .42; picture 3, .80; picture 4, .58; picture 6, 2.44; picture 8, 3.95 (For further descriptive data on individual pictures, see appendix D). It was found that the distributions of scores on some of the individual pictures were too highly skewed to justify an analysis of variance based on individual pictures in testing the first hypothesis. An attempt was made to combine pictures in order to obtain more adequate distributions. In order to determine which pictures might be combined, the initial step was to select as a cutting point the n. sex score as close to the median point as possible for each picture. The cutting points were as follows: pictures 1,2,3 or 4: 0 to 1; picture 6, 2 to 3; picture 8, 4 to 5. Then, in order to see which pictures showed functionally dissimilar tendencies, so that combination would be contraindicated, the percent of Ss above the cutting points were calculated for each experimental group.

### Stimulus-Relevance and Conflict

The per cent of low, medium and high conflict Ss

above the median cutting point for each picture is shown in table 1. It can be seen that a u-shaped relationship exists between conflict and responding above the cutting point in picture 4, and that a strong inverse relationship exists between conflict and responding above the cutting point in picture 8. The chi square values (conflict x above and below median) for these pictures were 12.37 and 11.35, both of which are significant at the 1% level. Picture 3 also shows a strong tendency for the existance of an inverse relationship between conflict and responding above the median cutting point. Because of their similar sexual relevance as determined by the per cent of sexual imagery given to them, and because there were no contraindications by reverse results for the pictures combined, it was decided that pictures 1 and 2 could be combined as pictures of low stimulus-relevance, pictures 3 and 4 as pictures of medium relevance and 6 and 8 as pictures of high relevance.

It was hypothesized that Ss with high sexual conflict respond relatively strongly to pictures of low sexual relevance and relatively weakly to pictures of high sexual relevance as compared to Ss with low sexual conflict. An initial attempt to test the hypothesis by means of an analysis of variance (with conflict and stimlus-relevance as independent variables and TAT n. sex scores as the dependent variable) was abandoned because only 21 Ss of the 60 had responded at all to pictures

Table 1. Per cent Ss above median cutting points on n. sex for individual pictures, when Ss are divided according to conflict.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Low conflict | 15% | 25% | 70% | 65% | 40% | 70% |
| Medium conflict | 25% | 30% | 60% | 15% | 40% | 55% |
| High conflict | 10% | 15% | 40% | 30% | 30% | 15% |

1 or 2, leaving a preponderance of 0 scores in the analysis. Rather, an analysis of variance was done using the n. sex scores for the 20 Ss of low, medium and high conflict across all pictures as the dependent variable. The total n. sex scores for these groups were 92.50, 85.00 and 71.50, respectively. The results of the analysis of variance are presented in table 2. Here, it can be seen that the conflict groups do not significantly differ on n. sex responses across all pictures. There is a tendency however for an inverse relationship between conflict and thematic sexual responses.

In order to determine the relationship between conflict and stimulus-relevance, it was decided to group the Ss according to how they had responded on pictures 1 and 2 as compared to how they responded on picture 8, the picture of highest sexual relevance, and use the questionnaire conflict scores as the dependent variable. Since the pictures of low sexual relevance elicited sexual responses less than 50% of the time, any sexual response by a S to these pictures was considered relatively strong. Since the median cutting point on picture 8 was between n. sex scores of 4 and 5, only responses rated 5 were considered relatively strong. The mean conflict scores for each group are summarized in table 3. Nine Ss who responded relatively strongly to pictures 1 and/or 2 as well as to picture 8, had a mean conflict score of 17.77. Eleven Ss who responded

Table 2. Analysis of variance of n. sex scores as a function of conflict.

| Source | Sum of Squares | df | MS | F |
|---|---|---|---|---|
| Conflict | 11.32 | 2 | 5.66 | 2.14 |
| Within (error) | 150.83 | 57 | 2.65 | |

Table 3. Conflict scores as a function of Ss n. sex responses to pictures 1 and 2 and to picture 8.

| | Response to picture 1 and 2 | |
|---|---|---|
| | weak (0) | strong (1 to 5) |
| weak (0 to 4) | 42.25 (N=20) | 40.27 (N=11) |
| **Response to Picture 8** | | |
| strong (5) | 28.55 (N=20) | 17.77 (N=9) |

relatively strongly to pictures 1 and/or 2 and relatively weakly to picture 8, had a mean conflict score of 40.27. Twenty Ss who did not respond to pictures 1 or 2, but did respond relatively strongly to picture 8, had a mean conflict score of 28.55. Finally, 20 Ss who did respond to pictures 1 or 2 and responded relatively weakly to picture 8, had a mean conflict score of 42.25. Because the cells consisted of unequal proportions of Ss, additivity of sums of squares could not be assumed for the analysis of variance. Snedecor (1946) reports a modification of the usual analysis of variance which circumvents this difficulty for completely randomized designs. A logical extension of this modification was applied to the present data. Here, the total sum of squares, between Ss and within Ss were computed in the usual manner. The sums of squares for picture 1, picture 8 and their interaction were obtained by doing an analysis on their means. The error term was the value obtained when the sum of squares for within Ss was multiplied by the reciprocal of the harmonic means of the cell N's as a correction for disproportionality. The results of the analysis of variance may be seen in table 4. Here, it can be seen that picture 8 differentiates the conflict groups to a significant degree ($F = 11.18$, significant at the 1% level). It appears that regardless of responses to pictures 1 or 2, Ss who respond relatively weakly to a picture of high sexual relevance are in greater conflict than Ss who respond relatively strongly.

Table 4. Analysis of variance of conflict scores as a function of Ss responding relatively weakly or strongly to pictures 1 and 8.

| Source | SS | df | MS | F |
|---|---|---|---|---|
| Responses to Picture 1 | 40.70 | 1 | 40.70 | 1.39 |
| Responses to Picture 8 | 327.60 | 1 | 327.60 | 11.18** |
| Interaction of Responses to Pictures 1 and 8 | 19.37 | 1 | 19.37 | .66 |
| Error (within) | 1640.35 | 56 | 29.29 | |

**Significant at 1% level

Stimulus-Relevance and Drive

It was hypothesized that there is a stronger, direct relationship between sexual drive and sexual responses to pictures of low sexual relevance than to pictures of high sexual relevance. For rate of orgasm, deprivation, and rate of nocturnal emission, independently, per cent above the cutting point for each picture was calculated. The per cents above the cutting points for each index of drive are shown in tables 5,6 and 7. It can be seen that the most direct relationship exists between rate of orgasm and responding above the median cutting point in picture 1, the card of lowest sexual relevance. The chi square value (rate of orgasm x above and below the median cutting point) for this picture is 6.50, which is significant at the 5% level. A tendency is also seen for a direct relationship between rate of orgasm and responding above the median cutting point in picture 3, which is a picture of medium sexual relevance. The chi square value for this picture is 2.95, which is significant between the 5% and 10% level. No significant relationships exist for the pictures of high sexual relevance. When deprivation and rate of nocturnal emission were considered as the indices of drive, no significant relationships were found. With deprivation, the tendencies are generally in the opposite direction from those found with rate of orgasm. With rate of nocturnal emission, the tendencies are

Table 5. Per cent Ss above median cutting points on n. sex scores for individual pictures, when Ss are divided according to rate of orgasm.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Low Rate | 10% | 25% | 45% | 37% | 38% | 43% |
| High Rate | 30% | 23% | 63% | 38% | 43% | 50% |

Table 6. Per cent Ss above median cutting points n. sex scores for individual pictures, when Ss are divided according to deprivation in relation to rate.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Low Depriv. | 20% | 30% | 51% | 34% | 45% | 49% |
| High Depriv. | 17% | 19% | 53% | 40% | 36% | 45% |

Table 7. Per cent Ss above median cutting points on n. sex scores for individual pictures, when Ss are divided according to rate of nocturnal emission.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Low Noct. Emission | 14% | 27% | 51% | 33% | 37% | 41% |
| High Noct. Emission | 22% | 20% | 53% | 41% | 43% | 53% |

generally in the same direction as the ones found with rate of orgasm. Interestingly, in light of the hypothesis, there is a slight tendency for an inverse relationship between all of the indices of drive and per cent of Ss with n. sex scores above the median to picture 2, which is second lowest in sexual relevance. This suggests that although stimulus-relevance is of importance in projective techniques, other aspects of stimulus cues may have to be considered. These aspects will be considered in the "Discussion" section.

Stimulus-Relevance and Guilt

It was hypothesized that there is a stronger inverse relationship between sexual guilt and thematic sexual responses to pictures of high sexual relevance than pictures of low sexual relevance. For Ss divided according to guilt, per cent above the cutting point for each picture was calculated. The per cents above the cutting points in each picture for Ss with low and high guilt are shown in table 8. Guilt is generally associated with lowering of the percentage of Ss responding above the median cutting points through all pictures. However, guilt is not associated with significant changes in low relevant pictures. To picture 8, however, it can be seen that 58% of low guilt Ss respond above the median cutting point, while only 32% of high guilt Ss respond above the median cutting point. The chi square value for this relationship is 5.98, which is significant at the 5% level.

Table 8. Per cent Ss above the median cutting points on n. sex scores for individual pictures, when Ss are divided according to guilt.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Low Guilt | 23% | 30% | 60% | 45% | 45% | 58% |
| High Guilt | 13% | 17% | 43% | 28% | 34% | 32% |

A strong tendency in the same direction as seen to picture 8 is also indicated to the pictures of medium sexual relevance (pictures 3 and 4). The chi square values for responses to the pictures of medium sexual relevance are 3.17 and 3.32 respectively, both of which are significant between the 5% and 10% level. It may generally be concluded that guilt tends to restrain the expression of n. sex, particularly when cues are most obvious. However, since no significant relationship exists when picture 6 is considered, it must once again be concluded that aspects other than stimulus-relevance may also be of importance in predicting whether there will be projection or inhibition to a particular picture.

Interaction of Drive and Guilt

Further analysis consisted of an investigation of the relationships between both drive and guilt upon thematic sexual responses for the individual pictures. For each measure of drive independently, per cent of low guilt and high guilt Ss above and below the median cutting point was calculated (See tables 9,10 and 11). Results analyzed by chi squares called for a triple order interaction proposed by Sutcliffe (1957). A summary of chi square values is presented in tables 12,13 and 14. Here, it can be seen that although none of the interactions are significant, the values for the triple order interactions to picture 1 (when rate of orgasm is

Table 9. Per cent Ss above median cutting points on n. sex scores for individual pictures, considering the interaction of guilt and rate of orgasm.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Low rate, low guilt (N=27) | 7% | 33% | 56% | 48% | 41% | 56% |
| Low rate, high guilt (N=33) | 12% | 18% | 36% | 27% | 36% | 36% |
| High rate, low guilt (N=26) | 38% | 27% | 65% | 42% | 50% | 62% |
| High rate, high guilt (N=14) | 14% | 14% | 57% | 29% | 29% | 29% |

Table 10. Per cent Ss above median cutting points on n. sex scores for individual pictures, considering the interaction of guilt and deprivation in relation to rate.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Low deprivation, low guilt (N=21) | 19% | 38% | 57% | 38% | 57% | 52% |
| Low deprivation, high guilt (N=26) | 19% | 23% | 46% | 30% | 35% | 46% |
| High deprivation, low guilt (N=32) | 25% | 22% | 63% | 50% | 38% | 63% |
| High deprivation, high guilt (N=21) | 5% | 14% | 38% | 24% | 33% | 19% |

Table 11. Per cent Ss above median cutting points on n. sex scores for individual pictures, considering the interaction of guilt and rate of nocturnal emission.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Low emission, low guilt (N=28) | 21% | 29% | 53% | 43% | 43% | 57% |
| Low emission, high guilt (N=23) | 4% | 26% | 48% | 21% | 30% | 21% |
| High emission, low guilt (N=25) | 24% | 28% | 68% | 48% | 48% | 60% |
| High emission, high guilt (N=24) | 21% | 13% | 38% | 24% | 37% | 50% |

Table 12. Summary of chi squares when rate of orgasm is used as the measure of drive.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Total | 15.58 | 5.17 | 10.15 | 7.35 | 5.68 | 10.48 |
| Guilt | 1.64 | 1.16 | 3.17' | 3.33' | 1.32 | 5.98* |
| Rate | 6.50* | .09 | 2.95' | .02 | .17 | .43 |
| Interaction | 3.58' | .06 | .17 | .14 | .33 | .21 |

Note: In order to arrive at the interaction, a chi square value of rate x guilt, totalling 3.86 (sig. at 5% level) was subtracted from each total.

* Significant at the 5% level
' Significant between 5% and 10% level

Table 13. Summary of chi squares when deprivation in relation to rate is used as the measure of drive.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Total | 5.81 | 5.40 | 6.04 | 6.95 | 5.43 | 11.75 |
| Guilt | 1.64 | 1.16 | 3.17' | 3.33' | 1.32 | 5.98* |
| Deprivation | .08 | 1.63 | .04 | .34 | .81 | .13 |
| Interaction | 1.55 | .09 | .30 | .76 | .77 | 3.11' |

Note: In order to arrive at the interaction, a chi square value of deprivation x guilt, totalling 2.53 was subtracted from each total.

*Significant at the 5% level
'Significant between 5% and 10% level

Table 14. Summary of chi squares when nocturnal emission is used as the measure of drive.

| | Pictures | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 6 | 8 |
| Total | 3.88 | 2.55 | 4.91 | 4.17 | 1.82 | 8.66 |
| Guilt | 1.64 | 1.16 | 3.17' | 3.33' | 1.32 | 5.98* |
| Emissions | 1.29 | .68 | .04 | .60 | .32 | 1.42 |
| Interaction | .79 | .56 | 1.55 | .10 | .03 | 1.11 |

Note: In order to arrive at the interaction, a chi quare value of nocturnal emission x guilt, totalling .15, was subtracted from each total.

*Significant at the 5% level
'Significant between the 5% and 10% level

used as the index of drive) and to picture 8 (when deprivation is used as the index drive) approach significance (between the 5% and 10% level). The direction of these relationships is indicated in figures 3 and 4. In both cases, more low guilt Ss and fewer or just about an equal number of high guilt Ss tend to respond above the median cutting points, as a function of increasing drive.

In order to further investigate the effects of drive, guilt and stimulus characteristics, an attempt was made to analyze the mean n. sex responses of the various drive-guilt groups to pictures of low, medium and high sexual relevance. Since, as in the attempted analysis of variance with conflict a preponderance of 0 scores were present to pictures of low sexual relevance, and since as can be seen in tables 9,10 and 11, there is no evidence to contraindicate combination, analyses were done on the total mean n. sex scores across all pictures. The data were analyzed by analysis of variance similar to the one previously described in which unequal N's were present. The results of the analyses of variance when rate of orgasm, deprivation, and rate of nocturnal emission were respectively used as the indices of drive are presented in tables 15,16 and 17. In each case, it can be seen that groups divided according to guilt significantly differ in their production of thematic sexual responses, whereas groups divided according to drive do not significantly differ in their production

Figure 3. Relationship of guilt and rate of orgasm on n. sex responses to picture 1.

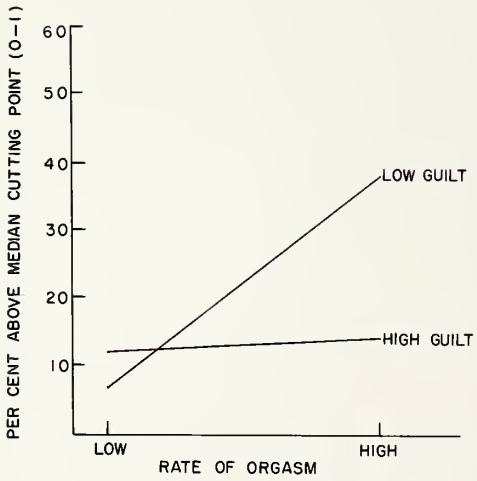


Figure 4. Relationship between guilt and deprivation on n. sex responses to picture 8.

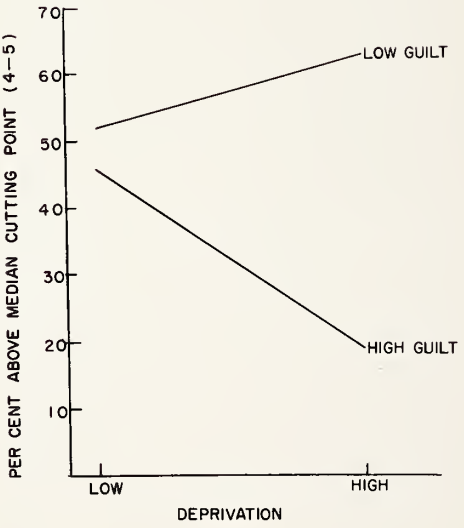


Table 15. Analysis of variance of n. sex scores as a function of rate of orgasm and guilt.

| Source | SS | df | MS | F |
|---|---|---|---|---|
| Rate of orgasm | .05 | 1 | .05 | .38 |
| Guilt | .66 | 1 | .66 | 5.08* |
| Rate x Guilt | .01 | 1 | .01 | .08 |
| Error (within) | 12.56 | 96 | .13 | |

*Significant at the 5% level

Table 16. Analysis of variance of n. sex scores as a function of deprivation (in relation to rate) and guilt.

| Source | SS | df | MS | F |
|---|---|---|---|---|
| Deprivation | .22 | 1 | .22 | 1.70 |
| Guilt | .86 | 1 | .86 | 6.61* |
| Deprivation x Guilt | .04 | 1 | .04 | .31 |
| Error (within) | 12.34 | 96 | .13 | |

*Significant at the 5% level

Table 17. Analysis of variance of n. sex scores as a function of rate of nocturnal emission and guilt.

| Source | SS | df | MS | F |
|---|---|---|---|---|
| Nocturnal Emission | .02 | 1 | .02 | .17 |
| Guilt | .75 | 1 | .75 | 5.77* |
| Emission x guilt | .10 | 1 | .10 | .83 |
| Error (within) | 12.48 | 96 | .13 | |

*Significant at the 5% level

of thematic sexual responses. Across all pictures, the mean n. sex score for Ss of low guilt was 4.63; the mean n. sex score for Ss of high guilt was 3.77. Thus, the relationship between guilt and thematic sexual responses is an inverse one.

An overview of the relationship between drive and guilt on TAT n. sex through all pictures combined is shown in figures 5,6 and 7. It can be seen in tables 15,16 and 17 that these interactions are not significant. Generally, however, expression of n. sex tends to increase with rate of orgasm and decrease with guilt. In interaction, both low and high guilt Ss tend to obtain higher mean n. sex scores as drive increases (See figure 5). Expression of n. sex tends to decrease with deprivation, and decrease to a greater degree with guilt. In interaction, low guilt Ss tend to respond with slightly lower mean n. sex scores with an increase in deprivation, and high guilt Ss tend to respond with lower mean n. sex scores with an increase in deprivation (See figure 6). Expression of n. sex tends to increase slightly with an increase in rate of nocturnal emission and decrease with guilt. Low guilt Ss tend to respond with less n. sex as rate of nocturnal emission increases, while high guilt Ss tend to respond with more n. sex (although still less than low guilt Ss) as rate of nocturnal emission increases (See figure 7).

It was considered that it would be theoretically helpful to determine the relationship of drive and guilt

Figure 5. Interaction between rate and guilt on n. sex

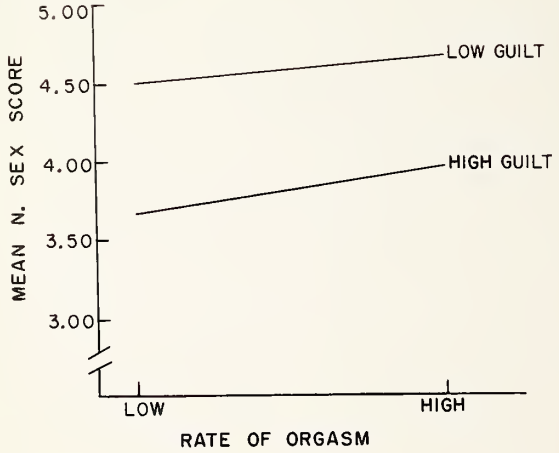


Figure 6. Interaction between deprivation and guilt on n. sex

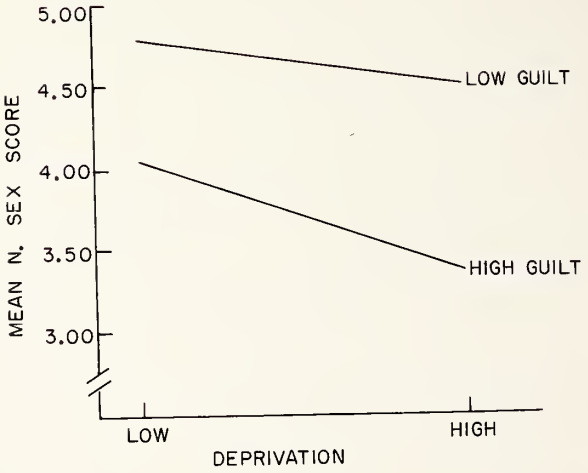
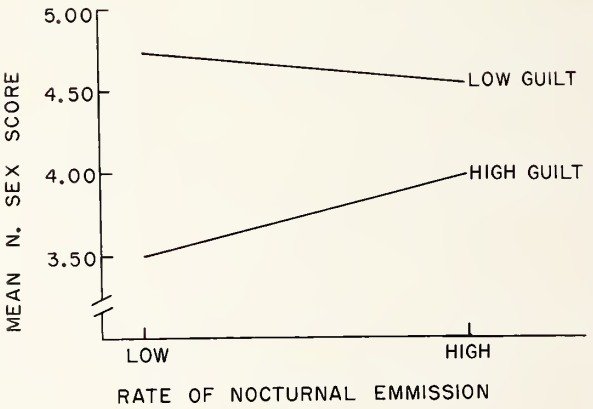


Figure 7. Interaction between rate of nocturnal emission and guilt on n. sex.



to conflict. In a previous study (Leiman and Epstein, 1961), it had been assumed that a group of high drive and high guilt would be in most conflict, but this remained questionable. In the present study, this assumption could be tested by investigating the relationship between the three measures from the questionnaire.

Conflict as a Function of Drive and Guilt

Using the previous breakdown of drive-guilt groups as the independent variables, an analysis of variance accounting for unequal N's was computed with self-rated conflict as the dependent variable. When rate of orgasm was used as the index of drive, the order of mean conflict scores was:low rate, low guilt, 19.74; high rate, low guilt, 28.73; low rate, high guilt, 39.55; high rate, high guilt, 50.36. Greater conflict is associated with increasing rate and increasing guilt. As can be seen in table 18, both rate of orgasm and guilt are significant at the 1% level. When deprivation was used as the index of drive, the order of mean conflict scores was:high deprivation, low guilt, 23.16; low deprivation, low guilt, 25.67; high deprivation, high guilt, 40.90; low deprivation, high guilt, 44.27. Thus it appears that the deprivation index is not related to conflict; high guilt Ss however are in more conflict than low guilt Ss. Table 19 indicates that with deprivation as the index of drive, guilt is significant at the 1% level. When rate of nocturnal emission was used as the index of drive, the order

Table 18. Analysis of Variance of conflict scores as a function of rate of orgasm and guilt.

| Source | SS | df | MS | F |
|---|---|---|---|---|
| Rate of orgasm | 98.01 | 1 | 98.01 | 10.58** |
| Guilt | 429.32 | 1 | 429.32 | 46.36** |
| Rate x Guilt | .82 | 1 | .82 | .09 |
| Error (within) | 888.70 | 96 | 9.26 | |

**Significant at 1% level

Table 19. Analysis of variance of conflict scores as a function of deprivation (in relation to rate and guilt.

| Source | SS | df | MS | F |
|---|---|---|---|---|
| Deprivation | 8.64 | 1 | 8.64 | .93 |
| Guilt | 328.68 | 1 | 328.68 | 35.53** |
| Deprivation x Guilt | 1.66 | 1 | 1.66 | .17 |
| Error (within) | 888.23 | 96 | 9.25 | |

**Significant at the 1% level

of mean conflict scores was:low emission, low guilt, 23.71; high emission, low guilt, 24.64; high emission, high guilt, 41.13; low emission, high guilt, 44.47. Nocturnal emission appears to be the index of drive least related to conflict; guilt once again is directly related to conflict. Table 20 indicates that guilt is significant at the 1% level.

From the above findings, it was concluded that when rate of orgasm is used as the index of drive, the high rate, high guilt group appears to be in most conflict. When deprivation or rate of nocturnal emission is considered as the index of drive, guilt and not drive is related to conflict.

Table 20. Analysis of variance of conflict scores as a function of rate of nocturnal emission and guilt.

| Source | SS | df | MS | F |
|---|---|---|---|---|
| Nocturnal Emission | 1.46 | 1 | 1.46 | .16 |
| Guilt | 346.89 | 1 | 346.89 | 37.38** |
| Nocturnal Emission x Guilt | 4.55 | 1 | 4.55 | .49 |
| Error (within) | 890.95 | 96 | 9.28 | |

**Significant at the 1% level

## Diseussion

### Conflict and Stimulus-Relevanee

It was hypothesized that Ss in high sexual eonfliet respond relatively strongly to pietures of low sexual relevance and relatively weakly to pictures of high sexual relevanee as eompared to Ss in low sexual eonfliet. The hypothesis was substantiated for the pieture of highest sexual relevanee only. It was noted that Ss divided according to eonfliet also differentially responded (u-shaped relationship) to a picture of medium sexual relevance, and did not differentially respond to one of the pictures of moderately high sexual relevanee. It would appear that other aspects of the stimulus must be eonsidered in addition to stimulus-relevanee. Some of these aspects will be considered in a diseussion of the relationship of drive and guilt to pictures varying in stimulus-relevanee. It may generally be coneluded, however, that eonfliet is best measured by inhibition of thematic sexual responses to strong sexual stimuli.

### Drive and Stimulus-Relevance

It was hypothesized that there is a stronger direct relationship between sexual drive and thematie sexual responses to pietures of low sexual relevanee than there is between sexual drive and thematic sexual responses to pictures of high sexual relevanee. The analysis of individual pictures revealed a significant direet relationship between rate of orgasm and per eent of

Ss giving sexual responses to the picture of lowest sexual relevance. The tendency for a direct relationship also appeared on a picture of medium sexual relevance. One of the pictures which produced the direct relationship was of a young man sitting on a dock and the other was of a young man sitting on a bench. A major aspect of these pictures which may lead to expression of thematic sexual responses is their general ambiguity. On the one hand, they are ambiguous in features, in that both project relatively dimly on the screen because one definitely takes place at night and the other takes place at night or early morning. Also, both focus on projection of thoughts rather than being structured in action, and allow for more alternative responses by Ss. On the other hand, the other pictures of low and medium sexual relevance, i.e., a young man striding through a doorway and a pair of figures walking through a field, are clearly projected on the screen and tend to be more structured in action.

The finding of a significant relationship between drive and per cent of Ss responding above the median cutting point to a picture of low stimulus-relevance applied only when rate of orgasm was used as the index of sexual drive and did not hold when deprivation or rate of nocturnal emission was taken as the index of drive. These findings are in accord with those of Leiman and Epstein (1961), who suggested that one possibility for the difference in results with the different indices of

sexual drive is that these indices may measure drive at different levels. As indicated in the chi square analyses of the interaction of drive and guilt in their study and in the present study, inhibition appears to be included in rate of orgasm as an index of drive, but not in deprivation or nocturnal emission. Rate of orgasm and sexual responses to a TAT-type test are probably related because they are similarly influenced by the combined effects of drive and inhibition, which was also suggested in the study by Epstein and Smith (1957). The difference in results with the different indices of drive will be further considered a discussion of the relationships of drive, guilt and conflict.

Guilt and Stimulus-Relevance

It was hypothesized that there is a stronger inverse relationship between sexual guilt and sexual responses to pictures of high sexual relevance than to pictures of low sexual relevance. The hypothesis was substantiated in response to picture 8, the picture of highest sexual relevance. Inhibition by Ss with high guilt can be accounted for by the conflict theory already referred to (Epstein and Smith, 1956), from which it may be inferred that inhibition increases at a faster rate than expression as the person approaches highly relevant cues. There is also a tendency for an inverse relationship between guilt and thematic sexual responses to pictures 5 and 4 (both of medium sexual relevance), which does not hold in the case of picture 6 (moderately high

sexual relevance). This once again suggests that other aspects of pictures must be considered to predict expression or inhibition. It was first considered that the different results with the two pictures of high sexual relevance might be accounted for by the greater intensity of responses to picture 8 than to picture 6. However, it was decided that other aspects must be taken into account since there was a stronger tendency for an inverse relationship between guilt and thematic sexual responses to the pictures of medium sexual relevance, to which the intensity of n. sex responses was lower than to picture 6. The most salient features of picture 8 (highest sexual relevance) seems to be its directness in its relationship to sex, so that to deny sexuality would consist of a gross misperception. Picture 6, on the other hand, although of high sexual relevance, is ambiguous to the extent that Ss could avoid sexual themes, e.g. seeing the two people studying. It seems possible, then, that guilt is best measured by highly relevant, undeniably sexually related pictures.

Drive, Guilt, and Conflict

When drive and guilt were considered in relation to conflict, it was demonstrated that both reported rate of orgasm and guilt are directly related to conflict. Unlike rate of orgasm, both deprivation and rate of nocturnal emission were not significantly related to conflict. It has already been suggested that as an index of drive, rate

of orgasm differs from the other indices in that rate of orgasm is more influenced by the combined effects of drive and inhibition. Another consideration is that the index of deprivation reflects current factors in inhibition better than rate of orgasm, whereas rate of orgasm measures a more general and lasting attitude toward sex. In the present study for example, rate of orgasm was determined by an average over a two month period, whereas deprivation was centered only in the previous few days. Another aspect of the differences between the three indices of drive is that deprivation and nocturnal emission appear to be less under the conscious control of S than is rate of orgasm. Thus, deprivation and nocturnal emission may provide indices of sexual drive which are more free of attitudes than is rate of orgasm, guilt or conflict as measured in the present study. This would again suggest that deprivation and nocturnal emission are more independent of guilt than is rate of orgasm, which was substantiated by chi square analyses in which a significant relationship was found between rate of orgasm and guilt, but not between deprivation or nocturnal emission and guilt. Leiman and Epstein (1961) suggested that because deprivation is more independent of guilt than is rate of orgasm, deprivation might be considered a "purer" index of drive. Unlike the Leiman and Epstein study, however, no significant interaction was found between deprivation and guilt on thematic sexual responses.

Nor was there a significant interaction found between rate of nocturnal emission (which according to chi square analysis might be considered the "purest" index of drive) and guilt on thematic sexual responses. The obvious consideration appears to be that there is a question as to how meaningful the concept of a "pure drive" might be when measuring drive by questionnaire. One might conclude that TAT-type pictures are influenced only by psychologically organized drives. Rate of orgasm is a behavioral measure and thus indicative of sexual drive experienced as such psychologically. This does not hold for deprivation or nocturnal emission. It appears likely, that guilt and conflict as measured by the questionnaire are also not sufficient in accounting for the effects of physiological tension, but are more related to the determination of psychological sexual motivation.

Still other findings concerning drive and guilt must be considered in light of previous findings by Leiman and Epstein (1961). In the analysis of individual pictures for example, there was a tendency for an interaction between rate of orgasm and guilt to thematic sexual responses to picture 1 (lowest sexual relevance). This was not found in the study by Leiman and Epstein (1961). This finding was unanticipated and requires further verification.

The present study has also found that both low

and high guilt Ss obtained higher mean n. sex scores in a parallel fashion as rate of orgasm increased. This substantiated the findings in the study by Leiman and Epstein (1961). This may be explained by the suggestion that rate of orgasm as a measure of behavior is influenced by guilt as well as by drive, and as a result, the effects of guilt as inferred from the questionnaire are reduced.

Combining all pictures, there was a tendency for a direct relationship between thematic sexual responses and rate of orgasm. Although not significant in the present study, this finding was significant in the study by Leiman and Epstein (1961). One possibility for the difference is that Leiman and Epstein had used groups divided into rates of 0-1, 2-3 and 4 or more orgasms per week. Since the present study was more concerned with individual pictures, such a breakdown would have resulted in the loss of too many Ss when considering thematic sexual responses to the individual pictures. Thus, in the present study, only two subdivisions of rate of orgasm (2 or less orgasms per week, and 3 or more orgasms per week) were considered, which made the groups less divergent in rate of orgasm than the two extreme groups in the study by Leiman and Epstein (1961). For this reason, it is felt that the tendency for a direct relationship between rate of orgasm and thematic sexual responses in the present study tends to verify the previous

results.

It must also be considered, however, that the set of stimuli used in the present study were only partially similar to those used by Leiman and Epstein (1961). Only pictures 3,4 (both of medium sexual relevance) and picture 8 (highest sexual relevance) were used in both studies. Picture 3 of the young man on a bench had been the initial picture in Leiman and Epstein's study and significantly showed a direct relationship between rate of orgasm and thematic sexual responses. In the present study, there was a strong tendency in the same direction. Picture 8, the picture of highest sexual relevance had also been used as the last picture in the study by Leiman and Epstein (1961) and as in the present study, showed an inverse relationship between guilt and thematic sexual responses. Thus, these pictures discriminated between groups in the same direction in both studies. This was found not to be true in the picture of two figures walking in a field, which had been presented fourth in the present study and second in the previous one (Leiman and Epstein, 1961). In the study by Leiman and Epstein (1961), there was a tendency for a direct relationship between rate of orgasm and thematic sexual responses to this picture. No such tendency was found in the present study. The findings with the pictures that had been repeated in both studies then, suggest that in general it may now be possible to select

particular pictures which will measure drive and guilt, but that other considerations, e.g., the effects of sequence, may have to also be taken into consideration.

## Suggestions for further study

The present study has shown that drive, guilt and stimulus-relevance all must be considered in the prediction of thematic sexual responses. Some areas requiring further study are as follows:

First, it would be pertinent to investigate what aspects of pictures lend themselves to directly measuring drive, or approach, and what aspects lend themselves to measuring inhibition, or avoidance. Stimulus-relevance appears to be one factor which must be taken into account. However, it is obvious that stimulus-relevance by itself is not sufficient. Other aspects of stimulus cues must also be considered. One possible area of investigation suggested by Leiman and Epstein (1961) and the present study relates to the ambiguity of the stimulus. Ambiguity refers to the number of alternative responses that are available to S. Ambiguity is related to stimulus-relevance in that increasing stimulus-relevance will generally be associated with a decrease in ambiguity. However, one can present an unambiguous picture of a boy and girl kissing. On the other hand, one can present an ambiguous picture of possible sexual intercourse. An example of the latter was a picture used by Leiman and Epstein (1961) of a dimly illumined figure of a man whose shadow can also be seen walking up a stairway. The present study suggests that pictures of low sexual relevance which are ambiguous either through being

dimly projected or through offering many alternative responses by not structuring the action, are best measures of sexual drive. On the other hand, pictures of high sexual relevance which most directly suggest sexual action so that denial of the action would consist of a misperception may be best measures of sexual guilt.

Secondly, it has been noted that conflict and guilt as measured by the present study are determined from items which explore attitudes toward sex on a relatively conscious level. It might be of value to explore the various relationships by measuring conflict or guilt in terms of activation as might be measured by a GSR in relation to a stimulus dimension. One could also explore as a dependent variable, more remote stimuli, such as Rorschach cards, scoring sexual responses by such criteria as content, concentration on Rorschach "sexual" areas, etc., in order to see whether responses might be more related to the less conscious levels of sexual drive, i.e., deprivation and nocturnal emission.

Thirdly, it appears worthwhile to further investigate rate of nocturnal emission as an index of drive, particularly since it appears to be more independent of guilt than the other indices of drive. One limitation is that Ss may not always be aware of their nocturnal emissions. Still, more precision could be obtained by more refined methods in eliciting information on emissions. In the present study, Ss could have omitted

a report of their nocturnal emissions simply due to the nature of the questionnaire (See Appendix B). It is felt that more precision could be obtained by giving Ss a choice of selections in the checklist which includes the choice of "none". In this way the experimenter would be able to determine whether S has chosen not to answer or whether he is reporting no nocturnal emissions.

Summary

The purpose of this study was to investigate sexual responses on a TAT-type test in relationship to sexual eonfliet, sexual drive and sexual guilt. The Ss were first given a series of pietures of varying stimulus-relevance and asked to write stories about them. Following this, a questionnaire was anonymously filled out to obtain three indiees of sexual drive (rate of orgasm, deprivation in relation to rate, and rate of nocturnal emission) and to obtain a measure of sexual conflict and sexual guilt. Of the 100 useable Ss, the top, middle, and bottom 20 were seleeted as Ss of high, medium and low confliet, respeetively. The Ss were also divided as nearly as possible into two equal subgroups aecording to rate of orgasm, with the result that 60 Ss with rates of 2 or less orgasms per week were placed in a group of low rate of orgasm, and 40 Ss with rates of 3 or more orgasms per week were plaeed in a group of high rate of orgasm. For each rate, Ss were divided at the median for time since last orgasm (deprivation). The Ss were also divided at the best median cutting point for rate of noeturnal emission. Weighted scores were obtained for TAT n. sex. The major findings may be summarized as follows:

1. It was found that Ss of high conflict responded signifieantly (1% level) more weakly to a picture of high sexual relevance than did Ss of low conflict. No significant differences between the conflict groups were

found in response to pictures of low sexual relevance.

2. There was a significant relationship (5% level) between rate of orgasm and thematic sexual responses to the picture of lowest sexual relevance. No significant difference was found to a different picture of low sexual relevance. It was suggested that rate of orgasm is best measured by pictures of low sexual relevance which are projected dimly, or are ambiguous in that they allow for many alternative interpretations. No significant results were found when deprivation and rate of nocturnal emission were used as indices of drive. It was suggested that rate of orgasm, as a behavioral measure which is an index of psychologically organized drive, is on the same level of conscious control as is TAT n. sex, whereas the other indices of drive are less under conscious control.

3. There was a significant relationship (5% level) between guilt and the picture of highest sexual relevance. No significant difference was found for another picture of high relevance. It was concluded that guilt is best measured by pictures of high sexual relevance to which denial of sexuality would consist of a gross distortion, i.e., that would ordinarily offer few alternative interpretations, and thus would be low in ambiguity.

4. It was found that both rate of orgasm and guilt are directly related to conflict as measured by the questionnaire. No significant relationship was found between deprivation or rate of nocturnal emission and conflict.

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# APPENDIX A

## Pictures

# APPENDIX B

## Questionnaire

AGE: MARRIED____ ENGAGED____ NO ATTACHMENTS_____

I. How long has it been since your last sexual orgasm? (Check one):
____Less than one day ago
____One day ago
____Two days ago
____Three days ago
____Four days ago
____Five days ago
____Six days ago
____One week ago
____Eight days to two weeks ago
____More than two weeks ago

II. Based on the past two months, what is the average frequency of your sexual orgasms per week (combined from intercourse, petting, masturbation, nocturnal emissions, etc.) (Check one):
____Less than one day per week
____One per week
____Two times a week
____Three times a week
____Four times a week
____Five times a week
____Six times a week
____Seven times a week
____Eight or more times per week

III. Based on the past two months, indicate whether you have had orgasms from any of the following sources and indicate the relative frequency of each (Check frequency for each):

| | Masturbation | Sexual Intercourse | Noct. Emissions (Wet Dreams | Petting | Others |
|---|---|---|---|---|---|
| Less than one time per week: | ____ | ____ | ____ | ____ | ____ |
| One time per week: | ____ | ____ | ____ | ____ | ____ |
| Two times per week: | ____ | ____ | ____ | ____ | ____ |
| Three times per week: | ____ | ____ | ____ | ____ | ____ |
| Four times per week: | ____ | ____ | ____ | ____ | ____ |
| Five times per week: | ____ | ____ | ____ | ____ | ____ |
| Six times per week: | ____ | ____ | ____ | ____ | ____ |
| Seven times per week: | ____ | ____ | ____ | ____ | ____ |
| Eight times per week or more: | ____ | ____ | ____ | ____ | ____ |
| If less than 1 time per week, indicate number per month: | ____ | ____ | ____ | ____ | ____ |

IV. In the space before each of the following statements, enter the appropriate weighted score:
Weight of 1: Disagree strongly
Weight of 2: Disagree
Weight of 3: Disagree slightly
Weight of 4: Agree slightly
Weight of 5: Agree
Weight of 6: Agree strongly

| Weight | | |
|---|---|---|
| _____ | 1. Sexual desire is just as natural as hunger or thirst. | (-2 on guilt) |
| _____ | 2. Sexual curiosity in children should be discouraged. | (+1 on guilt) |
| _____ | 3. I am worried about sex matters. | (+1 on conflict) |
| _____ | 4. I am displeased with myself after a sexual orgasm. | (+2 on guilt) |
| _____ | 5. I am very disturbed about my sex life. | (+3 on conflict) |
| _____ | 6. I like to read sexy novels. | (-2 on guilt) |
| _____ | 7. My life has been built on the thought that sex is vulgar. | (+2 on guilt) |
| _____ | 8. During sexual encounters, I have sometimes felt angry for no apparent reason. | (+3 on conflict) |
| _____ | 9. When I have sexual thoughts or daydreams, I feel ashamed of myself. | (+3 on guilt) |
| _____ | 10. I wish that I had more opportunity to express my sex feelings. | (+1 on conflict) |
| _____ | 11. I have no guilt feelings about my sexual behavior. | (-2 on guilt) |
| _____ | 12. I need liquor to express myself sexually. | (+2 on conflict) |
| _____ | 13. Sexual things disgust me. | (+3 on guilt) |
| _____ | 14. I feel that I am continually wrestling with my sexual impulses. | (+3 on conflict) |
| _____ | 15. I sometimes worry that I will be impotent in marriage. | (+2 on conflict) |
| _____ | 16. I feel I am well adjusted sexually. | (-2 on conflict) |
| _____ | 17. Sex is a fine and full part of life. | (-2 on conflict) |
| _____ | 18. I would find it hard to talk openly about my sexual feelings. | (+2 on guilt) |
| _____ | 19. I wish I were not bothered so much by thoughts about sex. | (+1 on conflict) |
| _____ | 20. I feel guilty about my sexual behavior. | (+3 on guilt) |
| _____ | 21. I find discussions about sex slightly annoying. | (+1 on guilt) |
| _____ | 22. My sexual life is satisfactory. | (-2 on conflict) |
| _____ | 23. Some of the sexual thoughts I have really bother me. | (+1 on guilt) |
| _____ | 24. Sex is a real problem to me. | (+2 on conflict) |

## APPENDIX C.

### Examples of Mean Weighted n. sex Scores Given to Stories for Individual Pictures.

### Picture 1.

Weighted score of 1: It's summer now and John is sitting down by the lake reminiscing of the days when life was serenity and enjoyment. Since his father died, and left the family in poverty, life was almost unbearable at times. The only time John could recapture any pleasure was by this lake. He was thinking of Mary, his girl friend who has stuck with him for the past three years, but even she can't make life seem pleasant to a fatherless boy as John.

Weighted score of 2: Tom's girl had just left on the Sunday train. She wouldn't be back for another week. He walked down to the edge of the lake and sat on the dock thinking about all the wonderful times they had had that weekend. As the mist rolled in over the lake, he thought about the square dance, the water skiing, and horseback riding they had done. Next weekend and that whole summer their love for each other grew.

Weighted score of 3: No story.

Weighted score of 4: No story.

Weighted score of 5: One warm summer day last year Joe decided to take a walk to the lake. The night before he had had a fight with his wife and he needed time to cool off. It seems his claimed she did not want to have anything more to do with his perverted sex drives. She felt tired and was fed up with his type of sex play. Joe was infuriated and went down to the lake the next day and decided to jump in.

APPENDIX C, continued

Picture 2

Weighted score of 1: Donald had a habit of listening outside of doors. One day, Dave and Jack were discussing girls and Donald's name came up. A few unkind remarks were made about Donald. Donald, who was supposedly gone out, was listening at the door. Later Donald walked in the room calmly as if nothing had happened. He then confronted the two boys with what he had heard.

Weighted score of 2: The young boy in this picture has just returned home from a date with his girl friend. When he left home earlier that evening his mother gave him strict orders to be home early. While out with his girl friend he had a very enjoyable time. They went to the movies, and because the picture was extra long, the young boy stayed out longer than he should have.

Weighted score of 3: Mr. James Jones, an enterprising young business man had been in his boss's office discussing a new plan to promote business. If his boss liked the plan, this would mean a promotion or better salary. This would be much appreciated as his young bride is expecting a baby. As it turned out, the old businessman saw what good this new plan could do for the firm and amply rewarded his young employee. Thus, Mr. Jones found that his work was worth while.

Weighted score of 4: The young man is just arriving home from work after a long tiresome day. He can smell his wife's cooking as he enters. His wife is real sharp looking and well formed. It looks like he is going to have a sort of tiresome night for himself.

Weighted score of 5: A guy is just leaving a room in a whore house after doing what comes naturally. He is feeling great and has the world by the tail, so to speak. He is going outside, probably back to the dormitory or frat house where he will tell, the boys of the great feats that he has just performed. Namely, ripping off a piece. He will not be back though because something will be bothering him inside.

APPENDIX C, continued

Picture 3

Weighted score of 1: This is a picture of a man sitting on a park bench all alone and he is looking out over a small pond or lake. It is early evening and the sun is just going down in the west. He is probably waiting for someone to meet him and seeing that it is a park bench he is probably waiting for a young lady, that he is acquainted with. He is probably broke (no money) so he has asked her to meet him. After he finishes work, in the park and they can sit and talk for he has no money and can't take her anywhere.

Weighted score of 2: Ernie Smith has just proposed to his girl and has been turned down. She has fell in love with someone else. Ernie has gone back to their one time favorite meeting place to reminisce old times. He is thinking how lonely he is and what will he be able to do now that he has lost her. Ernie will be dejected for about 3 or 4 months but will then find another girl to fall in love with.

Weighted score of 3: No story.

Weighted score of 4: A boy had a date but couldn't pick her up at the house. He is waiting for her to meet him in the park. He is now thinking of what he will do in the evening, perhaps he will be immoral and take advantage of the situation, perhaps he is in love with the girl. But he is waiting and knows she will turn up. He will have a good time with the girl, but they will break up soon as there is no real respect between the two. He is thinking that now and is trying to get an easy way to tell her that it's all over. She will cry perhaps, but she knows it is coming. She knows her actions are wrong and doesn't love him.

Weighted score of 5: Bob, a freshman at U.M. is 18 years old. He is waiting for his date by the college pond. The girl, Betty, is also a freshman, and finally shows up. Bob suggests a walk but Betty prefers to sit on the bench and talk. As they talk, they do a little necking and while one thing leads to another, the campus cops catch them in a compromising situation. The boy, being of a good family, wants to take all of the blame, so the girl claims she was raped. Bob gets thrown out of school and into prison. Betty is remorseful of her act and she hangs herself in her room in Lewis dorm. Bob hearing of this, goes beserk and kills himself also.

APPENDIX C, continued

Picture 4

Weighted score of 1: The time has come. No longer can the old couple survive living all alone in the mountain trying to make a living from their small farm. Their children have grown up and deserted them. Now they must sell the farm, take what they can get and move to the city. They are both sad. They will miss the farm and their lives will change slowly, but they will soon be at home in the city and have only fond memories to remember this farm by.

Weighted score of 2: It's a lovely summer afternoon, out in the country side where everything is quiet and sweet. The couple in the picture can even smell the sweetness in the air. They are very happy and content walking hand in hand along a small path doing some happy talk about the past, present and future. They both wish they were masters of their souls and the captains of their fate, so that they never would have to leave one another again.

Weighted score of 3: An old couple is walking gayly down the driveway to their farm. They have been to church and are admiring the beautiful scenery. They are proud of the farm that took years of work and savings to complete and now they have been able to relax and enjoy themselves. It is Vermont in the springtime and when grandfather Smith gets home he will pinch his wife a few times, since he is still playful at 70. The two cannot help but live happily here by themselves unless their useless grandson comes up to sponge off them and invade their privacy.

Weighted score of 4: Fred and Sue are in love. They go to their parents' summer cottage in Maine for a vacation. The island is small, and inhabited only on one small area of coastline. The other side of the island was once a camp for boys, now deserted. Fred and Sue take a walk across the island arm in arm and a twinkle in their eyes. They come to the broken down old fence of the camp and then they say that they would like to explore the old ruins of the camp-houses, barns, cellar holes, well, etc. They have a great time, then they went deeper into the woods and had a greater time.

Weighted score of 5: The men are walking from a farm house. One is a father and one is a son. They are going out to milk cows. Although this may seem to be a regular day, the son wants to talk his problems over with his father. He always came to his father with problems. It seems that last night he had intercourse with a girl. It all happened so fast. It seemed just like a regular date, but it wasn't. His father tells him not to worry.

APPENDIX C, continued

Picture 6

Weighted score of 1: The couple are on a picnic at the seashore. They really love each other because they both split the cost of a red Jaguar in which they drove here. The picnic is on a cliff overlooking the sea. It is a nice bright sunny day. Everything is perfect until it rains and the leather on the upholstery gets ruined and the picnic is ruined.

Weighted score of 2: The two young people in the picture are deeply in love. At the lake's edge they are alone in each other's company. They obviously are enjoying being together and are probably speaking of how much they love each other. They would like to be married but their parents think they are too young and they must be satisfied with their quiet companionship as they now have it.

Weighted score of 3: This group is in love or what they think is love. They have just finished having a picnic and are now ready for a little necking. This is characteristic of young kids. The thrill of having a girl and the reverse is of great importance. This couple later on in life really fell in love after finding out exactly what it was, but not to each other.

Weighted score of 4: They had finally been able to get away from the turbulent city life and be all alone. She was a lovely girl and was deeply in love with him. The drive there had been wonderful. Everything was wonderful for Marcia, but Bob had no feelings whatsoever for this girl. All she was was another easy make. He started to get fresh and soon was slapped in the face by the angry and saddened girl who beat him to the car, started it up and took off. He was only 40 miles from town.

Weighted score of 5: A young couple enjoying the wonders of nature and are completely lost in their love for each other. Maybe they have shared their first taste of sexual intercourse-the final step in complete love. They are really very much in love and they feel no shame for their act because they believe that it is the natural expression of true love. With this attitude they are destined to share a long and happy life together.

APPENDIX C, continued

Picture 8

Weighted score of 1: Marsha loved Jim very much. One day he went out on a hunting trip and was shot in the stomach. They rushed him home and called a doctor. It was too late; Jim was going to die. Marsha rushed to Jim from her house. Marsha became shocked at the haggardness of Jim setting on.

Weighted score of 2: A few months ago this man was in a bad car accident in which he broke many bones. Since then he has been laid up in bed with little will to live. Without his wife at his side, he would have given up a long time ago, but she has seen him thru the worst. He's seen here, rewarding her for being so faithful. He will continue to recover and the memory of the faithfulness of his wife will make their marriage a happy one.

Weighted score of 3: This young man and girl are very much in love. They are fooling around on the living room sofa completely ignoring the big eye of the T.V. as it strives to entertain them. They aren't alone enough to suit them and every minute they are alone is not to be wasted on such things as television. Sooner or later, and it will seem all too soon for the couple, the young man will have to leave and both will then wait impatiently for the next moment when they can be alone.

Weighted score of 4: This could be a couple on their wedding night. This could be an end to their separate struggles and a start together on their own problems. This is the utmost challenge to a man. He finally takes his woman and they both together can live and fight side by side, never more to separate.

Weighted score of 5: Ken has been frustrated the last couple of weeks and has picked up an old girl friend with a bad reputation. He is making love to the girl and is thinking of what is yet to come. He feels on the verge of being satisfied. He will eventually indulge in sexual intercourse with the girl and will be fully satisfied at the time.

## APPENDIX D.

Frequency distribution of n. sex scores for all pictures (N=100)

| n. sex scores | Pictures 1 | 2 | 3 | 4 | 6 | 8 |
|---|---|---|---|---|---|---|
| 0 | 82 | 76 | 48 | 63 | 8 | 1 |
| 1 | 13 | 16 | 31 | 26 | 14 | 2 |
| 2 | 4 | 3 | 18 | 6 | 39 | 9 |
| 3 | 0 | 2 | 0 | 2 | 16 | 24 |
| 4 | 0 | 1 | 1 | 1 | 11 | 17 |
| 5 | 1 | 2 | 2 | 2 | 12 | 47 |

Information on independent pictures for all 100 Ss

| | Pictures 1 | 2 | 3 | 4 | 6 | 8 |
|---|---|---|---|---|---|---|
| Per cent sex imagery | 18% | 24% | 52% | 37% | 92% | 99% |
| Mean sex imagery score | .26 | .42 | .80 | .58 | 2.44 | 3.95 |
| Range of sex imagery scores | 0-5 | 0-5 | 0-5 | 0-5 | 0-5 | 0-5 |
| Mean weight of sex imagery scores considering only sex imagery responses. | 1.44 | 1.75 | 1.54 | 1.57 | 2.65 | 3.99 |

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