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# The Rating of Sexual and Nonsexual Cartoons as a Function of Repression-Sensitization

William J. Burns

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THE RATING OF SEXUAL AND NONSEXUAL  
CARTOONS AS A FUNCTION OF  
REPRESSION-SENSITIZATION

by  
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A Dissertation

Submitted to the Faculty

of the

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in partial fulfillment of the requirements

for the degree of

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1974

This Dissertation submitted by William J. Burns in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

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OF REPRESSION-SENSITIZATION

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Degree DOCTOR OF PHILOSOPHY

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## ABSTRACT

In the past ten years, since the revision of the Repression-Sensitization Scale (Byrne, Barry and Nelson, 1963) a growing number of investigators have attempted to relate the R-S scale to an approach-avoidance continuum of defensive behavior. The few studies that have used sexual stimuli to produce a threat response have not obtained very consistent results. The present study has focused on the relationship between the R-S scale and the humor rating of cartoons. Through the use of Marlowe-Crowne Social Desirability scores, repressors were differentiated into defensive and nondefensive.

The independent variable involved the presentation of two types of cartoons: sexual and nonsexual.

The two dependent variables were: the proportion of sexual versus nonsexual cartoons that each subject chose to view, and the humor rating of these cartoons. The experimental design was a 3 x 2 x 2 factorial with three levels of R-S (sensitizers, nondefensive repressors and defensive repressors), two levels of sex (male and female) and two types of stimuli.

Sixty subjects were instructed to rate the degree of humor in each of a series of 40 cartoons. Subjects controlled the presentation of cartoons on a screen by pressing one of two levers. After 40 cartoons were viewed and rated, a post experiment questionnaire was administered.

Analysis of variance revealed a significant main effect, and a significant second order interaction. Emphasis was placed on the higher order finding.

Consistent with the hypothesis female defensive repressors gave significantly lower humor ratings for sexual cartoons than nonsexual cartoons. The hypothesis that sensitizers should give significantly higher humor ratings for sexual cartoons than nonsexual cartoons was not supported. None of the data for males showed significant differences. The sex differences had not been anticipated.

The rating of humor in sexual and nonsexual cartoons by female subjects was interpreted to correspond to an approach-avoidance model. The M-C SD scale was not found useful in differentiating types of R-S scorers in the present study.

Since subjects chose different proportions of sexual cartoons, the two subjects in each category who viewed the fewest sexual cartoons were eliminated for a second analysis of variance. Results were essentially the same, except that internal comparisons revealed no significant differences in humor ratings for sexual and nonsexual cartoons. This later finding was interpreted to mean that female defensive repressors expressed their dislike for sexual cartoons by choosing to view fewer of them as well as rating them lower than nonsexual cartoons. An analysis of the proportion of sexual cartoons viewed revealed no significant mean differences between subject categories.

## CHAPTER I

### INTRODUCTION

In the past ten years a rapidly growing number of studies has generated a wealth of information about the area of repression-sensitization. Byrne (1961a) has developed a scale to measure this dimension called the Repression-Sensitization (R-S) scale. Byrne (1964b) discussed the process of gathering evidence for the construct validity of his R-S scale:

As with most variables in the field of personality, the conceptualizations regarding defensive modes of behavior range from nonoperational theoretical formulations based on clinical observations to quite specific operations devised for research purposes. Since no single variable of the latter variety can encompass all the surplus meaning contained in the clinical theories of repression, the construct validity of the R-S scale must rest on a series of correlational and experimental findings (p. 177).

Since the time that Byrne made this statement, a large volume of experimental findings has been amassed in connection with the R-S scale.

Many investigators have attempted to relate the R-S scale to an approach-avoidance continuum of defensive behavior. At the avoidance end of this continuum of defensive behavior are placed people who react to threatening situations with denial of threat and anxiety, withdrawal, blocking, avoidance and cognitive inattention. These people have been called repressors (Byrne, 1964b). At the other extreme are people who tend to acknowledge their anxiety, who do not avoid unnecessarily threatening situations, and who attempt to actively control

their anxiety response and the anxiety-producing situation. People who behave in this manner have been termed sensitizers (Byrne, 1964b). Some recent personality researchers (Byrne, 1964b; Tucker, 1970) regard this repression-sensitization continuum as the basic pattern of reactivity which underlies the mechanisms of defense.

R-S studies have employed many types of threatening stimuli. These have included induced failure, electric shock, pictures of bloody surgery and automobile accidents, threatening words and sexual passages in literature. The few studies that have used sexual stimuli to produce threat have not obtained very consistent results. Consequently, the present study focused on a refinement in methodology to add strength to the investigation of the relationship between the R-S scale and sexual threat. This refined method was used to investigate the relationship between the R-S scale and the rating of cartoons.

Chapter II contains a review of the literature pertaining to the R-S scale. This chapter includes a review of the historical background of repression-sensitization, a review of the studies that have related the R-S scale to various types of threatening stimuli, a review of the use of sexual stimuli with repressors and sensitizers, a review of the use of cartoons as a technique for presenting sexual stimuli, and a proposal for refinement of the methodology in the use of sexual cartoons with repressors and sensitizers.

Chapter III contains a discussion of some methodological issues: the use of humor in a study of sexual stimuli, and the use of a measure of social desirability to select defensive from nondefensive repressors.

Chapter IV contains a discussion of objectives and expectations for the study and predictions regarding results.

In Chapter V the experimental method is described in detail. Chapters VI and VII contain a presentation of the experimental results and a discussion of these results, respectively.

## CHAPTER II

### A REVIEW OF THE LITERATURE PERTAINING TO THE REPRESSION-SENSITIZATION SCALE

Since the present study is an investigation of the relationship between the R-S scale and the rating of cartoons, this chapter will review the history of the scale. This review contains a summary of the research background from which the R-S scale grew, a review of the R-S studies which have used various types of threatening stimuli, and a discussion of the R-S studies that have used sexual stimuli to investigate the responding of repressors and sensitizers. At the end of the chapter there is a discussion of the purpose of the investigation.

#### Historical Background

The R-S scale was developed in 1961 by Byrne, but it had its origins in Freud's theory of repression, in the "new look" studies of perceptual defense of the 1940's, and in the attempts in the late 50's to develop scales to select repressors and sensitizers.

Primarily from psychoanalysis, psychology has inherited a variety of theories about unconscious mechanisms which are assumed to enable the individual to cope with anxiety. The descriptions of these defense mechanisms are not always satisfactory from an operational point of view. That is, the particular mechanism postulated to

underlie a given sequence of behavior may appeal to concepts that are impossible to validate empirically. Nevertheless, many researchers have attempted to demonstrate the presence of defense mechanisms under experimental conditions. Jung (1918) interpreted some of his word association findings in terms of repression. Zeigarnick (1927) claimed to have unintentionally reproduced the essential dynamics of repression in the laboratory. A more complete review of the earliest research in this area may be found in MacKinnon and Dukes (1962).

It had been established in theory that there were characteristic differences among people in their defensive response styles. But the notion of a single dimension encompassing repression-sensitization originally grew out of the empirical research of the "new look" in perception in the 1940's. During that time investigators such as Bruner and Postman (1947), McGinnies (1949), and Ericksen (1950) made famous the area of investigation called "perceptual defense". Individual differences in perceptual adaptation to threat were demonstrated in the investigations emerging from their laboratories.

Bruner and Postman (1947) obtained associative reaction times for each of 99 words including a large proportion of potentially threatening ones such as "raped", "death" and "penis". Two weeks later, each subject was presented with 18 stimulus words (those yielding the individual's six fastest, midmost, and slowest reaction times) on a tachistoscope. Each word was presented at increasingly slower exposure speeds until correct recognition was obtained. A significant relationship between reaction time and recognition exposure speeds was found. However there were two patterns of response among the subjects.



In one pattern, which the authors termed "perceptual defense", the recognition threshold was a monotonically increasing function of associative reaction time. The responses of other subjects displaying the other pattern suggested a sensitizing process in which recognition time was actually faster for the most anxiety-provoking words (words with the slowest association time) than for the middle words. Later authors coined the term "perceptual vigilance" to describe this sensitizing process. Thus, repression-sensitization had its early roots in a defense-vigilance continuum.

The development of instruments to measure repression-sensitization followed shortly. Several scales were produced (Altrocchi, Parsons, and Dickoff, 1960; Ullman, 1962), but the one which has enjoyed the most popularity was the R-S scale which was developed by Byrne (1961a) and revised by Byrne, Barry and Nelson (1963). A steadily increasing flow of research has followed the introduction of this R-S scale.

Most of the investigations employing the R-S scale have attempted to predict the relationships between individual differences on the scale and behavior. Most of this research has dealt with those whose scores fall at the extremes of the R-S scale, and middle range subjects, typically, have not been included.

#### The R-S Scale and Threatening Stimuli

Considering the origin of the conceptualization of repression-sensitization, it is not surprising that the earliest investigators of the R-S scale would expect it to be related to differential perceptual

recognition thresholds for threatening stimuli. Tempone (1962) tested this proposition, using induced failure as a source of threat. He subdivided a group of repressors so that half of them had a success experience (correctly solving six of eight anagrams) and half had a failure experience (solving only two of eight anagrams). Sensitizers were subdivided in the same manner, so that there was a total of four groups in the study. Following this task manipulation, all subjects received a tachistoscopic task, where eight critical words and eight neutral words were presented at increasing exposures. Critical words were those associated with the anagram test; neutral words were not associated with the test. Tempone found that repressors had significantly higher thresholds than sensitizers for critical words under the failure condition. There was no significant difference between repressors and sensitizers under the success condition, nor for neutral words in the failure condition. Tempone interpreted his findings as evidence for the construct validity of the R-S scale.

Gosset (1964) also used an induced failure manipulation as a source of threat. He elicited repressive mechanisms by combining threatening conditions with a memory task. Forty-eight repressors and forty-eight sensitizers each learned a list of 12 nonsense syllables. Then they were given an intelligence test made up of 12 subtests, each titled with one of the 12 nonsense syllables. Experimental subjects were made to fail a number of subtests, while control subjects failed none. All subjects were then given a syllable recall test. Gossett found significant differences between repressors and sensitizers in their recall of the syllables. He interpreted his findings to mean

that those subjects with low scores on the R-S scale repress threatening material, while those with high scores do not.

Another type of threatening stimulus that has been used in R-S studies is electric shock. Barton and Buckhout (1969) instructed their subjects to make magnitude estimations of the intensities of electric shock they received. Significantly higher estimates of intensity were given by sensitizers than by repressors. In another experiment using electric shock, Hare (1966) found that repressors showed higher GSR activity in anticipation of shock than did sensitizers, while at the same time repressors showed a stronger tendency to avoid thinking about the shock according to their self-report.

Cohen (1967) used electric shock to test Byrne's (1961b) proposition that repressors cope with a stressor by avoiding it while sensitizers cope by approaching it. The stressor was a conditioned stimulus which was followed by shock. Defensive behavior was defined in terms of two response choices available to the subject, who could press either an "early" switch or a "late" switch. Pressing the former resulted in receiving the shock earlier than usual which in turn, resulted in a reduction in the amount of time spent in the presence of the conditioned stimulus. An early choice was, therefore, conceptualized as an attempt to avoid the stressor. Pressing the "late" switch resulted in receiving the shock later than usual (or occasionally not receiving it at all), resulting in an increase in the amount of time spent in the presence of the conditioned stimulus. Thus, it represented an approach to the stressor. Repressors were found to cope by avoiding the stressor, while sensitizers did not avoid but prolonged.

their exposure to the stressor when potential reward (shock-avoidance) was available.

Gleason (1968) made subjects anxious by telling them they would receive electric shock as part of an experiment. While waiting for the shock, subjects talked with a confederate who was introduced to them as another subject. The confederate acted as if he were either a repressor or a sensitizer. As a repressor, he avoided discussing the anxiety arousing topic (shock); as a sensitizer he approached it by ruminating at length about it. One group of repressors had a conversation with the confederate in the repressor role and one group of repressors had a conversation with the confederate in the sensitizer role. Two groups of sensitizers received similar treatment. Pulse rate, GSR, and self-report measures of anxiety all indicated that all subjects were made anxious by the threat of shock. These same measures also supported the hypothesis that confederate behavior would result in greater decrease in anxiety when the confederate's role matched the subject's defensive style according to his score on the R-S scale. This was interpreted by the authors as supporting the assumption that the tendency of repressors to avoid and the tendency of sensitizers to approach stimuli associated with anxiety-reducing behaviors, especially under conditions of social facilitation, was present.

Other R-S studies of threat have used various kinds of unpleasant scenes as threatening or stressful stimuli. Woods (1970) using pulse rate and self-report as measures was unable to obtain a significant difference between repressors and sensitizers when they were shown films of industrial accidents. Koriat (1972) found no consistent

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relationship between scores on the R-S scale and physiological measures (GSR and heart rate) obtained during the time that subjects were watching accidents in an industrial safety film. Lewinsohn, Bergquist and Brelji (1972) found no systematic differences between repressors and sensitizers on the GSR measure when they were viewing unpleasant pictures (mutilated bodies, corpses, and so forth).

Although these three investigators (Woods, 1970; Koriat, 1972; Lewinsohn, Bergquist and Brelji, 1972) found no differences between repressors and sensitizers using physiological measures, other investigators have found differences. Lazarus and Alfert (1964) showed repressors and sensitizers a film of bloody surgery. These investigators assigned subjects to two conditions: the film shown in silence without introduction, and the film shown in silence after an introduction that emphasized denial of anxiety in connection with surgery. During the film, measurements of GSR and heart rate were made continuously. Immediately after the film the Nowlis Adjective Check List of Mood was given. Lazarus and Alfert found on both the physiological measures and mood ratings that the silent film condition was the most stressful for all subjects. Repressors showed greater GSR reactivity and lower levels of discomfort on self-report measures, when compared with sensitizers. The findings of Lazarus and Alfert seem to provide some evidence that repressors respond differently to stress than do sensitizers.

Brown (1969) did a study of the R-S scale in which he specified his source of threat as a "stressful motion picture". He gave his subjects the opportunity to control the presence or absence of this stressor by two methods, both of which involved the same instrumental

response of button pressing. One method required subjects to button press at a given rate in order to maintain a bright film picture. Any rates slower than this caused the picture to fade until, with no button pressing, the picture disappeared. This was the passive avoidance condition. In the active avoidance condition subjects had to button press at a rather fast rate to make the picture disappear. The results of this study confirmed the prediction that allowing subjects to control the brightness and darkness of the stressor would lead to greater stress reduction than not allowing subjects to have this control. Further, in the passive avoidance condition, sensitizers button pressed more rapidly during the stressful scenes than they did during the nonstressful scenes. Such button pressing behavior was described as approaching the stressor. Repressors avoided the stressful scenes by not button pressing. These results supported Byrne's (1964a) description of sensitizers and repressors as individuals who deal with stressors by approaching and avoiding them respectively. No differences were found for the active avoidance condition.

Haney (1971) confirmed the hypothesis that when given a choice between an anxiety-arousing verbal association and a neutral association, repressors will more frequently choose the latter, while sensitizers choose the former. He presented subjects with slides of sentences having either an obviously negative connotation or an ambiguous connotation. The sentence was exposed for nineteen seconds; a new slide was then projected which exposed the subject noun from the previous sentence and two alternative associations to that noun which were previously shown to have a negative or positive connotation. Under

threat-producing instructions subjects were to choose one of the associations. Analysis of variance showed that in response to the ambiguous sentence frames sensitizers chose significantly more negative (threat associated) associations than repressors.

Two studies have used aggressive or hostile stimuli as sources of threat. Tollman (1966) found that repressors made more errors when recalling hostile stimuli than when recalling neutral stimuli. Blaylock (1963) obtained a significant positive correlation between R-S scores and the number of stimulus words perceived as aggressive in a word association study.

In summary, this first section of the chapter has reviewed the studies that have used various sources of threat to investigate the behavior of repressors and sensitizers: induced failure, electric shock, unpleasant scenes, negative words and aggressive stimuli. These studies seem to confirm the notion that threat has a differential effect on the behavior of repressors and sensitizers. Repressors raise their perceptual threshold and lower their recall for threatening stimuli, and in general deal with threat by avoiding. Sensitizers deal with it by approaching. The next section will deal with a specific type of threat: sexual stimuli.

#### R-S and Sexual Threat

Several types of sexual stimuli have been used to produce threat; erotic literature passages, sexual sentences, lists of words including words such as "penis" and "masturbate", lists of words with double meanings such as "pussy", and pictures of nudes. In an R-S study

Simal and Herr (1970) chose for their threat condition three pictures with obvious sexual overtones. These investigators pointed out that "sex in our culture is considered threatening." The three threatening pictures were card 13MF from the TAT, a nearly nude girl lying on the floor, and a buxom girl mostly nude from the waist up. Using GSR as a measure they found no significant differences between repressors and sensitizers. Simal and Herr interpreted this to mean that defensiveness is not registered at the autonomic level, and "therefore, the behavioral differences reported in other studies may well represent only cognitive differences," (a tendency to admit or deny perceptual reality in certain circumstances).

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Byrne and Sheffield (1965) used passages from literary fiction (e.g., Peyton Place, The Secret of Sylvia, and so forth) which contained vividly descriptive sexual content. They considered these passages to be threatening because "one would expect sexual stimuli to be anxiety arousing in our culture." After reading the literary selections, the subjects were asked to respond to six five-point rating scales describing their feelings. They were asked to indicate the extent to which they were sexually aroused, disgusted, entertained, anxious, bored and angry. The hypothesis was confirmed that sensitizers would indicate more anxiety in the sex arousal condition than would repressors and that the two groups would not differ when exposed to neutral scenes from the same books.

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Lomont (1965) tried to show that repressors would register more verbal disturbance than sensitizers in their response to threatening words on a word association test. His word association test totaled 66



words, half of which were threatening words involving sex, hostility and unpleasant experiences. The other half was made up of seemingly innocuous words. The subject was instructed to listen to each stimulus word as it was read aloud by the experimenter, and then to give one response word as quickly as possible following each stimulus word. After all the stimuli had been presented once, the subjects tried to recall as quickly as possible their original associations to each stimulus word in response to another vocal presentation of the word. Each response was scored for the presence or absence of 31 signs of disturbance. These signs included: reaction time over 2.5 seconds, blocking, vulgar responses, reproduction failures, etc. Each subject's score was the number of words eliciting one or more signs. Lomont found that scores on the R-S scale showed a  $-0.45$  ( $p < .01$ ) correlation with the number of disturbing or threatening words as determined individually for each subject on the word association test. He also found a correlation of  $.76$  ( $p < .001$ ) between the R-S scores and the IPAT (a self-report measure of anxiety given to those same subjects). Thus, repressors reported experiencing less anxiety than sensitizers and yet showed more anxiety on the behavioral rating measure. 5/5

Stein (1971) used three "high threat" words (penis, shit, and masturbate) in a list of nine words that he presented to his subjects. They responded to these words in three different ways. First they listened silently, second they repeated the word, and third they gave a word association. Stein found that GSR reactivity to the stimulus dimension (high threat versus low threat words) did not vary significantly as a function of defensive style (repressor-sensitizer). NS

However, in the silent perception and verbal repetition tasks repressors showed lower GSR reactivity than sensitizers; and in the word association task sensitizers exhibited significantly lower GSR reactivity than repressors. Stein interpreted these results as support for the Epstein and Fenz (1967) hypothesis. Epstein and Fenz had predicted that repressors are well defended for perceptual and verbal report processes but are vulnerable to emotional arousal when they must do something of a more revealing nature than simply perceiving or reporting stimuli. These same authors hypothesized that sensitizers are poorly defended with regard to perceptual reactions and verbal report processes but are better able to deal with stimuli in a personally revealing and extended fashion, as is required in a word association task. 515

Lewinsohn, Bergquist and Brelje (1972) presented to repressors and sensitizers a list of eighteen threatening and eighteen nonthreatening words in random order. The threatening list included such words as "vagina", "pimp", and "tit". Each word was shown and read to the subject while GSR reactivity was recorded. The threatening words elicited significantly larger GSRs. The authors pointed out that unlike most investigations, their study did not allow subjects to perform a coping response. They suggested that this may be one reason why they obtained significant results, while other investigators using the same dependent variable did not. Thus, they suggested that autonomic differences between repressors and sensitizers do not manifest themselves except in situations which lack a clearly defined coping response. 516

Schill, Emanuel, Pedersen, Schneider and Wachowiak (1970) divided R-S scale repressors into defensive and nondefensive repressors

on the basis of the Marlowe-Crowne Social Desirability (M-C SD) Scale (Crowne and Marlowe, 1960). Using double meaning stimulus words (e.g., light, table) they asked subjects to give as many word associations as they could to each stimulus word within a fifteen second period. Subjects, all of whom were male, were assigned to one of two experimental sessions: one was conducted by a female, the other by a male experimenter. Significant differences between repressors and sensitizers were found only in the male experimenter condition. When tested by a male experimenter defensive repressors showed significantly less sexual responsivity (less sexual word associations) than either the nondefensive sensitizers ( $t = 2.67, p < .02$ ) or nondefensive repressors ( $t = 2.42, p < .03$ ). The investigators pointed out that, since they were not able to obtain any significant repressor-sensitizer differences when the Marlowe-Crowne was not taken into consideration, it is desirable to include such a measure when investigating sexual responsivity. X

Schill and Althoff (1968) also selected subjects on a combined basis of the R-S scale and the Marlowe-Crowne. For threatening stimuli they used sexual and aggressive sentences. An example of a sexual sentence was: "You have secretly desired sexual love of your mother." The threatening sentences were arranged in random order on a recording tape with an equal number of nonsexual sentences. The tape included a partial mask of white noise so that 50% intelligibility of the sentences was established. Schill and Althoff found that in the case of sexual sentences, sensitizers obtained a significantly higher recognition score than did the defensive repressors. They suggested that researchers who wish to use the R-S scale should include the Marlowe-Crowne SD

scale to differentiate defensive and nondefensive repressors. In summary, a mixture of results has been obtained when sexual stimuli have been used to study the relationship between threat and the R-S scale.

Neither Simal and Herr (1970), who used sexual pictures, nor Stein (1971), who used sexual words, were able to obtain GSR differences between repressors and sensitizers. However, both Stein (1971), and Lewinsohn, Bergquist and Brelje (1972) found significant GSR differences when they used a methodology in keeping with the defensive styles of their subjects, that is, Stein found that repressors were well defended for perceptual and verbal report but were more vulnerable to emotional arousal than sensitizers when they had to do something more revealing such as word association. Lewisohn et al. obtained significant results when they did not allow subjects to perform any coping response. This seems to indicate that refined methodology may be a key factor in any effort to enhance the probability of finding relationships between the R-S scale and other variables.

Byrne and Sheffield (1965), using sexual passages, found that sensitizers admit to more anxiety under sexual arousal than do repressors. Lomont (1965), using sexual words, confirmed Byrne and Sheffield's finding, but also showed that repressors demonstrated more anxiety than sensitizers when a behavioral rating measure was used. These results suggest that an R-S study is not complete unless it includes both self-report and behavioral measures.

Finally, the two studies by Schill and his colleagues (1968, 1970) pointed to the usefulness of dividing repressors into defensive and nondefensive repressors. This topic (social desirability and the

R-S scale) will be taken up at greater length in Chapter III on methodological issues.

We have reviewed the R-S studies which have used threatening stimuli of various sorts, as well as those studies that have made use of the specific type of threatening stimulus (sexual) to be used in the present investigation. Now we will look briefly at a specific type of sexual stimulus that has been used in R-S studies: cartoons.

#### R-S and Sexual Cartoons

Burns (1971) compared repressors with sensitizers in the rating of sexual and nonsexual cartoons. This investigation failed to find significantly different humor ratings for repressors versus sensitizers on sexual and nonsexual cartoons. A methodological inadequacy cited by the author leaves his results open to question. Cartoons used in the study were defined as sexual and threatening, but these qualities were present in only a very weak fashion. Only the captions of the cartoons were sexual. The pictures, with only one or two exceptions, were not sexual.

Byrne (1958b) selected repressors and sensitizers for a sexual cartoon study, but he did the selecting with the TAT, sentence completion and Memory for Words Test, rather than with the R-S scale which at that time had not yet been developed. His findings were that the funniness ratings of sexual cartoons were unrelated to repressive versus sensitizing defense styles.

Ullman and Lim (1962) selected facilitators and inhibitors by asking hospital staff to rate case histories of neuropsychiatric

patients. He used three types of scales for rating the patient's reaction to stress. The first dealt with anti-social responses which showed poor judgment and poor frustration tolerance. The second scale dealt with responses which indicated that the patient incorrectly perceived the sources of stress to be outside himself. These first two scales identified facilitators, that is, people who respond to threatening stimuli more readily than to neutral stimuli. The third scale designated patients who inhibit their perception of a threatening stimulus by denying its existence, or by denying its relevance for them (inhibitors). Any patient, who on one of these three scales was rated as 25 percentile points higher than he was rated on the other two scales, was specified as being of the pattern designated by that scale (scales 1 and 2 are facilitators, scale 3 is inhibitors). Thus, subjects were not repressors and sensitizers. However, Ullman and Lim's design is the closest in the literature to the present study, and his findings are similar to one of the predictions of the present study. He found that facilitators (who are more like sensitizers than repressors) rated sexual cartoons more humorous than inhibitors.

#### Purpose of the Present Study

In the literature review it was shown that threat in general has a differential effect on the behavior of repressors and sensitizers. The studies that demonstrated such an effect used induced failure, electric shock, scenes of accidents and bloody surgery, and so forth, as threatening stimuli. However, results have not been so consistent in those studies that used sexual stimuli as sources of threat.

Significant differences between repressors and sensitizers have been obtained in studies of sexual threat using the following methodological techniques:

1. Byrne and Sheffield (1965) used extremely vivid sexual stimuli.
2. Lomont (1965) observed an extremely large number (31) of subject behaviors which could be construed as indicators of a reaction to threat.
3. Stein (1971) repeated the presentation of each sexual stimulus five times.

Each of these investigators reported that it was with some difficulty that they interpreted the meaning of their results after using such techniques. Lomont (1965) was not certain whether his signs of disturbance pointed to anxiety or repression. Byrne and Sheffield (1965) noted that their results did not distinguish between the reported absence of threat by repressors and the presence of threat which the repressors did not report. Some of the findings of Stein (1971) were disconcerting to him because they were the exact opposite of his predictions. The present study was an attempt to provide a more efficient and more clearly interpretable method for observing the characteristic responding of repressors versus sensitizers to sexual stimuli. The methodological technique introduced by the present study was the requirement that subjects select whether to view a sexual or a nonsexual cartoon before giving a humor rating.

Since the humor rating of cartoons was used to assess the differential responding of repressors and sensitizers to sexual stimuli, it was necessary to adequately balance two critical factors. First, it

was necessary to make the presentation of sexual stimuli sufficiently subtle to facilitate the possibility that defensive behavior would occur. The two R-S studies that have used sexual cartoons (Byrne, 1958b; Burns, 1971) seem to illustrate the difficulty that investigators have had designing R-S studies in which the subjects become involved in subtly presented, threatening stimuli. These two examples show how easily one of these qualities (involvement-subtlety) may be emphasized at the cost of the other. Byrne (1958a) tried to increase involvement in sexual cartoons by requiring subjects to read sexual passages before they rated the humor of sexual cartoons. His results indicated no relationship between the type of cartoon used and the particular defensive style of his subjects. However, by making sex so blatantly the manipulated variable of his study, Byrne probably eliminated the need for his subjects to use their natural, spontaneous defenses. He obtained involvement, but probably at the cost of needed subtlety. Burns (1971) on the other hand increased the subtlety of his sexual variable by choosing cartoons with weak sexual overtones. His failure to obtain significant differences may well have been because such a design decreased the involvement of his subjects in the sexual content of the cartoons. Both of these studies failed to obtain significant results; and the reason may have been that they did not have an adequate balance between subject involvement in the sexual cartoons and subtlety of stimulus presentation. This apparent methodological difficulty provided the impetus for the present investigation.

In the present study the subject was forced to become involved with the stimuli because he was required to choose which stimuli he



would view and rate. It was anticipated that this method of obtaining subject involvement would have two advantages:

1. When a subject viewed a sexual cartoon, it would be by his own choice. Because the subject had such a choice, the opportunities would exist for his behavior to be influenced by sexual motivation (i.e., he would choose to view sexual stimuli because they were sexually stimulating for him).

2. Given that the subject should become involved in making a choice of stimuli to view, it seems reasonable to assume that he would feel responsible for his choice of what to view. Furthermore, if he should feel responsible for his choice, then he would more likely use his characteristic defense if he were subsequently given an opportunity to evaluate the threatening stimuli.

The accomplishment of an involvement-subtlety balance according to the present method depended upon three assumptions:

1. Subjects would feel responsible for their choice to view sexual stimuli.

2. The characteristic defensive behavior of repressors and sensitizers would be elicited when subjects felt responsible for choosing sexual stimuli.

3. The humor rating of sexual cartoons would be determined by both the obvious task of judging humor and the defensive behavior elicited by feeling responsible for having chosen sexual stimuli.

If these assumptions are accurate, then it could be predicted that repressors would rate sexual cartoons lower than nonsexual and the reverse should hold for sensitizers.

The present study sought to maintain the subtlety of the sexual stimuli by using only sexual cartoons without any additional cues which might suggest to the subject that sex was a critical variable. The subject was instructed only that he was going to be rating cartoons, not that he would be rating sexual cartoons.

## CHAPTER III

### METHODOLOGICAL CONSIDERATIONS

#### Humor Ratings as a Measure of Defensiveness

In the present study subjects were instructed to rate cartoons on a scale of humor from "not funny" to "very, very funny". Since the investigator did not mention the sexual versus nonsexual content of the cartoons, the sex variable was embedded in the task of humor-rating; i.e., it was assumed that there was some credibility to the instruction to rate humor and that the experimenter's actual purpose of investigating a differential response for sexual versus nonsexual stimuli was not transparent. A post experiment questionnaire was used to check on this assumption. As mentioned in Chapter II, it was predicted that there would be differential humor ratings by repressors and sensitizers, and that this difference would be an indication of defensiveness.

In order to use humor rating as a task to disguise a measure of the characteristic responding of repressors and sensitizers to sexual stimuli, it is necessary to assume that humor rating itself is not related to defensiveness. Similarly, it must be assumed that humor ratings are not directly related to sexual arousal level.

O'Connell and Peterson (1964) attempted to support the claim that repressors as selected by Byrne's (1961a) R-S scale have lower appreciation of humor than do sensitizers. These investigators trichotomized their subjects on the basis of humor appreciation scores

which they had obtained by rating jokes. When compared with scores of the R-S scale by analysis of variance, these investigators obtained no significant differences. But when they subsequently performed  $t$  tests between the individual mean R-S scores for high, medium and low humor groups, they reported statistical significance at the .05 level. However, reanalysis of their data by the present author has revealed that even if they could justify the use of  $t$  tests after a nonsignificant  $F$ , the R-S scores accounted for less than 2% of the variance in their low, medium, and high humor groups. Thus, their reported "statistical significance" is a trivial and dubious finding. (See Appendix A for further details of this reanalysis.)

Numerous studies attempting to relate humor to defensive behavior have obtained nonsignificant results (c.f., Byrne, 1956; Doris and Fierman, 1956; Epstein and Smith, 1956; Byrne, 1958b; O'Connell, 1960; Byrne, Terrill and McReynolds, 1961; Lamb, 1963).

As early as 1959, Strickland claimed to have demonstrated that arousal of specific motives (sex and aggression) led to increased appreciation of humorous stimuli related to the aroused drive. However, subsequent unsuccessful attempts to replicate this finding (Byrne, 1961b; Davis, 1966; Lamb, 1963; O'Connell, 1960; Davis and Farina, 1970) have led investigators such as Byrne (1961b) to suggest that "Strickland unwittingly reported chance findings."

Strickland's (1959) procedure was to present one group of subjects (aroused condition) with photographs of nudes, which were to be rated on sexual attractiveness. A control group (nonarousal condition) did not view or rate these photos. Both groups were then asked to rate

cartoons on a scale of funniness. Strickland found that the subjects in the aroused condition rated sexual cartoons more humorous than other cartoons. In the control group there were no significant differences in humor ratings.

The most convincing evidence for the existence of a relationship between motivational arousal and humor-rating is that presented by Davis and Farina (1970). Their subjects rated twenty-four cartoons on a five point scale of funniness, after they had been assigned to one of four experimental conditions in a 2 x 2 factorial design (arousal-nonarousal, communication-noncommunication). In the arousal condition a female experimenter was dressed in such a way as to maximize her "considerable sexual attractiveness" and she behaved in a flirtatious manner. In the nonarousal condition, her manner and dress were proper, polite and formal. In the communication condition the experimenter showed the cartoons to the subject one at a time, and she recorded his verbal evaluations herself. Subjects in the noncommunication condition had to do their own rating, while she read a book. One-third of the cartoons were sexual, one-third hostile and one-third neutral. According to analysis of variance the effect of sexual arousal on appreciation of sexual and nonsexual humor was not statistically significant. This result, said Davis and Farina, contradicted the findings of Strickland (1959) who found that sexual arousal enhanced the appreciation of humor. There was no difference between humor ratings for sexual versus nonsexual cartoons in the nonarousal/noncommunication condition. This result supported the finding of Strickland in his control group condition.

The nonarousal/noncommunication condition of Davis and Farina and the control group condition of Strickland were most similar to the conditions of the present study; and in both cases no differences were found. Thus, it seems that even in studies where arousal had some effect on humor rating, it was necessary to add some variables outside the sexual cartoons themselves to bring about any significant effect on their humor rating. Strickland added the rating of nude slides, while Davis and Farina added a sexually attractive experimenter. The difference that Davis and Farina found in the "non" arousal/communication condition can be attributed to this same added ingredient. In other words, their "non" arousal condition was really still somewhat an arousal condition, since the experimenter was still the same sexually attractive female, even though she was behaving less flirtatiously.

Thus the authors who obtained differential humor ratings of cartoons did so only under specially contrived circumstances, e.g., with the addition of nude photos or flirtatious experimenters. These same experimenters reported no differential rating of cartoon humor when such circumstances were not present. Consequently, it seems that any potentially contaminating effects of arousal on humor ratings may be controlled. Controls that were employed in the present study included: the use of sexual cartoons as the sole source of arousal and the use of a male experimenter for both male and female subjects.

#### Social Desirability and the R-S Scale

Many investigators have found significant relationships between scores on the R-S scale and the Marlowe-Crowne Social Desirability

Scale (M-C SD). Byrne (1964b), Silber and Grebstein (1964), Cosentino and Kahn (1967), and Feder (1967) have found significant negative correlations between R-S and M-C SD. Some authors (Christie and Lindauer, 1963) have contended that these findings indicate that the R-S scale can be interpreted just as easily in terms of a social desirability response set as it can be in terms of a difference in type of defensive style.

However Silber and Grebstein (1964) pointed out that:

. . . the proportion of variance common to the two dimensions appears to fall within the range of 10 to 20%. While some social desirability response tendency may be reflected in R-S scores, the size of the relationship reflects sufficient independence between the dimensions to justify considering them as separate variables (p. 559).

Feder (1967) also concluded that the R-S scale is "not merely an equivalent form of the social desirability or acquiescence response set."

In 1968 Schill and Althoff began the practice of using the M-C SD to differentiate between defensive and nondefensive repressors (who had been selected by the R-S scale). These investigators reasoned that subjects who scored high on the R-S scale were clearly admitting symptoms. But, those who scored low might either be "true" repressors who were defensively denying the pathological content of the items, or they might be nondefensive repressors who were telling the truth. Subjects in the latter group would actually be adjusted individuals who lack symptoms.

Schill and Althoff designated subjects who scored above the median M-C SD as defensive repressors. They called M-C SD scorers who fell below the median, nondefensive repressors. Using this new method of subject selection these investigators asked subjects to listen to a

tape recording of a series of sexual and nonsexual sentences. White noise had been added to the tape recording to mask the audibility of the sentences. Schill and Althoff found that defensive repressors had a significantly higher auditory threshold for sexual sentences than nondefensive repressors or sensitizers.

In a similar study Schill and Black (1969) assessed differences in reactions to the Rosenzweig Picture Frustration (P-F) Study for defensive and nondefensive repressors and nondefensive sensitizers. It was found that defensive repressors showed a significantly greater inhibition of aggression directed toward others (high scores on the extrapunitive dimension of P-F). This finding was obtained only when the M-C SD was used to separate defensive from nondefensive repressors.

The same type of finding was reported by Schill, Emanuel, Pedersen, Schneider and Wachowiak (1970) when these authors attempted to relate R-S scale defensiveness to sexual responses given in free association to double-entendre words. Nondefensive repressors and sensitizers showed significantly greater sexual responding than defensive repressors. Kahn and Schill (1971) postulated that defensive repressors react to threat with constriction and denial of potentially dangerous self-disclosure. On the IPAT Anxiety Scale they found mean scores of 46.6 for sensitizers, 24.9 for nondefensive repressors and 17.3 for defensive repressors. They saw this as consistent with the conceptualization of a sensitizer as a person who readily admits negative personality characteristics. The score for nondefensive repressors was similar to the norm expected for college students. The score



for defensive repressors was far below the norm. Kahn and Schill concluded that this demonstrated that defensive repressors deny existing anxiety.

These studies, which have used the M-C SD scale as a measure of defensiveness in conjunction with Byrne's R-S scale, support the notion that repressors are not homogeneous in their reaction to threat. No studies have investigated the responding of defensive and nondefensive repressors to sexual cartoons used as threatening stimuli. The present study was intended to help fill this gap by using the M-C SD with the R-S scale to select subjects.

## CHAPTER IV

### OBJECTIVES AND EXPECTATIONS

Byrne (1964b) has pointed out that an investigation of the variables involved in a personality test is to some degree a construct validity study.

It seems prudent to view any investigation which uses a personality test as constituting at least in part, a construct validity study. In the traditional psychometric sense, there is literally no way of validating or invalidating a personality test. Instead, the instrument may be evaluated with respect to its measurement consistency or reliability, its relationship with other personality variables may be determined, and its antecedents and consequents may be specified (p. 208).

In this sense the present experiment is a construct validity study of the R-S scale since it is one of many studies that have used the R-S scale. More specifically it is a study of the relationship between the R-S scale and the rating of sexually threatening stimuli. Sexual cartoons were used as threatening stimuli. Since in the face of threatening stimuli the characteristic response of repressors has been shown to be avoidance and that of sensitizers to be approach, it was expected that they would respond accordingly when instructed to rate the humor of the sexual cartoons. Repressors were expected to manifest avoidance behavior by rating sexual cartoons lower than nonsexual ones. Sensitizers were expected to manifest approach behavior by rating sexual cartoons higher than nonsexual ones.

Neutral cartoons were presented for humor rating along with the sexual cartoons. Thus, the basic design of the experiment involved an investigation of differential behavior of repressors and sensitizers when confronted with sexual versus nonsexual stimuli. Subjects were instructed to choose a cartoon to view from one of two sources. They were not told that one source contained sexual cartoons and the other nonsexual. After they had chosen a cartoon to view, they were instructed to rate its humor. Subjects continued in this manner to choose cartoons from whichever source they wanted and rate them, until they had exhausted the supply.

It was hypothesized that if subjects became involved in choosing a stimulus to view, then they would be more likely to mobilize defensive behavior when they subsequently evaluated that stimulus. Evaluation of the cartoons by rating their humor was designed to elicit a conscious judgment of the characteristics of the cartoon which made it humorous, one of which, presumably, would be its sexual or nonsexual quality. In their attempt to deal with the threatening aspect of sexual stimuli, defensive repressors were expected to give lower humor ratings to sexual cartoons and sensitizers higher ratings to sexual cartoons. At the end of the experiment it was expected that subjects would report that they were unaware that they were evaluating (rating) sexual stimuli differentially from nonsexual stimuli.

#### The Present Investigation

The design of this experiment was a 3 x 2 x 2 factorial with three levels of repression-sensitization (sensitizers, nondefensive

repressors and defensive repressors), two levels of sex (male and female), and two types of stimuli (sexual and nonsexual). Byrne's R-S scale was used to select repressors and sensitizers. The Marlowe-Crowne Social Desirability Scale was used to differentiate between defensive and nondefensive repressors.

The hypothesis was that: the humor ratings of defensive repressors would be lower for sexual than nonsexual cartoons and the humor ratings of sensitizers would be higher for the sexual cartoons than nonsexual cartoons.

## CHAPTER V

### METHOD

#### Design

A 3 x 2 x 2 factorial design was used with three categories of repression-sensitization, two categories of sex of subjects, and two types of cartoons. There was repeated measurement on the cartoon variables. Ten subjects were assigned to each of the sex treatment conditions. There were two dependent variables: the proportion of sexual cartoons chosen, and the humor ratings of each cartoon.

#### Subjects

The sixty participants in the experiment were chosen on the basis of scores on the revised Byrne, Barry and Nelson (1963) Repression-Sensitization Scale and the Marlowe-Crowne (Crowne and Marlowe, 1960) Social Desirability Scale. These scales were administered to 182 male and female undergraduates attending the following classes offered at the University of North Dakota: introductory psychology, abnormal psychology, educational psychology and developmental psychology. Subjects were obtained by asking for volunteers from these classes. As reimbursement, subjects were offered research credit in the form of bonus points which amounted to less than 1% of their total grade for the given class.

Repressors were chosen from the lower half, and sensitizers from the upper half, of the R-S distribution. Repressors whose scores

were in the upper half of the M-C SD distribution were selected as defensive repressors, while repressors in the lower half of the distribution were designated as nondefensive repressors. Sensitizers were divided into defensive and nondefensive sensitizers in the same manner. However, since previous experimenters (Kahn and Schill, 1971; Schill and Althoff, 1968) have used only nondefensive sensitizers, only nondefensive sensitizers were included in the present study. (Schill and his colleagues reported that they found very few defensive sensitizers; therefore, rather than use a group of sensitizers made up of mostly nondefensive sensitizers and very few defensive sensitizers, they used only nondefensive.) Ten men and ten women were selected for each of these three types of R-S groups.

### Apparatus

#### Projectors

Eighty 35mm slides of cartoons were loaded into two carousel projectors which faced a screen in front of the subjects. Projector #1 contained forty nonsexual slides. Projector #2 contained twenty nonsexual and twenty sexual slides, arranged so that the first ten were nonsexual, the next twenty were sexual, and the last ten were nonsexual. The first ten nonsexual slides were identical for both projectors, and likewise the last ten. Thus only slides eleven through thirty differed in the two projectors.

The experimenter operated the projectors from a separate control area with remote control units. The control area was behind the subjects, and was out of their view. The subjects indicated from which projector they wished to view a slide by pressing one of two levers

mounted on the table at which they were seated. When either of the levers was depressed, a corresponding light on the experimenter's control panel was activated, permitting the experimenter to record from which projector the subject had chosen to view a slide.

### Cartoons

Sixty cartoons, twenty with sexual content and forty with non-sexual content, were selected from a large pool of cartoons from Playboy magazines (1968-1973). Selection was done by a panel of fifteen graduate students in psychology. These judges rated an initial pool of 148 cartoons on a five-point scale from "nonsexual" (1) to "very sexual" (5). The forty cartoons with the lowest ratings were selected as nonsexual. None of the cartoons selected as nonsexual displayed a picture which drew attention to sex, or a caption which relied on sex for its humor. The twenty cartoons with the highest ratings were selected as sexual cartoons. In order that the selected cartoons might be equated for humor, judges were also asked to rate the cartoons on a five-point humor scale (from least funny to most funny). To equate the slides for humor between projectors the following steps were taken:

1. The first ten slides of projector #1 were identical to the first ten slides of projector #2. The last ten slides of projector #1 were identical to the last ten slides of projector #2.

2. Slides eleven through thirty in both projectors were matched according to the humor ratings of the judges. For example, the slide in the twenty-third place of either projector <sup>had</sup> ~~would~~ have the same humor rating.

To equate the slides for humor within projectors, slides were selected so that each of the six groups of slides (first and last ten in each projector, and eleven through thirty in each projector) had exactly the same mean humor rating (3.68) and exactly the same standard deviation (.45) for the humor ratings within each group.

#### Rating Buttons

For the purpose of obtaining a humor rating on each slide viewed, a panel of eight buttons was mounted on the subject's table. The buttons were labeled at the end points in order to form an eight category rating scale from "least funny" to "most funny". When one of these buttons was depressed, it activated the corresponding light on a bank of eight lights located in the control area, so that the experimenter might record the rating for each slide chosen. This remote rating system prevented the subjects from comparing visually the ratings they had completed.

#### Post Experiment Questionnaire

A brief questionnaire (Appendix B) was given at the end of the experiment. It was administered verbally by the experimenter.

#### Procedure

Each subject was seated facing a screen at the experimental table upon which were the choice levers and the rating buttons. The experimenter then read the following instructions:

Your task in this experiment is to rate the degree of humor in each of a series of cartoons. Since we have two slide projectors



full of pictures of cartoons, you will be able to select slides from each of the projectors by firmly pressing one of the two levers on the table in front of you. When a cartoon appears on the screen, you are to rate it for humor on a scale from least funny to most funny by pressing one of the buttons on the rating panel. You will be asked to rate only a part of all the cartoons contained in the projectors. Let me demonstrate how to select and rate a cartoon. (E demonstrates) You may now begin the experiment by pressing whichever lever you choose to begin with. Be sure to rate each cartoon before going on to the next one. Continue viewing and rating cartoons until I tell you to stop.

When the subject had viewed and rated forty slides total, the experiment was finished. The post experiment questionnaire was then administered orally by the experimenter.

CHAPTER VI

RESULTS

Humor Ratings

Mean humor rating of sexual and nonsexual cartoons were computed for each of the sixty subjects (Appendix C). Table 1 shows the group means and standard deviations for each of the two experimental conditions. The group variances were checked for homogeneity by the Hartley test for homogeneity of variance and did not differ significantly ( $F_{max} = 4.04, p > .05$ ).

TABLE 1  
MEAN AND STANDARD DEVIATIONS PER GROUP  
OF HUMOR RATINGS FOR 3 x 2 x 2

Sex	R-S Level	N	Experimental Condition			
			Sexual Cartoons		Nonsexual Cartoons	
			Mean	SD	Mean	SD
Male	Sensitizer	10	3.85	1.49	4.30	.92
Male	Nondefensive Repressor	10	4.50	1.07	3.90	1.20
Male	Defensive Repressor	10	4.30	1.46	4.49	.93
Female	Sensitizer	10	5.26	1.33	4.89	1.02
Female	Nondefensive Repressor	10	3.43	1.72	4.36	1.27
Female	Defensive Repressor	10	3.58	1.35	4.69	.85

Subjects varied in the proportion of sexual and nonsexual cartoons that they chose to view. Table 2 shows the number of sexual cartoons that each subject chose to view. No subject viewed less than two sexual cartoons or more than fourteen.

TABLE 2  
NUMBER OF SEXUAL CARTOONS CHOSEN PER SUBJECT

Subjects	Levels of R-S and Sex					
	Sensitizers		Defensive Repressors		Nondefensive Repressors	
	Male	Female	Male	Female	Male	Female
1	6	4	6	2	9	4
2	7	6	7	2	9	8
3	8	8	8	4	10	8
4	9	8	9	4	10	10
5	9	8	10	7	10	10
6	9	9	10	8	10	10
7	9	9	10	9	10	10
8	10	10	10	9	10	10
9	10	10	10	10	11	12
10	10	11	14	11	12	13
Total	87	83	94	66	101	95
Mean	8.7	8.3	9.4	6.6	10.1	9.5
S.D.	1.27	1.95	2.06	3.17	.83	2.33

Mean humor ratings were analyzed as a 3 x 2 x 2 factorial with repeated measures on the third factor (Winer, 1962). There were three levels of R-S (sensitizers, defensive repressors and nondefensive repressors), two levels of sex (male and female), and two types of stimuli (sexual and nonsexual). Table 3 gives the summary of the analysis of variance of the mean humor ratings.

The main effect for factor C (types of cartoons: sexual and nonsexual) was found to be statistically significant ( $F = 4.41, p < .05$ ).

Inspection of the overall means for sexual (4.15) and nonsexual (4.44) cartoons indicates that the significantly greater humor ratings were given to nonsexual cartoons.

TABLE 3  
SUMMARY OF ANALYSIS OF VARIANCE OF HUMOR RATINGS

Source	SS	df	MS	F
Between subjects	152.24	59		
A (R-S score)	5.69	2	2.84	NS
B (sex)	.62	1	.62	NS
AB	10.89	2	5.45	NS
Subjects within groups (error between)	135.04	54	2.50	
Within subjects	44.41	60		
C (cartoons)	2.47	1	2.47	4.41 <sup>a</sup>
AC	2.00	2	1.00	NS
BC	2.22	1	1.11	NS
ABC	7.37	2	3.69	6.58 <sup>b</sup>
C x Subjects within groups (error within)	30.25	54	.56	

a =  $p < .05$

b =  $p < .01$

The interpretation of this significant main effect must be qualified, however, since the higher order interaction (ABC) reached significance ( $F = 6.58$ ,  $p < .01$ ). Figure 1 shows that the significant difference between humor ratings for sexual and nonsexual cartoons depends both on sex of the subject and the score of subjects on the R-S and M-C SD scales.

A t test confirmed the a priori hypothesis that female repres-  
sors would rate nonsexual cartoons as significantly more humorous than

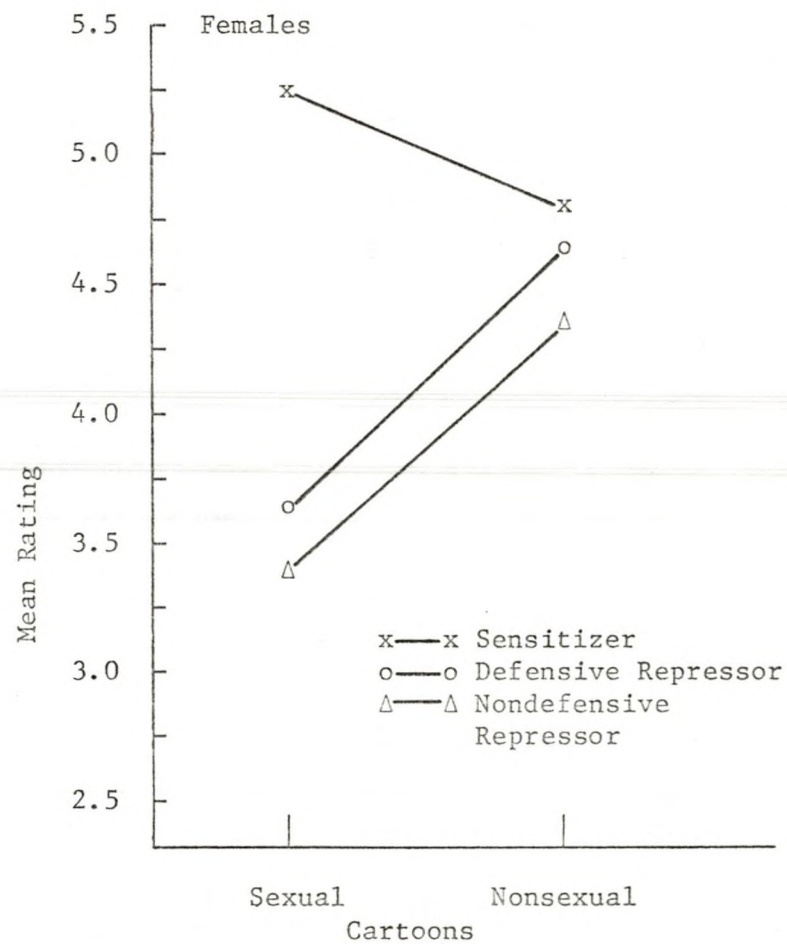
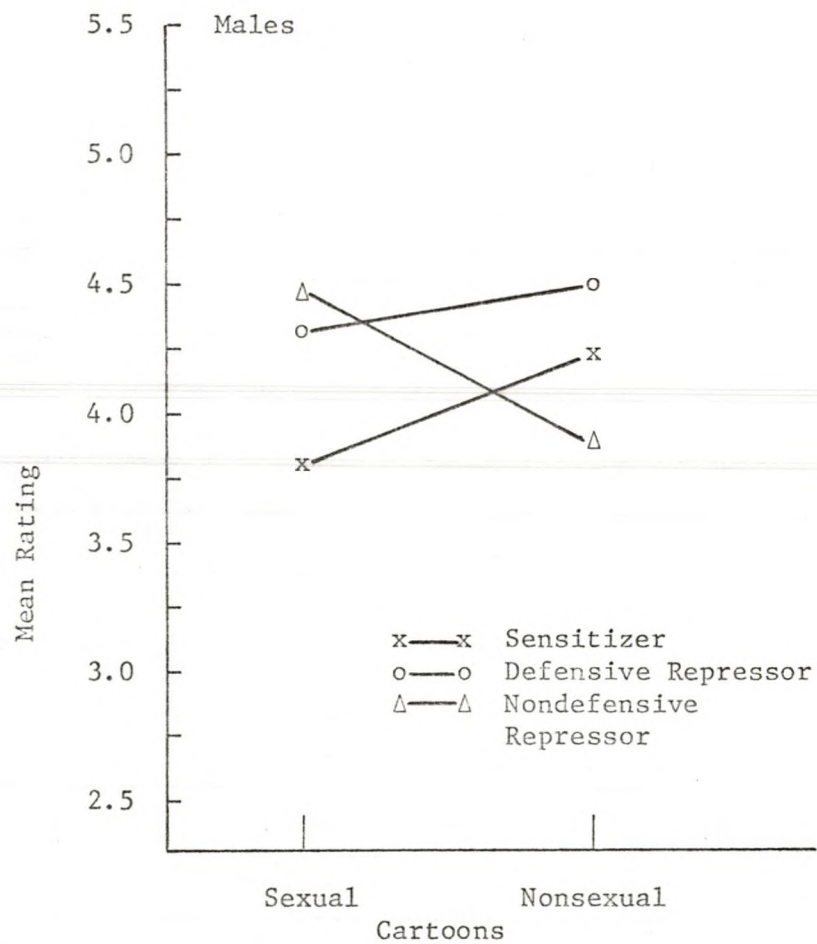


Fig. 1.--Graphs of mean humor ratings for sexual and nonsexual cartoons

sexual cartoons ( $t = 2.19, p < .05$ ). The hypothesis that male repressors would rate nonsexual cartoons as significantly more humorous than sexual cartoons was not confirmed. Nor was it confirmed that male or female sensitizers rated sexual cartoons as more humorous than nonsexual.

The Newman-Keuls method was used to test the significance of the differences among the mean humor ratings of sexual cartoons by female subjects. Table 4 shows that female sensitizers rated sexual cartoons significantly higher than did female nondefensive repressors ( $p < .05$ ) or female defensive repressors ( $p < .01$ ). Newman-Keuls tests for humor ratings of sexual cartoons by males and nonsexual cartoons by males and females did not reach significance.

TABLE 4  
NEWMAN-KEULS FOR MEAN HUMOR RATINGS OF  
SEXUAL CARTOONS BY FEMALE SUBJECTS

	Ordered Means		
	3.43	3.58	5.26
Nondefensive Repressors ( $\bar{X}_1$ )			1.83 <sup>a</sup>
Defensive Repressors ( $\bar{X}_2$ )			1.68 <sup>b</sup>
Sensitizers ( $\bar{X}_3$ )			

<sup>a</sup> =  $p < .05$

<sup>b</sup> =  $p < .01$

Since several subjects chose an extremely high number of nonsexual cartoons, the analysis of variance was repeated after dropping the two subjects in each group who chose the fewest sexual cartoons.

Results were essentially the same. In this analysis there were no significant main effects, and the second order interaction was larger. The Newman-Keuls method for testing the differences between means was calculated to test the significance of the simple effects within the interactions. None of these differences reached significance. Likewise, t tests revealed no significant differences for the rating of sexual versus nonsexual cartoons. A summary of the results may be found in Appendices D and E.

#### Number of Cartoons Chosen

Since subjects chose to view very different proportions of sexual and nonsexual cartoons, the number of sexual cartoons chosen (Table 2, page 40) was analyzed as an additional dependent variable. The variances for the different conditions were checked for homogeneity by the Hartley test for homogeneity of variance ( $F_{max} = 14.5$ ). Since this value is greater than the critical value for  $F_{max}$  at the .01 level the hypothesis of homogeneity of variance was rejected. Consequently, a non-parametric test was chosen for analysis, the Kruskal one-way analysis of variance by ranks. Results indicated that the sum of the ranks of the different groups were not significantly different.

Orthogonal comparisons using the Mann Whitney U test were made between several of the different group means. Those groups were chosen for comparisons which appeared to have the largest mean difference (Table 2) and were orthogonal to comparisons already made. Male nondefensive repressors viewed significantly ( $U = 19, p < .05$ ) more sexual cartoons than did male sensitizers. Female nondefensive repressors

viewed significantly ( $U = 23$ ,  $p < .05$ ) more sexual cartoons than did female defensive repressors. No significant difference was found between the number of sexual cartoons viewed by female sensitizers and male defensive repressors ( $U = 32.5$ ).

#### Post Experiment Questionnaire

Three independent judges (graduate students) were asked to rate the answers to the first items on the post experiment questionnaire: "What was the purpose of the experiment?" They judged subject's awareness of the purpose of the experiment on a three-category rating scale: (1) "Full awareness", (2) "Partial awareness", (3) "No awareness". The criterion for rating a response as "full awareness" was that a subject indicate that his ratings of sexual cartoons were to be compared with his ratings of nonsexual cartoons, and that his score on the paper and pencil task (the R-S scale) was to be related to his ratings. The criterion for rating a response as demonstrating "partial awareness" was that a subject indicate one of the preceding. The criterion for rating a response as reflecting "no awareness" was that a subject indicate neither of the preceding.

The three judges were in 100% agreement that no subject was fully aware of the purpose of the experiment. The percentage of subjects who were judged to have partial awareness of the purpose of the experiment varied among the three judges (37%, 25% or 12% were judged to have partial awareness). A subject was counted as having partial awareness if any one of the three judges considered his response to reflect "partial awareness". Table 5 shows that there were twenty-five



subjects (41%) who were judged to have partial awareness to question number 1 according to at least one of the three judges. Thus, the judges were in 100% agreement that at least 59% of all subjects had no awareness at all.

TABLE 5  
RESPONSES TO QUESTIONNAIRE

---

1. What was the purpose of the experiment?	
Full awareness	0
Partial awareness	25 (41%)
No awareness	35 (59%)
2. Did you notice any difference in the cartoons?	
Yes (sex mentioned)	54 (90%)
Yes (but no mention of sex)	6 (10%)
3. Did you notice any change in what you were doing from the first of the session to the last?	
Yes, I changed the way I rated	3 ( 5%)
Yes, I changed the way I selected	9 (15%)
No	48 (80%)
4. What criterion did you use for rating cartoons?	
No criterion	7 (11%)
My first reaction to the cartoons	33 (55%)
How cartoon appealed to me	20 (34%)
5. What criterion did you use for choosing to press one bar over the other?	
I alternated barpress levers	15 (25%)
I randomly pressed levers	25 (41%)
I kept pressing the side which had appealing cartoons	20 (34%)
6. Did you at any time during the experiment feel anxious or nervous?	
No	48 (80%)
Yes (mention of sex as the reason)	2 ( 3%)
Yes (but no mention of sex as cause)	10 (17%)
7. Were some slides more pleasing to view than others?	
No	8 (13%)
Yes (mention sex as more pleasing)	12 (20%)
Yes (mention sex as less pleasing)	17 (29%)
Yes (no mention of sex)	23 (38%)

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Table 5 shows that in response to question number two, fifty-four out of sixty subjects reported that they noticed the difference between sexual and nonsexual cartoons, while six out of sixty noticed a difference, but made no mention of sex as part of this difference.

In response to the third question, three out of sixty subjects reported that they were aware that they rated sexual versus nonsexual cartoons differentially. Fifteen percent of the subjects noticed a change in their behavior during the experiment, but they reported that the change was in terms of how they selected the cartoons. Eighty percent of the subjects noticed no change at all.

In response to the fourth question, 55% of the subjects reported that their criterion for rating was an immediate and spontaneous first reaction. Eleven percent reported that they had no criterion. Thirty-four percent said they rated according to "appeal", "pleasantness", or "liking".

In response to question number five, 25% of the subjects reported that they alternated levers, pressing first one and then the other systematically. Forty-one percent of the subjects said they randomly pressed the levers without any conscious preference. Thirty-four percent of the subjects said they pressed a lever repeatedly, if they liked the last cartoon from the projector. If they did not like the last cartoon they had viewed, they switched levers.

In response to the sixth question, 80% of the subjects reported that they felt no anxiety. Only two out of sixty subjects reported anxiety due to the sexual cartoons. Ten out of sixty subjects reported

anxiety for reasons such as "nervous about being tested", or other topics which had nothing to do with sex.

In response to the seventh question, 13% of the subjects reported that sexual and nonsexual cartoons were equally pleasing. Twenty percent of the subjects preferred the sexual cartoons. Twenty-nine percent of the subjects preferred nonsexual slides, and 38% named specific nonsexual slides that pleased them. A more detailed table of responses to the questionnaire may be found in Appendix F.

## CHAPTER VII

### DISCUSSION

The data for female subjects supports the hypothesis that repressors should give significantly lower humor ratings for sexual than for nonsexual cartoons. The hypothesis that sensitizers should give significantly higher humor ratings for sexual cartoons than nonsexual cartoons was not supported. None of the data for males showed significant differences.

The sex differences had not been anticipated. Sex differences have largely been ignored variables in R-S research. As Chabot (1973) pointed out in a recent critique of R-S literature, early R-S investigators found no significant sex differences. Presumably in response to this failure, subsequent R-S research has tended to neglect the issue of sex difference. There have been a few recent exceptions, however. Schill (1969) found significant repressor-sensitizer differences in the pattern of response for males and females. Particularly relevant to the results of the present study are the reported findings that the sex variable is an important factor in the relationship between R-S and sexual arousal (Paris and Goodstein, 1966). Chabot (1973) has hypothesized that "males and females differ in their defensive responses to stimuli which are most directly invested with expressions of psychosexual identity." The sex differences in response to sexual stimuli

demonstrated in the present study seem to lend some support to Chabot's hypothesis. These results underscore Chabot's suggestion, that it be standard procedure in R-S studies to analyze male-female differences.

In Chapter I it was pointed out that investigators have attempted to relate the R-S scale to an approach-avoidance continuum of defensive behavior. At the avoidance end of this continuum are placed people who react to threatening stimuli with denial of threat, withdrawal, and a reluctance to confront threatening stimuli. At the approach end of the continuum are people who do not avoid threat. Rather they try to control threatening stimuli by putting themselves in closer proximity to it. Byrne (1964b) labeled people at the avoidance end of the continuum, repressors; and those at the approach end, sensitizers. The present experiment attempted to extend this concept of approach-avoidance differences in R-S scorers to the humor rating of sexual cartoons.

Since the characteristic response of repressors in the face of threatening stimuli has been shown to be avoidance and of sensitizers to be approach, it was expected that they would respond accordingly when instructed to rate the humor of sexual cartoons. Thus, if repressors deal with threat by shunning involvement with the threatening material, they would be expected to evade involvement with the humor of a cartoon when it dealt with sexual material. On the other hand, sensitizers should manifest approach behavior in their humor rating by seeking a greater involvement with the threatening material. Since some degree of involvement is necessary if humor is to be perceived and appreciated, it was predicted that sensitizers would rate the humor of

sexual cartoons significantly higher than that of nonsexual ones. Similarly, repressors would be expected to rate sexual cartoons as less humorous than nonsexual ones.

Results for female repressors were consistent with this avoidance interpretation, since female repressors rated sexual cartoons significantly lower than nonsexual cartoons. Results for female sensitizers did not manifest the predicted approach behavior, since there were no significant differences between the humor ratings for sexual versus nonsexual cartoons. However, an a posteriori internal comparison revealed that female sensitizers rated sexual cartoons significantly higher than did female repressors. This finding is also consistent with the approach-avoidance interpretation of the R-S scale. Humor ratings for nonsexual cartoons showed no significant differences for female repressors and female sensitizers. Humor ratings for sexual cartoons, however, showed significant differences. In other words, when the cartoons contained no sexual material repressors and sensitizers did not respond to them differentially (Table 2, page 40). However, when cartoons contained sexual material female repressors were at the opposite end of the humor rating continuum from female sensitizers.

It is possible to speculate about the lack of correspondence in male responding. Playboy cartoons constitute a source of sexual stimuli with which males and females have differential familiarity. Perhaps males in the sample were satiated on sexual cartoons and did not respond to them as threatening stimuli.

Following the practice of Schill and Althoff (1968), the M-C SD scale was used to differentiate between defensive (high M-C SD scorers)

and nondefensive (low M-C SD scorers). Data from the present experiment revealed no difference between the responding of defensive and non-defensive repressors. This use of the M-C SD scale did not aid the interpretation of results.

Slightly different results were obtained when the analysis was repeated after dropping the two subjects in each group who chose the fewest sexual cartoons. In this analysis there were no significant main effects. However, the second order interaction was much larger in the second analysis. However, when internal multiple comparisons were calculated on the means in the second analysis, no significant differences were found. After the first analysis, internal comparisons revealed that female defensive repressors rated nonsexual cartoons significantly more humorous than sexual cartoons.

This significant difference in the rating of sexual and nonsexual cartoons by female defensive repressors, which was present in the first analysis and absent in the second analysis, was contributed by the extreme scorers who were eliminated in the second analysis. The significant mean difference found in the first analysis was 1.11 (nonsexual 4.69, sexual 3.58), while the nonsignificant mean difference in the second analysis was .67 (nonsexual 4.59, sexual 3.92). By inspection of these means it can be seen that the major difference is the lower rating for sexual cartoons (3.92-3.58).

Thus, the two female defensive repressors who viewed the fewest sexual cartoons also gave very low ratings to sexual cartoons. These subjects viewed only two sexual cartoons apiece. Mean ratings of these subjects were 1.50 and 3.00 for sexual cartoons, and 4.68 and 5.52 for

nonsexual cartoons. Evidently their aversion for these sexual cartoons influenced both their ratings and choices. It appears that both choice of cartoon and rating were involved in the subject's expression of preference. Therefore, when subjects were eliminated from the second analysis on the basis of infrequency of choice to view sexual cartoons, there were also eliminated their ratings which reflected a significant preference for nonsexual cartoons.

It was expected that subjects would be unaware that they were rating sexual and nonsexual stimuli differently. A post experiment questionnaire (Appendix B) was used to check this assumption. The response to the questionnaire (Table 5, page 46) confirmed the expectation that subjects did not have full awareness. However, as many as 40% of the subjects may have had partial awareness of the purpose of the experiment.

This finding raises a question about the study's validity. In Chapter III it was assumed that the experimenter's purpose of investigating a differential response for sexual versus nonsexual stimuli would not be transparent. No subject described the purpose of the experiment as a comparison of the humor ratings of sexual versus nonsexual cartoons. But many subjects reported awareness of two categories of cartoons, sexual and nonsexual, and felt their choice to view one type or the other was critical. It was this awareness of sexual versus nonsexual cartoons that was judged "partial awareness".

There were several different aspects of the design of which subjects could have been aware. These features of the design might be



conceptualized in terms of levels of awareness, each level containing successively more elements essential to the purpose of the experiment.

1. There were two different categories of cartoons, sexual and nonsexual.
2. The experimenter was interested in the differential response to sexual versus nonsexual cartoons.
3. The purpose of the experiment had to do with the differential rating of sexual versus nonsexual cartoons as a function of subject's R-S scores.

It does not appear possible to determine from the information gathered in the post experiment questionnaire at which of these levels subjects had awareness. It is clear that most of the subjects had an understanding of the design at the first level of awareness, since in response to question number two, 90% of the subjects reported that they noticed that there were sexual and nonsexual cartoons. It is highly probable that most of the subjects did not have an understanding of the design at the third level of awareness, since no subjects reported that they had associated rating and R-S scores. However, there is uncertainty about how many subjects had awareness at level two. Therefore, the questionnaire failed to determine how many subjects possessed sufficient awareness to choose either to please or not please the experimenter. This failure to determine the exact level of awareness is a weakness in the present study.

The problems encountered in the present design suggest methodological change in any subsequent investigation in this area:

1. The selection of stimuli solely from Playboy may have contributed to the differential responding from males and females. Playboy cartoons constitute a source of sexual stimuli with which males and females have differential familiarity. Failure to find significant differences among males may have been due to the fact that they were satiated on sexual cartoons, whereas females were not satiated. Although Playgirl or Ms. magazines do not have the same wide distribution among females as Playboy does among males, it might be advisable in future research to use an equal number of Playgirl and Ms. cartoons so that a male-female imbalance due to stimulus selection might be more balanced.

2. Besides the problem of the selection of stimuli, there was a problem in the selection of subjects. The subject pool contained very few true sensitizers (a problem encountered by other investigators). Due to limited availability of subjects, especially sensitizers, it was necessary to use a median split method of classification. But the median of the sample was only 35.5, whereas the R-S scale ranges from 0-127. It would seem more desirable to have sensitizers who obtained higher R-S scores than did the sensitizers of the present subject population. To properly evaluate the hypothesis, it may be necessary to use very large pools of subjects from which the experimental subjects are selected.

3. If possible all cartoons should be in color to enhance the realism of the sexual stimuli. To control for color all cartoons were developed in black and white. This appeared to detract somewhat from the original impact of some cartoons.

4. The post experiment questionnaire failed to gather enough information to determine accurately the degree of awareness subjects had of the purpose of the experiment. In future study a better procedure for assessing awareness should be developed.

Despite some of these drawbacks, several conclusions may be drawn from the findings obtained. First of all, male and female repressors have different patterns of responding, when they are asked to rate the humor of sexual and nonsexual cartoons. Secondly, the humor rating of sexual and nonsexual cartoons by female repressors corresponds to Byrne's (1964b) approach-avoidance interpretations of R-S responding. Thirdly, the M-C SD scale was not useful in differentiating types of R-S scorers in the present study.

Hopefully, the results of this study will stimulate other researchers to investigate the relationship between R-S scorers and the humor rating of sexual cartoons. Sex difference emerged as a significant variable in the present study. In the future use of the R-S dimension it should become a matter of standard procedure to include both males and females in the experimental design.

Since the present finding was that female repressors responded in a manner consistent with an approach-avoidance interpretation of R-S theory whereas males did not, some speculation may be in order about the clinical use of the R-S scale. An obvious implication is that the R-S scale may be safely interpreted along an approach-avoidance dimension only for females. At least the present findings suggest that caution be exercised when comparing male and female profiles in any clinical administration of the R-S scale.

APPENDICES

APPENDIX A

RESULTS OF O'CONNEL AND PETERSON'S STUDY

	N	Mean	SD	F	Fc	dfw	dfb
High humor	54	44.61	4.54	1.74	3.90	175	2
Middle	70	33.34	2.83				
Low humor	54	21.31	5.43				

Reanalysis (ANOV with unequal n)

1.  $F = MSb/MSw = \frac{SSb}{dfb} / \frac{SSw}{dfw} ; 1.74 = \frac{SSb}{2} / \frac{SSw}{175}$
2.  $SSb = 14,659.5$
3.  $MSb = 14,659.5/2 = 7329.75$
4.  $MSw = MSb/F = 7329.75/1.74 = 4212.5$
5.  $Msw \times dfw = SSw = 4212.5 \times 175 = 737,257.5$
6.  $SStot = SSb = SSw = 751,917$
7. Percent variance accounted for =  $SSb/SStot = 14659.5/751,917 = .019$
8. Thus the R-S scale accounts for less than 2% of the variance in the high-middle-low humor groups.

## APPENDIX B

### Post Experiment Questionnaire

1. What was the purpose of the experiment? (If you don't know, guess).
2. Did you notice any difference in the cartoons? Why were they different?
3. Did you notice any change in what you were doing from the first of the session to the last? (What did you change?)
4. What criterion did you use for rating the cartoons?
5. What criterion did you use for choosing to press one bar over the other?
6. Did you at any time during the experiment feel anxious or nervous about the task you were asked to perform? When?
7. Were some of the slides more pleasing to view than others? Which? Why?
8. Have you anything to add about the experiment?

APPENDIX C

MEAN HUMOR RATINGS

<u>Sexual Cartoons</u>						
<u>Levels of R-S and Sex</u>						
<u>Subjects</u>	<u>Sensitizers</u>		<u>Defensive Repressors</u>		<u>Nondefensive Repressors</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
1	2.00	4.71	3.28	5.25	5.20	5.15
2	2.55	5.33	6.14	3.00	4.10	5.20
3	5.66	6.00	3.00	1.50	4.10	2.80
4	2.75	7.20	1.87	5.75	6.66	2.00
5	3.22	6.25	3.83	4.29	5.10	3.00
6	4.80	5.46	4.78	2.75	4.60	1.50
7	2.83	2.09	5.00	3.78	4.70	1.00
8	3.11	5.50	6.30	1.89	2.60	2.88
9	6.00	4.75	4.70	3.70	3.60	5.83
10	5.60	5.30	4.10	3.91	4.33	4.90
<u>Total</u>	<u>38.52</u>	<u>52.59</u>	<u>43.00</u>	<u>35.82</u>	<u>44.99</u>	<u>34.26</u>
<u>Nonsexual Cartoons</u>						
1	3.97	4.30	3.36	5.53	4.73	3.96
2	3.51	4.74	4.80	5.52	3.13	5.87
3	4.90	5.62	3.07	4.68	3.80	5.07
4	4.72	6.46	3.94	5.97	5.57	4.34
5	3.16	5.97	3.58	4.85	5.20	5.37
6	5.80	4.80	5.48	3.31	3.93	2.06
7	3.12	2.82	5.20	4.13	3.10	2.80
8	3.74	4.53	5.00	4.16	1.37	4.75
9	4.83	5.28	4.73	4.97	4.03	5.11
10	5.27	4.40	5.70	3.76	4.16	4.31
<u>Total</u>	<u>43.02</u>	<u>48.92</u>	<u>44.86</u>	<u>46.88</u>	<u>39.02</u>	<u>43.64</u>

APPENDIX D

MEANS AND STANDARD DEVIATIONS PER GROUP  
OF HUMOR RATINGS FOR 3 x 2 x 2

Sex	R-S Level	N	Experimental Condition			
			Sexual Cartoons		Nonsexual Cartoons	
			Mean	SD	Mean	SD
Male	Sensitizer	8	4.21	1.36	4.49	.87
Male	Nondefensive Repressor	8	4.49	1.15	3.97	1.23
Male	Defensive Repressor	8	4.49	1.39	4.74	.80
Female	Sensitizer	8	5.20	1.37	4.83	.99
Female	Nondefensive Repressor	8	3.73	1.66	4.60	1.05
Female	Defensive Repressor	8	3.92	1.15	4.59	.82



APPENDIX E

SUMMARY OF ANALYSIS OF VARIANCE OF HUMOR RATINGS

Source	SS	df	MS	F
Between subjects	117.779	47		
A (R-S score)	3.747	2	1.873	NS
B (Sex)	.153	1	.153	NS
AB	4.478	2	2.239	NS
Subjects within groups (error between)	109.401	42	2.605	
Within subjects	30.835	48		
C (Cartoons)	.919	1	.919	NS
AC	1.042	2	.521	NS
BC	.895	1	.895	NS
ABC	7.633	2	3.816	7.88*
C x subjects within groups (error within)	20.346	42	.484	

\*p<.001

APPENDIX F

RESPONSES TO QUESTIONNAIRE

1. What was the purpose of the experiment?

<u>Group</u>	<u>Full awareness of the purpose</u>	<u>Partial awareness</u>	<u>No awareness</u>
Male			
Sensitizers	0	5	5
Defensive Repressors	0	3	7
Nondefensive Repressors	0	4	6
Female			
Sensitizers	0	3	7
Defensive Repressors	0	6	4
Nondefensive Repressors	0	4	6
TOTAL	0	25 (41%)	35 (59%)

2. Did you notice any difference in the cartoons?

<u>Group</u>	<u>Yes Sex mentioned</u>	<u>Yes, sex Not mentioned</u>
Male		
Sensitizers	8	2
Defensive Repressors	10	0
Nondefensive Repressors	10	0
Female		
Sensitizers	7	3
Defensive Repressors	10	0
Nondefensive Repressors	9	1
TOTAL	54 (90%)	6 (10%)

3. Did you notice any change in what you were doing from the first of the session to the last?

<u>Group</u>	<u>Yes, I changed the way I rated</u>	<u>Yes, I changed the way I selected</u>	<u>No Change</u>
Male			
Sensitizers	1	3	6
Defensive Repressors	0	2	8
Nondefensive Repressors	1	0	9
Female			
Sensitizers	0	1	9
Defensive Repressors	0	2	8
Nondefensive Repressors	1	1	8
TOTAL	3 (5%)	9 (15%)	48 (80%)

4. What criterion did you use for rating the cartoons?

<u>Group</u>	<u>No criterion</u>	<u>My first re- action to the cartoons</u>	<u>How the car- toons ap- pealed to me</u>
Male			
Sensitizers	1	5	4
Defensive Repressors	1	6	3
Nondefensive Repressors	2	5	3
Female			
Sensitizers	1	6	3
Defensive Repressors	1	6	3
Nondefensive Repressors	1	5	4
TOTAL	7 (11%)	33 (55%)	20 (34%)

5. What criterion did you use for choosing to press one bar over the other?

Group	I alternated barpress levers	I randomly pressed levers	I kept press- ing the side which had appealing cartoons
Male			
Sensitizers	5	3	2
Defensive Repressors	2	5	3
Nondefensive Repressors	2	3	5
Female			
Sensitizers	1	6	3
Defensive Repressors	0	5	3
Nondefensive Repressors	5	3	2
TOTAL	15 (25%)	25 (41%)	20 (34%)

6. Did you at any time during the experiment feel anxious or nervous.

Group	No	Yes (mention sex as the reason)	Yes (No mention of sex as the cause)
Male			
Sensitizers	8	0	2
Defensive Repressors	9	0	1
Nondefensive Repressors	7	1	2
Female			
Sensitizers	8	0	2
Defensive Repressors	6	1	3
Nondefensive Repressors	10	0	0
TOTAL	48 (80%)	2 (3%)	10 (17%)

## 7. Were some slides more pleasing to view than others?

<u>Group</u>	<u>No</u>	<u>Yes (men- tion sex as more pleasing</u>	<u>Yes (men- tion sex as less pleasing</u>	<u>Yes (no mention of sex)</u>
Male				
Sensitizers	2	4	1	3
Defensive Repressors	1	3	2	4
Nondefensive Repressors	0	5	1	4
Female				
Sensitizers	2	0	3	5
Defensive Repressors	3	0	7	0
Nondefensive Repressors	0	0	3	7
TOTAL	8 (13%)	12 (29%)	17 (29%)	23 (38%)

## APPENDIX G

## RAW DATA

## Humor Ratings for First Ten Cartoons (Non-sexual)

Sex	Subject	Cartoon										
		1	2	3	4	5	6	7	8	9	10	
						<u>Sensitizers</u>						
Male	1	6	6	5	8	7	7	8	7	7	6	
	2	3	2	5	5	6	5	6	4	5	6	
	3	4	4	3	3	2	3	5	5	4	3	
	4	2	1	3	2	4	4	4	3	4	5	
	5	6	2	4	8	5	5	6	2	8	6	
	6	2	3	4	2	3	5	4	3	4	4	
	7	7	3	4	3	4	3	6	6	2	7	
	8	4	2	4	2	5	2	1	3	1	7	
	9	4	3	6	3	4	5	5	3	6	6	
	10	2	6	3	2	3	7	7	7	7	8	
Female	1	3	1	4	2	4	4	6	7	5	2	
	2	5	2	5	4	7	7	1	4	8	2	
	3	3	4	3	5	4	4	5	4	5	6	
	4	2	3	7	2	4	7	8	6	8	5	
	5	3	5	5	1	6	4	7	2	8	8	
	6	2	1	1	5	1	1	1	3	1	6	
	7	2	6	1	6	3	4	8	8	3	2	
	8	2	3	3	4	6	5	7	8	6	7	
	9	5	6	7	4	8	7	4	2	2	8	
	10	5	3	4	4	5	5	6	5	7	5	
						<u>Defensive Repressors</u>						
Male	1	4	3	4	5	4	2	2	1	2	3	
	2	4	5	7	5	6	8	8	8	6	8	
	3	3	1	2	6	1	6	7	4	6	5	
	4	1	3	1	2	5	7	8	6	2	7	
	5	2	3	4	4	3	4	5	2	4	3	
	6	1	4	6	7	7	8	4	7	6	1	
	7	2	3	6	3	5	5	4	3	4	3	
	8	4	6	4	5	3	2	2	3	3	6	
	9	3	3	4	5	4	5	6	5	5	6	
	10	4	5	7	5	7	3	4	5	7	4	

## RAW DATA--Continued

Sex	Subject	Cartoon										
		1	2	3	4	5	6	7	8	9	10	
						<u>Defensive Repressors</u>						
Female	1	5	3	7	4	5	7	7	3	4	8	
	2	3	5	8	3	2	2	3	2	6	4	
	3	3	5	2	4	6	6	5	7	6	3	
	4	5	4	6	4	6	5	5	3	6	7	
	5	1	1	4	4	7	2	7	7	8	6	
	6	2	7	4	8	6	4	7	8	2	6	
	7	1	6	4	2	8	6	3	6	3	4	
	8	3	6	7	7	7	3	6	4	5	6	
	9	4	4	5	6	4	3	3	4	5	4	
	10	4	2	5	2	3	3	8	2	8	5	
						<u>Non-defensive Repressors</u>						
Male	1	3	5	6	2	2	2	2	6	7	2	
	2	3	2	3	4	6	6	3	6	3	2	
	3	1	3	1	1	1	1	1	1	1	1	
	4	4	5	2	2	5	2	5	5	7	6	
	5	4	6	5	4	6	4	7	6	8	8	
	6	3	4	1	3	2	4	4	5	4	5	
	7	2	4	5	4	6	2	2	5	7	6	
	8	5	5	2	5	6	6	7	8	8	7	
	9	1	1	3	4	6	2	1	1	1	3	
	10	2	1	3	3	3	3	4	5	4	5	
Female	1	5	6	7	5	4	4	5	3	4	2	
	2	3	3	5	3	6	6	4	2	7	7	
	3	4	7	5	2	7	3	8	1	7	8	
	4	1	2	2	3	6	5	1	1	7	3	
	5	5	6	6	2	6	7	5	5	6	4	
	6	2	2	7	8	4	2	8	4	8	8	
	7	2	2	3	2	2	3	5	3	2	6	
	8	3	4	6	6	7	7	8	4	6	7	
	9	1	6	2	3	4	2	4	1	7	7	
	10	2	1	2	2	4	1	1	1	1	1	

RAW DATA--Continued

Humor Ratings for Cartoons 11 through 30

Sub- ject	Sexual Non-sexual	Cartoon																				
		11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Male	Sexual		6		6		7		5		5		6		7		4		5			
	Non-sexual	2		8		2		6		3		4		1		5		1		7		2
	Sexual	6				6		7		4		5		5		6		6		6		5
	Non-sexual		6	5		7		7		5		6		5		6		6		4		
	Sexual	3						4		2		2		3		3				2		2
	Non-sexual		2	4	3	2					2	3	5			3	3	3	2			
	Sexual	5		4		3				3		3			2		2		3		4	
	Non-sexual		4		5		3	5		3			2	2		3		3		2		2
	Sexual	2		5		6		3		7		3		7		5		7		3		
	Non-sexual		4		7		8		7		6		2		8		5		8		6	
	Sexual				3	3	4				3	4	4					2	2		3	
	Non-sexual	6	3	5				6	3	3				2	4	4	5			3		
	Sexual		3			3	3			1			1			6		2			3	
	Non-sexual	5		6	7		6	7		7		4	2		3	7		4		3	6	
	Sexual					3	3				3		1			6		6				3
	Non-sexual	5	3	6	5	1	7	5	2		1		1	1		4				1	1	
	Sexual	7		7		7		7		7		5		6		6		6		6		5
	Non-sexual		5		6		5		6		6		5		4		3		6		7	
	Sexual	4			1		2						1		1	1	4					
	Non-sexual		3	8		6		6	1	1	3	1		1				7	2	4	5	



RAW DATA--Continued

Humor Ratings for Cartoons 11 through 30  
Sensitizers

Sub- ject	Sexual Non-sexual	Cartoon																			
		11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Female	Sexual	8	5	7	5	7	7							3	3	1	7				
	Non-sexual								6	8	3	4	5	1				1	5	4	6
	Sexual		8			6				3			4		3	5				5	8
	Non-sexual	6		7	6		2	6		7	6		3	4			2	7	4		
	Sexual	6				3				6			4	6				4			
	Non-sexual		5	3	6		4	5	5		4	5			5	4	4		1	6	4
	Sexual				7	8	8	7				8	7	5				7	8	7	
	Non-sexual	6	7	5						8	5	7			8	8	5				3
	Sexual	3			7	6	7	4	2							6	8	6			
	Non-sexual		4	6							6	6	5	4	7	6			2	6	6
	Sexual	5	4		2		3		3		1		1			1		1		1	1
	Non-sexual			1		3		3		1		1		1	3		1		1		
	Sexual			5	8			6	4				6		5				4	6	
	Non-sexual	1	8			4	5			2	2	6		3		2	1	2			3
	Sexual	7			4		6			6	5			7			8			5	
	Non-sexual		3	5		5		3	7		7	6		7	7	7		3	7		5
	Sexual				7	5									8	5					
	Non-sexual	7	8	7			3	4	8	5	8	6	7	6			5	6	7	4	6
	Sexual		5					6	6	5	6					5	6	5	4		
	Non-sexual	5		5	6	7	4					6	5	4	4					2	2

RAW DATA--Continued

Humor Ratings for Cartoons 11 through 30

Defensive Repressors

Sub- ject	Sexual Non-sexual	Cartoon																				
		11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Male	Sexual		3		3		3		3		3		3		3		3		3		3	
	Non-sexual	4		2		3		2		2		2		2		3		4		3		
	Sexual		6		6		6		6		5		3		2		2		2		3	
	Non-sexual	7		7		8		5		3		7		3		4		8		7		
	Sexual								7		2				3		3		3		1	
	Non-sexual	7	3	2	3	1	4				1	1	3					2	1	5	1	
	Sexual				2	3	2	1						1	2					2	2	
	Non-sexual	7	8	3						1	1	1	1			1	3	3	2		1	
	Sexual			4			4						3	4		4				3		
	Non-sexual	5	5		5	6			3	5	3		4		3	5		2	5		5	6
	Sexual	8	6		4				6	3	8	8			6	7	7					
	Non-sexual			7		8	7						1	5				3	8	8	3	1
	Sexual		5	5	4	5		4				3					5	6			3	7
	Non-sexual	3					6		6	2		6	7	7	5				7	7		
	Sexual			5			5	5	6	5	6	6	6	7	7				7	7	7	7
	Non-sexual	3	5		6	4										6	5					
	Sexual	5	6		5	5	4					3		6					7			2
	Non-sexual			5					6	6	4		4		6	6	4	6		5	6	
	Sexual	6	7		6	6	7					4	4	4							5	4
	Non-sexual			5					6	6	6				6	3	3	5	6	3		

RAW DATA--Continued  
Humor Ratings for Cartoons 11 through 30  
Defensive Repressors

Sub- ject	Sexual Non-sexual	Cartoon																			
		11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Female	Sexual		5		6		4		5		3		4		3		2		2		5
	Non-sexual	7		5		4		3		3		5		6		3		5		3	
	Sexual				1	2	2	1	1								3	3	2	2	
	Non-sexual	4	5	3						5	5	4	3	2	5	3					2
	Sexual				3	3	5				5	5	3	5				3		2	
	Non-sexual	3	5	2				4	3	3					4	4	2		6		2
	Sexual	6	3					1							1						
	Non-sexual			3	6	3	1		1	2	1	2	3	3		2	1	1	2	6	1
	Sexual		7	5				5	4	6				7	5				3		
	Non-sexual	8			8	6	5				7	7	6		5	4	4		8	7	
	Sexual		3						3												
	Non-sexual	3		6	8	3	5	7		6	8	2	6	3	8	6	3	8	8	4	4
	Sexual							1	2												
	Non-sexual	6	7	6	3	5	6			1	7	1	6	5	7	7	6	1	2	7	1
	Sexual		5					7			6								5		
	Non-sexual	5		5	8	4	5		7	6		4	5	4	6	7	5	5		7	7
	Sexual	6	4	5	4				4						4	3					
	Non-sexual					6	6	4		5	5	5	5	6			5	5	6	5	3
	Sexual	4			4		4		4	4		4	3		4		5		2		5
	Non-sexual		3	3		4		3			3			3		5		4		4	

RAW DATA--Continued  
 Humor Ratings for Cartoons 11 through 30  
 Non-defensive Repressors

Sub- ject	Sexual Non-sexual	Cartoon																			
		11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Male	Sexual	6	4	6	1							4	2	4	5	7					
	Non-sexual					7	3	3	7	2	6	3						7	7	2	1
	Sexual			4	4			3		3	3	4	4		4		4				4
	Non-sexual	4	3			6	3		2					4		4		5		4	
	Sexual		4	4	4				1	1	1	1	3	4	3						
	Non-sexual	3				1	1	1								1	1	1	1	1	1
	Sexual		3	3				4			3	2				2	4			3	4
	Non-sexual	6			5	3	2		6	5			3	3	4			2	4		
	Sexual	8	7				6	5	7	5					5	8	5	5			
	Non-sexual			5	5	4					2	3	5	4					6	3	5
	Sexual	5	4	4								4	5	6	5	7	7	1			
	Non-sexual				2	3	4	5	6	1	3								2	1	1
	Sexual	6			4	5	5	6	6	6	4									5	5
	Non-sexual		6	5								5	5	4	6	4	1	5	6		
	Sexual		8	7		8		6		6	7		4	7			8	6	6		6
	Non-sexual	8			2		5		5			3			5	6				4	
	Sexual				6	6	6	5	3	4							4	5	3	4	
	Non-sexual	1	6	4							3	1	3	4	5	2					2
	Sexual					5	5	4	4	4	4				5				3	3	4
	Non-sexual	3	4	4	4							4	3	4		2	2	1			

RAW DATA--Continued  
Humor Ratings for Cartoons 11 through 30  
Non-defensive Repressors

Sub- ject	Sexual Non-sexual	Cartoon																												
		11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30									
Female	Sexual	5		5		5		6		7		7		6		2		1		5										
	Non-sexual		6		5		6		7		7		2		7		1		6		2									
	Sexual		7		7		5		5		6		3		6		4		8		7		6		6					
	Non-sexual	2						3		3			7		7		4		7						6					
	Sexual		2				5		4		3			3				1						3		2				
	Non-sexual	4			3			7		5		3			6		6		5		4									
	Sexual	1			1			1		1		1			1		1		1		1				1					
	Non-sexual		3				1		1		5		4		2		1		1		5					1				
	Sexual		3				6		6		6		6		6		6		5		5					4				
	Non-sexual	5			6		6		6		6		6		6		7		7		7					4				
	Sexual		8				1		4		8		1		1		1		2		1					1				
	Non-sexual	8			4		1		8		1		1		1		6				4					8				
	Sexual	1			1			5			2		4				1		1		1									
	Non-sexual		4				5		6		5		3		2		6		4		5				2	6	5			
	Sexual	3			3			3		3		2		4		4		4		2		4				2				
	Non-sexual		5				4		4		3		4		4		4		6		4				5		4			
	Sexual		2				5		4		4		6		6		8		6		5		3		8		7	3		
	Non-sexual	4			1				1		4				4										1		5	1		
	Sexual	1			2			2		1																				
	Non-sexual		3				3		1		3		1		2		1		2		2		2		2		1	2	1	1

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## RAW DATA--Continued

## Humor Ratings for Last Ten Cartoons (Non-sexual)

Sex	Subject	Cartoon										
		31	32	33	34	35	36	37	38	39	40	
						<u>Sensitizers</u>						
Male	1	1	1	7	4	6	8	2	7	5	3	
	2	5	6	6	7	5	6	3	6	6	4	
	3	3	2	4	3	4	6	6	5	5	3	
	4	2	4	4	2	2	4	2	5	5	2	
	5	7	6	6	8	5	8	8	2	1	7	
	6	3	4	4	4	5	5	4	4	3	2	
	7	4	5	6	4	5	6	6	7	5	3	
	8	6	1	1	6	1	8	5	1	1	2	
	9	5	5	3	4	4	6	7	5	4	4	
	10	1	2	2	3	3	2	7	4	5	2	
Female	1	5	7	1	1	6	6	7	7	5	6	
	2	3	6	6	8	4	6	8	7	8	7	
	3	4	3	4	3	4	5	6	5	3	2	
	4	6	7	5	7	7	6	8	8	8	8	
	5	7	3	1	4	8	7	2	4	5	2	
	6	1	4	4	4	5	6	8	6	4	3	
	7	6	3	8	4	4	8	5	6	8	6	
	8	6	7	8	8	7	3	3	8	7	7	
	9	8	7	6	8	6	6	6	8	7	3	
	10	1	2	6	6	5	6	6	6	5	5	
						<u>Non-defensive Repressors</u>						
Male	1	7	2	6	3	3	5	8	8	1	1	
	2	6	3	4	3	4	4	6	5	4	5	
	3	2	1	1	1	1	1	1	1	4	4	
	4	6	3	5	5	3	3	2	5	3	6	
	5	7	4	6	6	7	6	4	7	4	5	
	6	2	3	2	6	2	4	3	2	2	4	
	7	6	5	4	6	7	6	6	5	7	1	
	8	7	5	5	7	4	7	6	7	8	4	
	9	4	5	2	4	7	8	5	6	6	7	
	10	2	2	2	4	4	5	4	4	2	1	

## RAW DATA---Continued

## Humor Ratings for Last Ten Cartoons (Non-sexual)

Sex	Subject	Cartoon									
		31	32	33	34	35	36	37	38	39	40
<u>Non-defensive Repressors</u>											
Female	1	6	4	2	7	3	2	2	5	3	3
	2	8	6	7	3	5	7	6	8	5	3
	3	8	2	1	5	7	6	1	6	5	4
	4	2	1	1	1	5	7	2	8	1	1
	5	7	7	6	6	6	7	7	6	7	7
	6	7	4	7	5	4	4	4	7	8	8
	7	7	6	7	7	5	4	2	6	6	5
	8	4	5	6	5	6	7	6	7	4	5
	9	5	4	3	7	8	8	2	8	6	2
	10	3	3	2	3	3	1	4	4	2	3
<u>Defensive Repressors</u>											
Male	1	4	3	3	4	3	3	3	4	4	4
	2	4	1	6	2	5	1	8	8	5	7
	3	2	1	3	3	5	7	5	4	5	1
	4	6	6	7	7	6	3	2	7	7	1
	5	3	2	3	4	5	3	5	4	4	3
	6	3	3	4	3	8	7	7	7	4	4
	7	7	4	7	6	6	6	4	8	7	2
	8	6	6	5	5	6	6	4	6	7	7
	9	6	7	7	6	7	7	8	6	7	5
	10	5	6	6	5	6	6	7	7	4	4
Female	1	5	4	4	6	4	6	5	7	5	5
	2	7	5	6	4	5	6	3	3	4	7
	3	6	5	3	6	3	5	6	2	2	3
	4	2	2	4	6	3	3	1	1	4	4
	5	2	7	8	6	6	2	6	5	6	7
	6	8	5	4	2	5	6	7	5	6	7
	7	8	8	5	5	7	7	1	2	7	1
	8	7	8	5	6	7	8	7	7	8	8
	9	4	5	5	5	6	6	5	6	5	5
	10	3	4	5	5	2	4	2	4	4	2

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