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1972

FANTASY CONTENT, DAYDREAMING  
FREQUENCY, AND THE REDUCTION  
OF AGGRESSION

by

RENEE SALTZBERG PATON

A dissertation submitted to the Graduate Faculty in  
Psychology in partial fulfillment of the requirements for  
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June 22, 1972  
date

Jerome L. Singer  
Chairman of Examining Committee

June 22, 1972  
date

Walter Weisbro  
Executive Officer

Jerome L. Singer \_\_\_\_\_

John Antrobus  
\_\_\_\_\_

Samuel Korn  
\_\_\_\_\_  
Supervisory Committee

The City University of New York

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ABSTRACTFANTASY CONTENT DAYDREAMING FREQUENCY AND THE  
REDUCTION OF AGGRESSION

by

Renee Saltzberg Paton

Advisor: Professor J.L. Singer

This study tested the effectiveness of different fantasy content and predisposition to fantasy activity on the reduction of aggression in male undergraduate students.

One hundred and twenty subjects were selected on the basis of their self-reported high or low frequency of daydreaming and were randomly assigned to one of six groups: no fantasy, neutral fantasy or aggressive fantasy with prior non-insulting instructions or the same fantasy groups with insulting instructions. The insulting instructions were designed to arouse aggression by attacking the subjects' motivation, intelligence and maturity. Fantasy condition subjects then wrote stories to three pictures which depicted either aggressive or neutral scenes. They were then given the Experiment Directed Aggression Questionnaire and a retest of the Sarason Hostility Scale. This test and the Buss Durkee Aggression Questionnaire had been given prior to the experimental situation. The no-fantasy groups were given the questionnaires immediately after the instructions.

The results on the Experiment Directed Aggression Questionnaire were that insulted subjects were more aggressive

than non-insulted ones. Neutral fantasy reduced hostility more effectively than aggressive fantasy but high and low daydreamers did not differ on the expression of aggression. No significant findings between any of the groups emerged on the pretest posttest difference scores of the Sarason Hostility Scale. No differences were found on the Buss Durkee Questionnaire either.

The data were analyzed with references to Tomkins' theory of affective states.

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Finally, to my husband Jack I wish to dedicate this thesis. He has been always ready to help me and offer encouragement whenever it was needed. I am deeply grateful for all his support.

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CHAPTER II. The Purpose of the Study

This study is designed to elucidate the manner in which fantasy operates to reduce aggression in normal adult males. It has been widely accepted that fantasy is one means by which aggressive feelings can be reduced (Dollar, et al, 1939). Recently some experiments have shown that fantasy can actually increase the aggressive feelings (Feshbach, 1956). This contradictory evidence has raised some question about the usefulness of the theoretical model previously employed to explain the phenomena. It is the intention of this study to examine more closely two of the models currently used in the understanding of fantasy behavior.

The cathartic model proposed initially by Freud holds that aggression is a drive to which a certain magnitude of energy is associated. When the energy associated with the drive cannot be discharged through physical action, some of it may be released through fantasy, as a vicarious experience of the aggressive action. Recently, the validity of this model has been questioned by many of the empirical results (Feshbach, 1956; Biblow, 1970).

Because of the lack of agreement, another theory has been proposed which does not depend on a concept of energy. The alternative to the Freudian catharsis model which is to be considered here is one proposed by Singer (1966) which is based on the motivational theory of Tomkins (1962). This theory proposes that fantasy is a developmental capacity of

the individual which enriches his experience and enables him to expand his behavioral repertoire. In this view fantasy is not seen as a negative activity designed to curb unacceptable behavior but rather it has a positive role as well. Fantasy activity enables an individual to alter his negative aggressive emotional state to one which is more pleasant by distracting his attention and shifting out of the field of the unpleasantness into a more pleasant one.

The purpose of the present study is to test which of these two theories offers a more complete and accurate picture of the role of fantasy activity in reducing aggression. If the catharsis mechanism were in operation, reduction in aggression would occur primarily through aggressive fantasies which would drain off more of the energy associated with the aggressive drive. On the other hand, if Tomkins' theory was accurate then one would expect non-aggressive fantasy to be more effective in reducing aggressive feelings by distracting the subject and enabling a change to a pleasant emotional state to occur.

## II. History of the Problem

The drive reducing role of fantasy has been postulated by Freud and others (Dollar, Doob, Miller, Mowrer and Sears, (1939). The Freudian view is that daydreaming is an extension of night dreaming. The function of these behaviors is the fulfillment of unconscious wishes and the reduction of drive states which are derivatives of instincts. Proponents of the catharsis

theory hold that the vicarious experience of the fulfillment of the drive partially gratifies the drive by draining off some of the energy which had previously become attached to it.

Proponents of the catharsis theory have attempted to demonstrate that certain drive states, in particular aggression can be reduced through fantasy activity. It is their view that catharsis occurs because the thought and the fantasy discharge small quantities of energy thus reducing the pressure of the drive. There is some evidence to support this cathartic model. Feshbach (1950) angered college students by insulting them and then permitted one group to take the TAT while a similarly insulted control group engaged in several neutral tasks which precluded any fantasy activity. A second control group was not angered but simply took the TAT. Following this, all groups were given a sentence completion task and an attitude questionnaire. Feshbach found that when anger was present the effect of telling aggressive stories was to lower the tendency to aggress.

Studies following this one tended not to give unqualified support for the catharsis model. In fact the majority of experimental studies now raise doubts about this model by finding either no reduction or an actual increase in hostility after a fantasy activity (Feshbach, 1956; Mussen and Rutherford, 1961; Berkowitz, 1960).

In a later study, Feshbach (1958) used neutral and aggressive movies as the fantasy experience and angered and

non-angered subjects. He found that in the angered subjects, the viewing of the aggressive film resulted in catharsis while in the non-angered subjects, the effect of the aggressive movie was to increase the subjects' level of aggression.

Berkowitz (1960) in an attempted replication of Feshbach's later study did not find the same result. As a result of subsequent studies (1962, 1963, 1964) he has formulated a theory that fantasy leads to a reduction in aggression because of guilt which is aroused by the aggressive feelings. It is his view that it is not the fantasy which reduces the aggression. Rather the fantasy produces guilt because the fantasized aggressive action does not conform with the individual's moral code.

Berkowitz and Rawlings (1963) offer some experimental evidence to support their claim. In a study of 160 college students who were insulted by a male graduate student and saw a prize fight film, subjects whose set was to see the beating as justified later showed stronger hostility towards the experimenter than did subjects who were set to see the beating as unjustified.

Regarding other drive states it has also been found that a simple cathartic model does not stand up to empirical test. Singer and Row (1962) investigated the effects of day-dreaming upon aggression. They tested anxiety using a surprise examination with college students and found that while

aggression was slightly reduced, test anxiety increased significantly during a waiting period.

Neither do results of studies with children lend support to the catharsis view. Feshbach (1956) found that exposure to aggressive thematic material significantly increased overt classroom hostility in a group of boys who were originally low in aggressive behavior.

Mussen and Rutherford (1961) also found that children who viewed a violent cartoon after a frustrating situation had higher aggression levels than those who either had no fantasy opportunity or were presented with a non-aggressive film.

Material from clinical sources also suggested that fantasy does not always have a drive reducing role. It is well known that some individuals engage in fantasy to increase sexual arousal. Further it is also observed that, if in anticipation of a future stressful event, people keep thinking about it, anxiety about that event is increased, i.e. students thinking about future examinations.

It is logical to assume that if daydreaming were to function to reduce drives, then individuals who daydream frequently should not be more anxious than those who seldom do so. In fact, the former should score lower on measures of anxiety than the latter. This has not been found. Anxiety seems directly related to high frequency of daydreaming (Singer and Schonbar, 1961).

In an attempt to make the catharsis theory accord with

the results of experimentation, certain conditions were considered necessary. These were: 1. fantasy content must be relevant to the nature of the drive aroused, and, 2. the pertinent drive must be aroused by a preceding experience. The first condition however has been found to be unnecessary (Pytkowicz, Wagner and Sarason, 1967; Biblow, 1970). The second condition has also been shown to be questionable since according to the Freudian view there is always some aggressive energy within the individual and there should be no need to increase it before it can be discharged.

Another test of the catharsis model is offered by Pytkowicz, Wagner and Sarason (1967). In this experiment college students were angered and were then given an opportunity to engage in one of these tasks - free daydreaming, writing TAT stories or reading short essays (the control task). Both the male and female subjects were selected from the upper and lower 25 percentiles of scores on the Singer and Antrobus Questionnaire (1963) and were randomly assigned to one of the three conditions and with the insult or non-insult conditions. The results of the women indicated that the insult did not succeed in arousing aggression and were therefore discarded.

For the men, the cathartic effect was observed only in the high daydream group. Both the TAT and daydreaming conditions resulted in a reduction in hostility, but in the latter group the hostility was transferred from the examiner to the subjects themselves.

In order for the observed changes in hostility following fantasy to be truly attributable to catharsis, it is necessary that the content of the fantasy involve the vicarious experience of the fulfillment of the drive. The authors tested this by scoring the TAT stories on a five point scale measuring direct and indirect aggression. The authors found the insulted group of subjects were not differentiated in quantity or type of aggression in TAT stories from the non-insulted. This finding is not in agreement with catharsis theory which would predict that those subjects who expressed more aggression would be left with less residual anger. This indicates that the first pre-condition may not be relevant after all.

Summarizing the conclusions of these studies designed to test catharsis theory, one may say that the agreement between theory and experiment is limited. The results of the experiments have placed more and more limitations on the applicability of the theory and the meaningfulness of the model has been questioned.

An alternative approach to fantasy has been offered by Singer (1966) which is related to the theoretical position of Tomkins (1962, 1963). Singer proposed that fantasy should not be viewed as a drive-reducing process but rather as a cognitive skill which develops by experience from childhood. It serves the individual "...as a potential skill in Bartlett's sense (1958) - available for development in particular directions and under specific enhancing circumstances". (p. 139). Fantasy,

in this view is seen as a cognitive activity which gives the individual an opportunity to examine intended behavior, to amuse himself and to alter his mood states through fanciful inner play. With regard to aggression, it is Singer's view that those individuals who are skilled daydreamers can, through fantasy, work out resolutions of their anger and thereby avoid the need to take recourse to direct action.

There is some evidence to suggest that frequent use of fantasy, as indicated by many human movement responses on the Rorschach test is associated with inhibition of direct action (Singer, Wilensky, and McCraven (1956)).

It has been suggested that there are individual differences in the use and frequency of fantasy activity (Singer and Antrobus, 1963) and it is only in those individuals who use fantasy frequently that it can be utilized to reduce aggressive feelings. The results of Pytkowicz, Wagner and Sarason (1967) with adults and Biblow (1970) support this view. These differences, according to Singer, do not represent differing amounts of aggressive drive or energy, but how the individual has learned to attend to and be as positive to inner channels.

Rejecting the catharsis theory Singer (1966) suggests that the frequent daydreamer utilizes fantasy to alter his affective state. This is derived from the theory of Tomkins (1962) who takes an hedonic view of motivation, regarding affects as the motivators. In his view the function of the

drive is to provide motivating information as to where and how consummatory activity should take place for satisfaction to occur. Tomkins limits his definition of drives to include only those which have a physiological base such as hunger and sex. The function of the drive is to inform the individual how and where satisfaction may occur while the effects relay the information of when by amplifying the drives and impelling the individual to effect a change in the specific density of neural firing which result in the sensation of the affect. In Tomkins' view, the affect system is a flexible one, which affects combining, tempering and suppressing other affects, thus offering a more complicated repertoire of behavior with more possibilities than that offered in the Freudian view.

Considering aggression in the light of this theory, Singer holds that for individuals who are skilled in fantasy, it can provide another stimulus situation that is less negative and distressing than the aggressive situation. The individual who is a skilled daydreamer can use this cognitive ability to attend to internally produced stimuli which facilitate emotional patterns less threatening than the effects produced by the external situation. These fantasies lead to a change in mood and thereby a reduction in the final level of aggression. Any one of a variety of moods may follow. The theory of Berkowitz presented earlier, may be subsumed under this view. His approach is that fantasy reduces aggression because the aggressive fantasy leads to feelings of guilt. This guilt causes the

individual to inhibit any overt expression of his aggression. The main weakness of this theory is that it does not explain reduction of aggression when the content of the fantasy is not aggressive, as in the case of the daydreaming subjects in the Pytkowicz, Wagner and Sarason study.

McClelland (1953) has offered a motivational theory similar to that of Tomkins. He regards all motives as learned approach - avoidance responses. Approach is undertaken when a cue triggers off anticipation that a positive affect will be experienced in a situation. This view is similar to that of Tomkins but translated into learning theory terms.

Closely related to the approaches of Tomkins and McClelland are those of the activation level theorists (Cofer, 1967). This view considers emotion, which is defined as an activation level with directional aspects, as primary in motivating the individual. The view taken by all affect theorists is that the emotional experience contains two distinct but interacting components. The general activation level of the nervous system forms the physiological base of the emotional experience. It determines the intensity of the emotion without regard to the content of the experience. The quantitative aspect is primarily cognitive as is the specific feeling one experiences, such as jealousy, joy, anger. It is this more cognitive aspect of the emotion which is dependent on external cues. Emotional experiences represent the presence and interaction of both components.

These views, by stressing the importance of the mood changes and distraction away from the aggressive affect again bring the question of the content of fantasy into prominence. The adaptational view of fantasy suggests that aggressive and non-aggressive fantasy material should be equally effective in reducing aggression. This is in opposition to the cathartic theory which predicts that the aggressive drive is reduced to the extent that the vicarious experience of the aggressive action in fantasy drives away the aggressive energy of the individual. The adaptational theory would predict that individuals who have developed the skill of fantasy are able to use fantasy material to change their mood and affective states away from aggression. There is some indication that this may have been the method whereby the high daydreaming, free fantasy subjects in the study of Pytkowicz, Wagner and Sarason, reduced their feelings of aggression. These authors found that in this group, whose aggression was significantly reduced after a period of daydreaming, the content of the daydreams were either of a mundane nature or were of a freely imaginative nature. In no case did any subject report a hostile daydream. There was no indication that the subjects had experienced guilt, nor did they report these feelings.

The role of the content of the fantasy in the reduction of aggression was examined directly by Biblow (1970) using children as subjects. He selected two groups of children

from two measures of fantasy, the frequency of movement responses to the Hoffman Inkblot test and creativity on an imaginative task who were considered to be frequent and infrequent daydreamers. The subjects were divided into small groups and were frustrated by two collaborators who prevented their completion of a simple constructional task. The subjects' level of aggression and mood state were assessed at this time and after the showing of aggressive or non-aggressive films or a control task. After this the subjects were placed in a play situation where both aggressive and non-aggressive toys were available. Again the subjects were rated for level of aggression and mood by the experimenter and an assistant.

The results indicated that the subjects who were frequent daydreamers showed significantly less aggressive behavior after viewing the films. This was independent of which film was seen. The content of the film did affect the mood state. The aggressive film increased moods of guilt and depression while the non-aggressive film resulted in an increase in positive mood states. These changes were not observed in subjects who were infrequent daydreamers or in subjects who were high daydreamers but who had no opportunity for fantasy.

Unfortunately in this study no groups were employed who were not frustrated. Comparing the results of these controls with those of the frustrated groups would have demon-

strated that aggression was in fact aroused. Another weakness of this experiment is that the experimenter and the other rater knew the fantasy condition which the subjects had had when they were making their behavioral and mood ratings.

The present study is undertaken to examine further the usefulness of alternate models of catharsis and adaptational role in the reduction of aggression following fantasy. In this experiment, male subjects differing in the reported frequency of daydreaming are insulted to arouse aggression. They then write stories to still pictures which are divided into groups - those which depict aggressive scenes and those which do not. Each subject receives only one type of picture. Subjects are selected from the extremes of the distribution of scores on the Singer-Antrobus Imagerial Processes Inventory. The catharsis theory would predict that aggressive content in the fantasies would result in less overt hostility, whereas in view of Singer and Tomkins neutral fantasy should be more successful in reducing overtly hostile attitudes than aggressive fantasy. In accordance with the latter model we predict that the reduction of hostility after the fantasy activity would be more pronounced for subjects who frequently daydream than for those who seldom do so.

The experimental method is similar to that employed by Pytkowicz, Wagner and Sarason (1967) using the same measures of aggression as they did. These are the aggressive attitudes towards the experimenter (measured by an Experimental

Directed Aggression Questionnaire) and towards the self (measured by changes in the Sarason Hostility Scale) after the experimental procedure. Several subscales of the Buss Durkee Scale have also been included to indicate the individuals' general style of handling aggressive feelings.

### Experimental Design

This study was designed as a 2 x 2 x 3 factorial experiment. The 120 subjects were divided into 12 equal subgroups.

Of the three independent variables one was organismic while the other two were experimentally manipulated ones. The organismic variable was the self reported frequency of day-dreaming as measured by the Singer and Antrobus Imaginal Processes Inventory. The two experimentally manipulated variables were the insult condition (insult and no-insult) and the fantasy condition (no-fantasy, aggressive fantasy and neutral fantasy).

The dependent variable, residual hostility was measured by two instruments - the Experiment Directed Aggression Questionnaire and the Sarason Hostility Scale. The former indicated the subjects' attitude towards the experimenter and the experiment while the latter showed changes in the subjects' ratings of their own hostility immediately following the experimental situation.

Analyses of variance were calculated for each measure of the dependent variable. Further comparisons between

the subgroups were calculated where the significance of the analysis of variance justified it.

Eight of the twelve groups were used as controls. Previous research (Feshbach, 1961) has already indicated that the effect of fantasy on the drive in a non-aroused state is to increase the former, while its effect in an aroused state is the reverse. This interaction necessitated demonstration in our experiment that the anger had indeed been increased with this increase caused by the insult and not by the fantasy conditions. This was accomplished by dividing the subjects in half so that one half received the insult while the other half received the non-insult conditions. It was hypothesized that insulted subjects would score higher on the measures of the dependent variable than non-insulted subjects.

The insult, no-fantasy controls were included to test the effectiveness of the two fantasy conditions. Unfortunately, as the tests were administered immediately after the insult conditions the differences in scores obtained on the insult conditions of no-fantasy and content fantasy cannot directly be compared since the differences here could be a function of the interval of time between the insult and the administration of the dependent measures. Comparison between the non-fantasy insult and the non-insult groups indicates the magnitude of anger directly attributable to the insult.

The method used for the Sarason Hostility Questionnaire was basically the same, but omitted the non-insult, no

fantasy condition. Since this questionnaire utilized a test-retest procedure that condition was superfluous.

Four subscores of the Buss Durkee Inventory were also given to all the groups which had received the Sarason Hostility Scale. These results were compared to those obtained on the other measures.

CHAPTER IIMETHODI. Subjects

The subjects were 120 male undergraduate students selected from 258 men enrolled in the introductory psychology course Psychology I. The basis of selection of the subjects was their scores on the Imaginal Processes Inventory, Parts I and II. Five men refused to take the Inventory. All male undergraduates who had scored in the upper and lower third of at least one part of the daydreaming score distributions and no more than half on the other part were contacted by telephone and asked to participate. Four potential High Daydreaming subjects and eleven potential Low Daydreaming subjects refused.

Each subject was given 2 dollars to compensate for the loss of time involved in participating in the experiment.

The mean age of the subjects was 20.0. That of the high daydreamers was 19.1 while the average age of the low daydreamers was 21.0.

II. MaterialsExperiment Directed Aggression Questionnaire

This measure was designed by Feshbach and used in two of his early studies (1955 and 1961) as well as being used by Pytkowicz (1964). It has previously been found to be sensitive to experimentally aroused anger. It is designed to indicate the subjects' feelings about participating in

psychology experiments and his evaluation of the experimenter and the experiment. This test consists of seven questions to which the subject responds by indicating strong approval or strong disapproval along a six point scale. A weighted scoring system was used which allowed one point for a highly approving response and six points for one which expressed strong disapproval. A total score was thereby obtained for each subject which represented his expressed feeling of disapproval for the entire experiment. (see Appendix for sample questionnaire).

#### Sarason Hostility Scale

This is a self report questionnaire in which the subject indicates the extent to which he believes certain hostile descriptions apply to him. It is a true-false questionnaire with possible scores ranging from 0 to 23. Individual differences in hostility were controlled by a test-retest procedure and the score on the pretest was subtracted from the posttest one. The difference therefore represented changes in self-ratings of hostility as a result of the experimental conditions. A positive score represents greater hostility after the experimental session while a negative score indicates that the subject felt less aggressive after it. For calculation purposes a constant was added to make all scores positive. (see Appendix for sample questionnaire)

### Daydreaming Questionnaire

All subjects were divided into two groups from the scores which were obtained on the first two parts of the Singer-Antrobus Questionnaire. The first part of this questionnaire listed thirty daydreams originally obtained from university students. The subjects indicated on a five point scale the frequency with which they have each daydream. Part II consisted of general questions about the amount of time spent in fantasy activities. Part II was also scored on a five point scale ranging from very infrequent to very frequent. A weighted score was therefore obtained for each subject which represented the propensity of each subject to engage in such activities.

Daydreaming scores on Part I ranged from 33 to 118 and those on Part II from 31 to 106. Males were selected as subjects who were in the upper and lower 33rd percentile of either part where the score on the other part was in no more than the 50th percentile. The mean of the sum of both parts of the low daydreamers was 106.6 whereas that of the upper daydreamers was 165.8. The maximum possible score for low daydreamers was 129 while the minimum of the high daydreamers was 141.

### Buss Durkee

This test purports to measure the direction and manner in which an individual expresses his hostility. The authors of this test have found two orthogonal factors indicating

two general personality types. One appears to indicate a general cognitive handling of feelings of aggression while the second is composed of actions which the individual initiates when he is angry. The first factor seems to consist of feelings which the individual experiences when he is angry while the second relates more to things that he does when he is angry. Each factor is measured by four subscales. For our research we have selected two subscales from each factor. The first factor was measured by the Indirect Aggression and Irritability scales and the second factor by the Resentment and Suspicion scales. Our abridgement of the Buss Durkee Questionnaire contained 38 items, with the statements from the scales randomly arranged, to which the subject responded by a true or false depending on whether the statement pertained to him. The subject received a point for each admission of an aggressive action or angry emotion. For each subject the ratio of the scores on factor one with the sum of scores on factor two was calculated and this ratio was correlated with the other measures of the dependent variable. (see Appendix for sample questionnaire)

#### Fantasy Stimuli

The six pictures were selected from a group of twenty-seven that were taken out of newspapers, magazines and books on photography. They were selected by the experimenter to represent three categories: very aggressive, moderately aggressive and without aggressive content. Three judges

independently rated all the pictures on how much aggression they depicted. Three pictures were selected that were considered very aggressive by all three judges and the three non-aggressive were also unanimously considered to possess no aggressive content. (see Appendix for stimuli)

### III. Procedure

The Singer and Antrobus Imaginal Processes Inventory was administered to several introductory psychology classes during class time. Only scales A and 15 were used. (see Appendix for Inventory sample and administrative instructions) In three of the classes the Attitude Questionnaire was administered immediately following the Inventory. The remaining classes received the Inventory alone. The results of the women were discarded, and from the group of 258 men students, 120 were selected on the basis of their scores on this Inventory.

Approximately two to three weeks after the Inventory was administered the prospective subjects were contacted by telephone and asked to participate in the experiment. Those who agreed to do so (15 did not) were randomly assigned to all conditions except the non-insult, no-fantasy condition (see below). At this time the appointments were made for the subject to be given the four scales of the Buss Durkee Inventory. (see Appendix for sample inventory and administrative instructions) After completing the Buss Durkee Inventory the

the subjects were given the Sarason Hostility Scale. A further appointment was set up for the subjects after this.

The experimental session was similar for each group of subjects, differing only in respect to the experimental variables. Subjects in the non-insult, no-fantasy group did not have any experimental session and their results are used to establish a base line score of hostility to the test. The difference between the mean score of this group and that of the insult, no-fantasy condition indicated that the insult was effective in arousing anger. For all other subjects the sessions followed this plan: the study was introduced (see Appendix for specific instructions for insult and non-insult groups). After this the subjects were given the answer booklets. Then the fantasy condition was presented using a tachistoscope. In the non-fantasy conditions the subjects then filled in the questionnaires, which had been given to everyone with the answer booklet, whereas in the fantasy conditions the measures of the dependent variable followed the fantasy condition. The Sarason Hostility Scale was given before the Experiment Directed Aggression Questionnaire. Following this, the subjects were debriefed and were asked not to discuss the experiment with others until all the groups were seen. The subjects were seen in small groups of three to four.

Each subject was given two dollars to compensate for loss of time and inconvenience.

### Insult and Non-Insult Conditions

The groups in the insult conditions were introduced to the last experimental session with a number of critical and unwarranted remarks following a method previously employed by Feshbach (1955 and 1961) and Pytkowicz (1964) to arouse aggression. The subjects' academic motivation, emotional maturity, intelligence and honor were challenged while the experimenter gave the instructions and introduced the task. The subjects were told to arrive at a particular time and the experimenter pretended to have expected them earlier and expressed annoyance at their tardiness (see Appendix for exact method of insulting subjects). The subjects in the non-insult conditions were greeted warmly, treated with respect and given the instructions in a pleasant tone. The insulting remarks were omitted here (see Appendix).

### Fantasy Conditions

Following the insult and non-insult conditions the subjects were given the specific instructions for the fantasy activity (see Appendix). Subjects were told that a picture would be projected on the wall for 20 seconds and that then they would have to make up a story about the picture in which were answered the following questions:

1. What happened before the picture was taken?
2. What is happening now?
3. What will the outcome be?

The order of presentation of the stimuli was rotated to minimize interaction effects. The subjects were given four minutes to write each story. Subjects of both conditions saw three pictures, either aggressive or neutral ones.

Subjects in the no-fantasy condition were given the measure of the dependent variable, i.e. the Experiment Directed Aggression Questionnaire and the Sarason Hostility Scale immediately following the introductory remarks.

#### IV. Analysis of Data

##### Measures of External Directed Aggression

Aggressive attitudes towards the experimenter and the experiment were measured by the Experiment Directed Aggression Questionnaire. There were six questions, each one answered on a six point scale ranging from strong approval to strong disapproval. The scales were weighted, with a score of six assigned to a "strongly disapproved" response. The total score which was taken as the measure of the dependent variable was the sum of the weighted scaled scores. The data here consists of the 120 scores representing the degree of expressed aggression for each subject. An analysis of variance ( $2 \times 2 \times 3$ ) was applied to these data with the factors being fantasy level (high and low daydreaming), insult (insulting instructions or neutral ones) and fantasy content (aggressive, neutral or none). Since significance was found

for some of these variables, an orthogonal comparison of treatment means was undertaken to indicate which fantasy content was most effective in reducing feelings of aggression.

#### Measures of Internally Directed Aggression

Changes in inner directed hostility were given by the pretest posttest difference score on the Sarason Hostility Scale. The subject received a score of one for each admission of an aggressive feeling or behavior. His total score on the pretest was subtracted from his score on the posttest. For computational purposes a constant of ten was added to all scores, although in the tables presented below this has been subtracted again.

A similar statistical procedure to that used for the Experiment Directed Attitude Questionnaire has been employed here. There are 20 fewer subjects here though as there were no non-insult, no-fantasy groups.

#### General Aggressive Personality Traits

The four scales of the Buss Durkee test were scored in the manner suggested by the authors (Buss, 1962). The subject obtained one point for each admission of a hostile feeling or aggressive behavior. The scores on the Buss Durkee Scale were correlated with those on the Daydreaming Questionnaire and with the measures of the dependent variable.

### Fantasy Content

All stories were scored by two different scoring systems. The first was on a five point scale representing the amount of interpretative material put into the story. A score of one was obtained for simple enumeration of the contents of the picture while the highest score of five represented a story with a plot and feelings of the characters expressed.

The second scoring system was devised by Weisskopf. It is based on the total number of transcendences from objective observation and is scored in eleven categories. The sum of the scores obtained on the three stories representing the number of statements in the story belonging to each category, was taken as the measure of fantasy activity.

Reliability checks were calculated on 20% of the protocols using an independent scorer.

An analysis of variance was applied to the data (2x2x2), with only 2 levels of the fantasy content.

CHAPTER IIIRESULTS

As the two measures of the dependent variable were attempting to measure different aspects and levels of the residual aggression, their results will be treated separately and summarized together at the end of this section.

Experiment Directed Aggression Questionnaire

The scores of the 120 subjects on the Experiment Directed Aggression Questionnaire were compared by means of an analysis of variance techniques and several significant findings emerged (Table 1). As was expected, the insulted subjects were observed to be significantly more angry than the non-insulted. This indicated that the insult was an effective anger arousing agent. The effectiveness of the insult was observed to be unrelated to level of daydreaming. Significant differences were also obtained in the content condition (no fantasy, aggressive fantasy and neutral fantasy) indicating that some fantasies are more effective than others in reducing aggressive feelings. Reported frequency of daydreaming as measured by the Singer Antrobus Questionnaire did not significantly effect the magnitude of the residual anger.

The direction of the significances of the main effects of insult and content can be observed in Tables 2 and 3.

The insulted subjects showed almost twice as much variability in their responses and obtained significantly higher scores than the non-insulted groups. This indicated that the

TABLE 1

Summary of Analysis of Variance of Scores on the Experiment  
Directed Aggression Questionnaire (N = 120)

	Source of Variation	SS	df	Mean Square	F	
	Treatments	1024.29	11	93.18		
	Within	1611.30	108	14.92		
A:	Insult	525.15	1	525.15	35.2	01*
B:	Daydreaming	.06	1	1	1	
C:	Content	173.01	2	86.51	5.8	01*
AxC:	Insult and Content	264.60	2	132.3	8.9	01*
AxB:	Insult x Daydreaming	.32	1	1	1	
BxC:	Daydreaming x Content	53.14	2	26.5	1.8	
AxBxC:	Ins. x DD x Content	8.10	2	4.1	1	
	Total	2635.58	119			

\*Significant at .01

insult was an effective agent in angering the students. The very large standard deviation may be a result of combining the results of the three fantasy conditions, shown in Table 1. Main Effects sum of squares contains significant differences (see Table 5).

Orthogonal comparison of the treatment means shows that the difference between the mean of the no-fantasy condition and the mean of the combined aggressive and neutral condition is significant ( $t = 5.1, p < .01$ ). Comparison of the means of the neutral and aggressive fantasy scores suggests that neutral fantasies reduce hostility more effectively than do aggressive ones ( $T = 1.72, p > .10 < .05$ ). In this analysis, the insult and the non-insult subjects have been combined, but the significant differences appear to be due to the contribution of the Insult conditions subjects, for little difference is found in the means of the non-insulted subjects (see Table 5).

Propensity to daydreaming was found to be unrelated to reduction of aggression on this measure. As this measure did not differentiate between subjects in any of our groups in further analyses of the Experiment Directed Aggression Questionnaire these groups were combined. This finding does not entirely accord with the results of Pytkowicz et al, who found that men who engaged in frequent daydreaming, when insulted, significantly reduced the experiment directed aggression in both a free fantasy and TAT situation as compared to

TABLE 2

Mean and Standard Deviation of Attitude Questionnaire Responses under Insult and Non-Insult Conditions (N = 120)

	Insult	Non-Insult
Mean	18.9	14.7
Standard Deviation	5.3	2.8
Number in Sample	60	60

TABLE 3

Mean and Standard Deviations of Attitude Questionnaire Scores for Content Conditions (N = 120)

Content Condition	None	Aggressive	Neutral	Fantasy
Mean	18.43	16.45	15.56	
Standard Deviation	5.6	4.4	3.6	
Sample Size	40	40	40	

TABLE 4

Mean and Standard Deviation of Experiment Directed  
Aggression Questionnaire for Daydreaming Condition  
(N = 120)

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	Daydreamers	
	High	Low
Mean	16.8	16.8
Standard Deviation	4.5	5.0
Sample Size	60	60

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non-insulted subjects. The results of the low daydreamers are similar to those in our study. The differences in results of the high daydreamers may be accounted for by differences in selection of the sample. The daydreaming scales used were not the same. The range of scores of subjects selected for the study was smaller for our study than for Pytkowicz as the population from which she drew her sample was larger than ours. The criterion for selection in Pytkowicz' sample was a daydreaming score falling in the upper or lower 26th percent of the distribution whereas in our study the sample was selected from less extreme positions on the distribution. It is likely that our daydreaming groups were less different from each other than Pytkowicz'.

It may be observed that fantasy itself, in the absence of insult conditions neither arouses nor reduces aggression. This is observed in both aggression related and unrelated content. Since the ages of the high and low daydreamers were found to be significant ( $t = 3.093$ ,  $p. > 001$ ) an analysis of covariance was undertaken to ascertain whether, after removing the age factor, the frequency of daydreaming was related to the subsequent level of verbal aggression. This proved not to be so (see Appendix for table).

Orthogonal comparisons of the interaction effect of insult and content (Table 5) show that fantasy does indeed reduce anger when anger is aroused but it has no effect when it is not. The comparison between the mean of the no-fantasy

TABLE 5

Mean and Standard Deviations of the Individual Subgroups  
on  
Experimental Directed Hostility Questionnaire (N = 120)

	Insult			Non-Insult		
	Mean	S.D.	N	Mean	S.D.	N
<b>No Fantasy</b>						
High	21.9	4.5	10	13.2	3.2	10
Low	<u>23.1</u>	<u>1.4</u>	<u>10</u>	<u>15.5</u>	<u>2.8</u>	<u>10</u>
Total	22.5	6.3	20	14.4	3.0	20
<b>Aggressive</b>						
High	17.9	4.2	10	15.1	2.3	10
Low	<u>18.4</u>	<u>6.2</u>	<u>10</u>	<u>14.4</u>	<u>2.9</u>	<u>10</u>
Total	18.2	5.0	20	14.8	2.5	20
<b>Neutral</b>						
High	17.0	4.8	10	15.6	2.4	10
Low	<u>15.1</u>	<u>3.8</u>	<u>10</u>	<u>14.5</u>	<u>3.1</u>	<u>10</u>
Total	16.1	4.2	20	15.1	2.6	20

group and the mean of the combined neutral and aggressive fantasy conditions with insulted and non-insulted subjects combined is significant ( $t = 5.8, p < .01$ ). The observation that aggressive fantasy produces an increase in hostility without prior arousal is contrary to the findings of some other researchers (Berkowitz, 1964; Feshbach, 1958, etc.) but has been found in some studies (Pytkowicz, et al, 1967). Comparison of fantasy content shows that viewing neutral fantasy material resulted in less residual anger than viewing non-aggressive stimuli ( $t = 1.96, p = .05$ ). Under the insult condition fantasy seemed to evoke a more variable response than under the insult, no-fantasy condition or non-insult conditions.

#### Sarason Hostility Scale

This scale was included as a measure of the changes in inner directed hostility subsequent to the experimental situation. This scale had been given to all subjects two weeks prior to the experimental session and again immediately afterwards. Thus it was possible to calculate the magnitude of the changes of hostility as a function of the experimental variables under investigation here. Pytkowicz et al, found that this measure was sensitive to differences between insulted and non-insulted subjects and certain cathartic conditions, but our results are not in agreement with hers (see below), on these variables although neither her study nor ours found

that frequency of daydreaming was associated with changes in the Sarason Hostility Scale score.

Our experimental design did not include administering this scale to the non-insult, no-fantasy subjects so our analysis of variance compares the effect of two different types of fantasy contents on the difference scores. The general efficacy of fantasy as a cathartic or stimulating activity was not tested. The other conditions were the same as those for the Experiment Directed Aggression Questionnaire. On the basis of past findings, we expected to find a positive increase in the Sarason Hostility Scale after the insult, particularly with those subjects who were not given an opportunity for fantasy.

No significant differences are found in any of the main effect or interaction means. Contrary to the results of Pytkowicz, we conclude that changes in the hostility directed towards the self as measured by the Sarason Hostility Scale are unaffected by the conditions imposed by our experiment (see Table 6). Comparison of the means and standard deviations of the Sarason Difference scores does not reveal any pattern or trend. There is greater variation observed in the group means of the low daydreaming groups than in those of the high daydreaming groups.

A second analysis of variance was undertaken to compare the mean difference scores under the fantasy conditions (none, aggressive and neutral) with daydreaming frequency as

TABLE 6

Summary Table of Analysis of Variance Difference<sup>1</sup> Scores  
on Sarason Hostility Scale (N = 80)

	Source of Variation	SS	df	Mean Square	F
	Treatments	39.69	7	5.67	
	Within	310.70	72	4.45	
A:	Insult	1.0	1	1.0	< 1
B:	Daydreaming	9.1	1	9.1	1.5
C:	Content	7.8	1	7.8	1.4
AxC:	Insult x Content	6.6	1	6.6	1.2
AxB:	Insult x Daydream	10.5	1	10.5	1.8
BxC:	Daydream x Content	1.0	1	1.0	< 1
AxBxC:	Insult x DD x Content	3.7	1	3.7	< 1
	Total:	350.39	79		

1. Difference scores are the pretest scores subtracted from the posttest scores. The magnitude of the difference represents the amount of change in self-ratings of hostility. A positive difference score represents an increase in self-ratings of hostility while a negative score indicates a decrease in such ratings. For computations a constant of ten has been added to all scores. This constant has been subtracted again in the tables.

TABLE 7

Mean and Standard Deviations of Difference Scores on the Sarason Hostility Scale by Individual Subgroups  
(N = 100)

Fantasy		Insult			Non-Insult		
		Mean	S.D.	N	Mean	S.D.	N
None	-High DD	.8	2.75	10	-		
	-Low DD	1.5	2.10	10	-		
Aggressive	-High DD	-.5	2.30	10	-.6	1.8	10
	-Low DD	.1	2.4	10	-.4	2.28	10
Neutral	-High DD	.2	2.1	10	-.6	2.2	10
	-Low DD	-.5	1.8	10	1.10	2.0	10

1. Difference scores are the pretest scores subtracted from the posttest scores. The magnitude of the difference represents the amount of change in self-ratings of hostility. A positive difference score represents an increase in self-ratings of hostility while a negative score indicates a decrease in such ratings. For computations a constant of ten has been added to all scores. This constant has been subtracted again in the tables.

the second variable. The results of the non-insulted groups have been omitted since the insult did not differentiate between groups.

It must be concluded from Table 8 that fantasy activity or lack of it per se does not appreciably change the hostility directed to the self.

Although the analyses give no evidence of changes in inner directed hostility as a function of prior tendency to daydreaming, whether insulted or not, or type of fantasy, there is evidence that suggests that on this variable the groups were not equivalent at the start of the experiment. Table 9 shows that those subjects who admitted to more frequent daydreaming on the questionnaire also admitted to more hostility.

Inspection of this table reveals that in each the High Daydreaming group achieved a higher score than its counterpart Low Daydreaming group. The difference between the High and Low Daydreaming Groups' means is significant ( $t = 3.7, p < 0.01$ ). The same pattern is observed on the posttest scores with a small increase in self directed hostility of the Low Daydreaming group after the experimental procedure. The difference between the High and Low Daydreaming group means in the posttest approaches significance ( $t = 1.9, p < 0.10 > 0.05$ ).

This finding suggests that subjects' admissions of their hostility are not significantly affected by transitory

TABLE 8

Summary of Analysis of Variance of Difference scores on  
the Sarason Scale of Fantasy and Daydreaming Conditions  
(N = 60)

Source of Variation	SS		Mean Square	F
Treatment	29.3	3	9.8	
Within	404.4	55	7.2	
A: Daydreaming	5.3	1	5.3	<1
B: Content	7.1	2	3.6	2.0
AxB: DD x Content	16.9	1	16.9	2.3
Total:	433.7	59		

TABLE 9

Means and Standard Deviations of the Pretest Sarason  
Hostility Scores by Individual Subgroups (N = 100)

	Insult			Non-Insult		
	Mean	S.D.	N	Mean	S.D.	N
No fantasy						
Low DD	11.4	3.9	10			
High DD	12.1	3.1	10			
Aggressive fantasy						
Low DD	10.9	1.8	10	9.5	3.1	10
High DD	13.6	3.4	10	11.0	3.8	10
Neutral fantasy						
Low DD	9.5	2.3	10	6.8	4.1	10
High DD	10.9	1.4	10	12.2	2.6	10
		<u>Mean</u>		<u>Standard Deviation</u>		<u>N</u>
Total High Daydreamers		11.8		2.9		50
Total Low Daydreamers		9.6		3.0		50

emotional states such as experimentally induced anger. The data reveal that the Low Daydreamers and the High Daydreamers were different before the experiment started. However, no significant findings emerged as a function of our treatment variables. This problem of inequalities in the groups was controlled by having each subject act as his own control. This was done by using the pretest minus posttest scores. In fact the degree of relationship between the difference scores and the daydreaming scores was insignificant ( $p = .10$ ). Since the ratio between the adjusted error variance and the unadjusted error variance is almost equal to  $1 - t_w^2$ , our small correlation coefficient indicates that the error term would have been reduced by 1%, had analysis of covariance been used, which would not have altered the results appreciably.

Pytkowicz et al has also found a significant relationship between the Sarason Scale and the Daydreaming Questionnaire. This would be in keeping with the description of the high daydreamers as previously indicated (Pytkowicz et al, 1967; Singer and Schonbar, 1961).

#### Content Analysis of Fantasies

The fantasy stories of the 80 subjects in both aggressive and neutral, with and without insult, were analyzed to ascertain whether the differences in the residual anger were due to the expressions of different content in the stories.

TABLE 10

Means and Standard Deviations of the Posttest Sarason  
Hostility Scores by Individual Subgroups (N = 100)

Fantasy	Insult			Non-Insult		
	Mean	S.D.	N	Mean	S.D.	N
No fantasy						
High DD	12.9	2.7	10	-	-	-
Low DD	12.9	1.9	10	-	-	-
Aggressive fantasy						
High DD	13.1	2.6	10	10.4	4.0	10
Low DD	11.0	3.0	10	9.1	3.2	10
Neutral fantasy						
High DD	11.1	3.5	10	11.6	3.7	10
Low DD	9.0	1.8	10	7.9	3.1	10
<hr/>						
	<u>Mean</u>	<u>Standard Deviation</u>		<u>N</u>		
Total High Daydreamers	11.8	3.3		50		
Total Low Daydreamers	10.0	2.6		50		

Initially all fantasies were cursorily examined to see if the subjects did use the picture as the framework for the story. This happened in virtually every case. The subjects did not find difficulty in complying with the instructions and in comprehending the pictures.

All stories were analyzed by two scoring methods. It was expected that subjects who showed greater imagination in the construction of their stories might also show greater reduction in hostility since they had removed themselves more completely from the situation provoking the anger. Freer use of imagination would more readily alter the affective mood from a negative one to one more comfortable for the subject. The first scoring system was used as an index of the tendency to engage in fantasy. It was scored on a five point scale of amount of interpretative material expressed. The highest point on the scale was obtained for a story which had a plot and contained statements of the characters' emotions. The specific criteria used in this scoring system appear in the Appendix.

Each subject's stories were rated by the examiner and a 20% reliability check of the scores was done by an independent judge. The product moment correlation was found to be .93. Although this scoring system was found to be reliable it did not yield much information about the differences in the residual hostility since almost all scores were shifted to one end of the scale. In fact, 71% of the responses were given the top score, 25% were classed in the next category and

only 14% fell into the first three categories. It seems that the population from which our sample was drawn was in fact too well educated for this procedure and a more discriminating system was therefore selected.

The second scoring system has been devised by E.A. Weisskopf (1950) and has been used previously in studies with children (Gottlieb, 1968). It is based on the total number of transcendences from objective observation and is scored in eleven categories. These categories represent deviations from observation per se without regard to the "real" content of the picture. The subject's score is the sum of the scores on the three stories, each of which is the sum of the number of statements in the story belonging to each category. The specific scoring categories appear in the Appendix.

Each subject's stories were scored by the examiner and a 20% reliability check was done by an independent rater. The degree of reliability using a product moment correlation was also .93 between the judgment but it must be borne in mind that the coefficient describes simply the relative relationship between the scores, not their absolute one. It was observed that the second scorer consistently scored the protocols higher than did the first one.

The data presented below are based on the scores of the initial scorer. Since we are interested in a comparison of the means rather than their absolute values this is satisfactory.

TABLE 11

Summary of Analysis of Variance of Weisskopf Transcendence  
Index Scores (N = 80)

	Source of Variation	SS	DF	Mean Square	F	P
	Treatments	161.94	7			
	Within	405.31	72	5.63		
A:	Insult	15.27	1	15.27	2.7	
B:	Daydreaming	31.25	1	31.25	5.5	*
C:	Content	112.92	1	112.92	20.1	**
AxC:	Insult and Content	.003	1	1		
AxB:	Insult x Daydream	.28	1	1		
BxC:	DD x Content	.41	1	1		
AxBxC:	Insult x DD x Content	1.81	1	1.81		
	Total	567.25	79			

Significant at .05

Significant at .01

The results of the analysis of variance of the Weisskopf transcendence Index indicate that the insult did not significantly influence the content of the fantasy. The transcendence score was affected by which set of pictures the subjects were shown. Those given the neutral pictures showed significantly more transcendences than those presented with the aggressive pictures. It may be that the neutral pictures were inherently more given to imaginative leaps. It is possible that the neutral pictures were more successful in reducing aggression because they were more interesting and gave more scope for imagination. This, however, is not refutation of the adaptational theory but is not support for the catharsis theory either.

Inspecting the protocols reveals that aggressive themes were almost invariably given to the aggressive stimuli. This was to be expected as the pictures were selected because they were unambiguous in depicting aggressive scenes. Although individual variation was found, all subjects incorporated aggressive content into their stories. In the neutral fantasy conditions two subjects in the non-insult condition wrote one story with aggressive content and one subject wrote two such stories. In the insult condition, three subjects gave aggressive themes in all three stories, and one each had one and two aggressive stories. The difference between the non-insult and insult conditions on aggressive themes to neutral pictures was so small as to suggest that the insult did not appreciably

affect the results. The paucity of aggressive stories supports the idea that the differences obtained between the aggressive and neutral fantasy conditions was due to the non-aggressive nature of the neutral stories.

It was found that high daydreamers gave significantly more transcendences than did low daydreamers. This offers some independent behavioral evidence that the high daydreamers were more skillful at fantasy activity than the low daydreamers. This was not related to the insult condition. None of the interactions showed any significant findings.

Inspection reveals that high daydreamers generally obtain higher scores than low daydreamers and neutral pictures evoke more transcendences than aggressive pictures with both high and low daydreamers. Non-insulted subjects appear to give more transcendences than do the insulted subjects but this result is not significant.

#### Buss Durkee

Parts of this questionnaire were included in the experimental procedure (see Methodology) to indicate the relationship between the characteristic manner of behaving when angered and the measures of the dependent variable. Of the eight subscales in this questionnaire we selected four, two from each of the factors found by Buss. According to the test's authors, the first factor taps negative feelings or hostility whereas the second one indicates the degree to which the subject

TABLE 12

Means and Standard Deviations of Subgroups on Weisskopf  
Transcendence Index Scores (N = 80)

	Insult			Non-Insult		
	Mean	S.D.	N	Mean	S.D.	N
<b>Aggressive Fantasy</b>						
High DD	5.92	1.6	10	6.41	1.5	10
Low DD	4.46	1.5	10	5.83	2.7	10
<b>Neutral Fantasy</b>						
High DD	8.13	2.9	10	9.29	1.1	10
Low DD	6.98	2.6	10	7.73	3.5	10

admits responding to anger with aggressive behavior. Buss has observed an inverse relationship between the scores on the factors.

The subscales used in this study were: Resentment and Suspicion from the first factor and Indirect Aggression and Verbal Aggression from the second factor. Our findings of the relationship between the subscales and the two factors are in agreement with Buss. Subscales within each factor correlate well with each other and poorly between factors. (For correlation matrix of subscales see Appendix).

To ascertain the relationship between the factors on the Buss Durkee Questionnaire each individual's score was taken as the ratio of the sum of the positive responses on factor I to the total number of position responses to which the individual admitted.

The relationship between the Buss Durkee scores and the Experiment Directed Aggression Questionnaire scores proved to be insignificant ( $r = .11$ ). Perception of how an individual generally responds when angered was unrelated to the scores on the Experiment Directed Aggression Questionnaire. This is not too surprising because of the highly structured nature of the multiple choice Experiment Directed Aggression Questionnaire. Correlation of the Buss Durkee scores with the Daydreaming Questionnaire showed a significantly positive albeit low relationship. ( $r = .22$  for Part I and  $r = .27$  for Part II of the Daydreaming Questionnaire). There may be a relationship

between characteristic handling of anger and propensity to daydream but the correlation coefficient here is too low to state this with much confidence.

Comparison between scores on the Buss Durkee Questionnaire and the Sarason Pretest Scores reveal no significant findings ( $r = .10$ ). Likewise no significant relationship was observed between the Sarason Difference Scores and the Buss Durkee Scores ( $r = .14$ ). The only significant finding which emerged was that when the Sarason Pretest scores are divided into those above and below the medium, the Buss Durkee scores of the High and Low scores also significantly different ( $t = 2.02, p = .05$ ). This suggests that there is a tendency for some subjects to be more willing to admit to unpleasant and unacceptable behaviors and feelings. This characteristic is not dependent on any particular questionnaire and cannot be said with much certainty.

Our findings are essentially in agreement with those of Buss on similar populations. It would appear that we also have two independent factors - one, more control handling of hostile impulses while, the second more what clinically would be called "acting out" behavior.

CHAPTER 4DISCUSSION OF RESULTSI. Theoretical Models Underlying ResearchA. Rejection of Catharsis Model

One of the goals of this study was to determine to what extent the content of fantasy influences the degree of residual aggression. Research until now has generally tended to concentrate on whether fantasy does reduce aggression and which fantasy medium is most successful. Our study attempted to test whether the cathartic paradigm or the Tomkins affective theory was more likely using the context of the fantasy activity. It was hypothesized that the existence of less residual aggression after aggressive fantasy would give support to the cathartic model, whereas with greater reduction occurring under the neutral fantasy evidence would be obtained for the Tomkins model.

The cathartic view that aggressive fantasy drains the internal reservoir of energy associated with the aggressive drive was not supported in our research. Initial support for the catharsis model has come from Feshbach (1955) but since this early work most of the research has tended to reject the Freudian position. Some studies have in fact indicated that an increase in aggression may actually follow an aggressive fantasy experience. Original scores reveal that not all subjects showed a                      in aggression after the fantasy experience. Biblow (1970) and Pytkowicz (1964) also found this.

In both of the studies it was only the high daydreamers who showed a reduction in aggression following fantasy experience. Our study did not find differences between the high and low daydreamers but nevertheless there was considerable variation within each group. The difference between the results of these researchers and our own may be due to the actual scales used to distinguish between frequent and infrequent daydreamers. It has been suggested that the subscales used to differentiate between groups revealed on subsequent factor analyses not to be among the clearest ones. Since the population from which our sample was selected was smaller than that of Pytkowicz and the means of differentiating the groups may not have been the most sensitive, our results may not accurately reflect the situation.

The findings of our present study are also found to oppose the idea that catharsis occurs because the displacement of the aggression into the fantasy served to channel off some of the aggressive energy. Displacement of aggression into fantasy has been observed in Feshbach's original work (1956) but others have not found it, or in some cases have found the reverse (Mussen and Rutherford, 1961). Pytkowicz, Wagner and Sarason (1967) analyzed the content of both the TAT stories and, to a lesser extent, the free daydreaming. In the TAT stories scoring the protocols for both direct and indirect aggression did not produce any support for the idea that the aggressive element in the TAT stories produced the reduction

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1. Private communication from J.L. Singer

of aggression. In the case of the free daydreaming subjects, the authors report that the fantasy consisted of mundane matters or flights into fantasy. No subject reported aggressive or even unpleasant daydreams. Pytkowicz concludes that "neither direct displacement of aggression (Feshbach, 1956) nor the inhibition of subsequent aggression as a result of aggression anxiety stimulated by the expression of fantasy aggression (Berkowitz, 1960) is the mechanism whereby fantasy is drive reducing". (p. 52).

B. Rejection of Guilt Theory

It can be seen that the theory put forward by Berkowitz (1962) that the arousal of socially disapproved behavior, as aggression, triggers off controls such as guilt against expressing these proscribed actions is also not supported by our study. Berkowitz holds that it is not the fantasy per se which results in less residual aggression but rather the fantasy produces guilt which leads the individual to suppress the overt expression of his feelings of aggression. In order for this theory to be relevant to the data, subjects who were in the insult, aggressive fantasy condition should have shown less residual hostility than those in the neutral fantasy conditions. If guilt were operating here then those subjects who expressed the socially unacceptable behavior would be the ones who would have greater feelings of guilt and therefore inhibit their hostility. As the results were in the opposite direction of that

expected if Berkowitz' idea were operating, this view is also refuted. Biblow (1970) has observed that there was some guilt associated with the aggressive stimuli for high day-dreamers but this based on increases in mood scores of sad-downhearted and ashamed-contrite done by raters who knew that the subjects had had the aggressive condition. Both the lack of a double blind method and the equation of sad-downhearted and ashamed-contrite as equal to guilt raise questions about this conclusion.

The generally qualified support for the cathartic model also questions the underlying assumption of aggression as a drive and therefore aggression level could not be lessened through drive reduction. The idea that aggression is a drive with an instinctual behavioral response is still accepted by some ethologists (Lorenz, 1966) but as this research is based on studies with animals it is highly questionable whether their conclusions can be directly applied to studies of human behavior.

There is some question about whether aggression can be aroused without an external situation to provoke it. If aggression were a drive then aggression should follow a cyclic pattern whereas it is observed to occur in no fixed time sequence but usually to identifying precipitating factors. The frustration aggression hypothesis of Dollard, et al holds that aggression is a response to the experience of frustration which is external to it. This view places limitations on the

idea that aggression is an innate drive.

C. Support for Affect Theory

In opposition to catharsis, Singer (1966) holds that fantasy does not relieve the drive but alters the mood state. This theory suggests that affective states have certain innate activation patterns which are themselves pleasant or unpleasant depending on their intensity and frequency of neural firing. Fantasy activity could lead to a breakup of an unpleasant affect and mood by altering the level of neural firing. This may be accomplished by a switch in attention to less negative and intense stimulation which produces relief from the negative affect, a change in mood and thereby reduces the final expression of aggression.

In our experiment the differences in residual aggression between the aggressive fantasy conditions and the neutral ones may be caused by the more positive fantasies evoked by the neutral pictures. It may be that those subjects whose fantasy content enabled them to "leave the field" (with the aid of the stimuli) and attend to a more pleasant experience may have altered their mood and felt less angry. Expressing this in Tomkins' terminology, they may have lowered the density of neural firing to a more acceptable level.

One of the possible results of forcing the subjects to certain contents of fantasy may have been to alter their mood states in a manner which might not represent their characteristic manner of fantasy activity. It is possible that

this may have obscured some of the differences between the high and low daydreamers. It is possible that in a free daydream situation, which is closer to what actually occurs, the differences in moods between the high and low daydreamers would have been shown.

Tomkins' theory of affective states represents an alternative means of approaching human motivation when compared to the Freudian drive-reduction position. Singer (1966) is in agreement with Tomkins' view. He states:

Tomkins (1962, 1963) has offered some cogent arguments for assigning to the less specific affect system a more important role in motivation than to the specific drives. He has also suggested that there are certain innate activities of the positive (surprise, interest, joy) and negative (rage, fear, distress) affects. (p. 142)

In Singer's interpretation of Tomkins' theory there exists the possibility for a greater range in human behavior. In his opinion the individual strives to maximize pleasant affects. This is not too unlike the Freudian approach except that Tomkins considers surprise and interest as positive affects. The individual strives for new stimulation in order to increase his positive affect. The Freudian theory emphasizes that the individual is always striving to discharge drive energy or

seeking a reduction of excitation in order to achieve homeostasis. Tomkins and Singer maintain that the individual is motivated to amplify positive affectual states. In Tomkins' view the affects are the primary motivators while the drive system is secondary in importance as a motivator. Its primary role is to instruct the organism how and where satisfaction may take place. In this theory, a drive in the absence of the associated affect would not be strong enough to activate the individual.

The possibility that the aggressive stimuli would elicit aggressive responses because the set or expectation that this was appropriate and called for, was also considered. While this interpretation cannot be entirely ruled out, if this were the case, the no-fantasy condition subjects should have shown less residual aggression than the aggressive fantasy subjects. The results obtained were contrary to this.

The role of curiosity and exploratory behavior as a basic need of the organism as well as a means to reduce tension has been experimentally studied. Some studies have indicated individuals need some stimulation and where this is experimentally reduced the individuals "create" their own sensory input.

Buxton, Heron and Scott (1954) reported that subjects refused to continue the experiment beyond two or three days when they were sensory deprived, although the subjects were undergraduate students who were being highly paid. Some of

their subjects had hallucinatory experiences during the deprivations.

Berlyne (1958) and Fantz (1958) found that in human infants of three to nine months there was a preference for more complicated checkerboard patterns than for simpler ones.

There is much evidence to support the view as represented by Hebb and McClelland that small deviations from a prevailing adaptation level are pleasurable and sought after. Hebb believes that the establishment of an optimal level of arousal is necessary for cortical functioning.

The bulk of the evidence seems to suggest that the catharsis model of Freud may really be irrelevant to the understanding of fantasy. A theory stressing the motivational aspects of affects offers another approach which may be able to better encompass the findings. In this view the role of fantasy would be to change the mood away from the angry state to something more pleasant, not to reduce aggressive drive. It is possible that the neutral fantasy helped the subjects change their moods to something more positive more than did the aggressive fantasy. The neutral fantasy enabled the subjects to "leave the affective field" more completely.

Both Pytkowicz (1964) and Biblow (1970) observed that fantasy only reduced hostility in those subjects who frequently engaged in fantasy activities. In our study, however, we obtained no differences between the frequent and the infrequent daydreamers. Although we selected our subjects on a daydreaming

questionnaire as did Pytkowicz, in fact she had a larger population from which to draw her sample which was the same size as in the present study. This meant that her groups were more unlike each other than ours. In fact, her criterion for sample selection was that the subjects score had to fall outside of the middle 50% of the scores whereas in our sample males were selected who were in the upper and lower 33 percentile on one part of the questionnaire where the other part's score was in the same direction and not more than at the mean.

As our questionnaire was also a modified version of the one she employed, it is conceivable that the contradictions in the findings are artifacts of our high and low daydreamers being not very different.

Some differences however did emerge between these two groups. In the Sarason Hostility Scale scores, the high daydreamers consistently rated themselves more hostile than the low daydreamers. This was also found in the correlation between the Buss Durkee scores and the Daydreaming Questionnaire. Pytkowicz also observed this same significant relationship. It may be that the high daydreamers are more willing to admit to hostile and socially unacceptable behavior than those who seldom daydream. This view is more in keeping with the description drawn by Pytkowicz of the high daydreamer. Pitkowicz found that high daydreamers "admitted to more anxiety, more hostility and were less defensive and less influenced by

the social desirability response set". (p. 47). Singer and Schonbar (1961) presented a similar picture of high daydreaming women who were described as more introspective, less defensive, with a higher tolerance for anxiety and using more intellectual defenses than the low daydreaming female who tended to use defense mechanisms of repression and denial. It would not be surprising to find a similar pattern in men.

One other significant finding which emerged between the high and low daydreamers was that the high daydreamers showed more creativity in writing stories and gave richer and fuller stories to both the aggressive and the neutral pictures. This is not surprising as the high daydreamers are more accustomed to and more comfortable with fantasy material.

The following two stories seem fairly typical of those given by low daydreamers:

Subject 31E: low daydreamer: No Insult, Neutral fantasy picture 1.

Two children joking together as other people are watching them. Apparently, there must be a little humorous story involved. I see this in everyday life. Sometimes it appears to be a little silly in public when the laughter is overdone.

Subject 268D: low daydreamer: No Insult Aggressive fantasy picture 3.

Some people enjoying physical harm (relative) or rather heavy contact. These groups find it most easy and pleasurable to physical-ize, as it were, any feelings. Being physically exhausted can be a great feeling. The agony of the man about to be K.O.'ed is not just physical, but emotional as well, at his defeat. But chances are he'll keep at it; either keep losing or keep winning. The victor feels great; that doing-in smash is the greatest. His exhaustion will be complete, too, but of a sweet sort. The loser can't help but try to find reasons for his defeat; like a lucky break here or there, or etc.

The high daydreamers, on the other hand, tended to give more details in their stories. Below are two examples.

Subject 83D: High daydreamer: No Insult Aggressive fantasy. Picture 3.

Both of the boxers are unhappy. They really don't like to fight but because their (sic) Negroes, etc., they are unable to do anything else. This is an important fight for the guy in black trunks. But, unfortunately he is going to lose. He has 3 kids and lives in a \$36 a month slum house. In the

future he will continue to box in the minors, finally get punch drunk and die.

Subject 300D: High daydreamer: Insult, Neutral fantasy.

Picture 1.

A crowd has gathered at a football game to watch their school, which was not the favorite to win this time, play the opposing team from a 'football' oriented college. The students from the first school were counting on this game however, to be able to go on to a "bowl" game. It is the last quarter and someone has just scored a touchdown winning for the first school. Their (sic) is jubilation in the crowd at least among those people rooting for the first team.

The lack of significant findings in the two general measures of aggression (Buss Durkee and Sarason Hostility Scale) while significance was obtained on the Experimental Directed Hostility Scale suggests that the former are measuring general aggression as a personality trait while the latter is situation specific and seems more akin to what Singer and Tomkins mean by mood. The general aggressive level seems relatively enduring from one situation to another and is not changed by small changes in the environment.

In few cases the aggressive mood brought on by the insult appeared in the neutral stories. This happened

infrequently (less than 20%) but it would appear that insult prior to the neutral fantasy does have an effect on the way aggressive material is incorporated into the fantasy. Without prior insult a subject might give some aggressive content to only one story. Where this occurred the aggression occurred as part of the theme - e.g. a war, or a death. With the insulted subjects aggression in the stories took the form of irrelevant and insulting remarks about the characters of the story. It was not incorporated into the theme. An example of this is given below:

Subject 342D: Low daydreamer: Insult condition, Neutral fantasy.

The stupid looking girl on the left is the daughter of the ugly woman on the right. She is in a state of transported joy because of a T.V. game she has just participated in. In the game she won a two-week tour of Disneyland with some famous, handsome escort, lurking in the back of the photo. This escort will satisfy her every need. Being so stupid and her mother also appears happy. Actually she is venomously jealous. Obviously she is thinking about her husband, who's (sic) social graces and looks match hers so perfectly.

In general aggressive stories were seldom given to control pictures either under the insult or non-insult conditions. Their occurrence is so infrequent as to suggest that they did not play a role in the reduction of anger following fantasy. If the neutral subjects had given aggressive content in their stories this would not have offered evidence refuting the catharsis theory. Since aggressive fantasy occurred so infrequently under the neutral stimuli, catharsis obviously cannot have been the mechanism whereby the aggression was reduced.

## II. Methodological Issues

We discuss in this section methodological issues raised by certain measures of the dependent variable.

The initial question to be considered may deal with the measure of aggression. Three measures of aggression were used here: one was a general measure of the characteristic handling of feelings of hostility and aggressive behavior; the second was a measure specific to the experimental situation and the third was included as an indication of changes in the self-directed hostility after the experimental situation. We therefore obtained a reasonable range of both general and specific types of hostility although these were all measured by paper and pencil tests. The tests used here are those which have been successfully used in past research although as they are paper and pencil tests they naturally

suffer from the weaknesses inherent in these measures. Feshbach (1955) and Pytkowicz (1964) have demonstrated that these measures successfully discriminate between the groups on the treatment and organismic variables. Pytkowicz (1964) obtained significant differences between the high and low daydreamers under the treatment conditions on changes in the self ratings of hostility (the Sarason Hostility Scale). In our study, however, no such differences were found. The lack of agreement between her results and ours may possibly be a function of the interval of time between the initial testing and the experimental situation. In our study approximately two weeks elapsed between the administration of the tests whereas in Pytkowicz' study there was a greater interval of time between the testings. It is possible that in the time lapse of a fortnight the subjects were able to recall their previous responses to the test and answered with reference to those rather than their actual feelings at the time. In Pytkowicz' study more tests were also included in the battery and this also would have made recall of the previous responses more difficult.

Although most research with adults has tended to use similar measures of the dependent variable another possible approach might be to use either physiological measures such as those used by Rowe (1963) or behavioral rating scales such as those employed by Biblow (1970). Although these measures also have their weaknesses they might provide additional information and give independent corroboration of the residual hostility.

Another indication of the degree of aroused anger and the role of the fantasy could have been obtained from observing the subjects during the showing of the pictures. This was not undertaken as the experimenter was operating the slide projector and was, of necessity, standing behind the subjects. An independent observer rating the subjects' attitude and expression might have given some additional information about how and which aspects of the fantasy actually enabled distraction to occur. Such information could also have been used to indicate whether the two types of pictures were of equal interest. A pilot study was not undertaken to determine if the two sets of pictures were equally absorbing.

A further question is raised by the no-fantasy conditions subjects who were examined immediately after the insult to ascertain if the insult had angered the students. With the control group used in this way we cannot rule out the possibility that the differences between their scores and the scores of the fantasy conditions was due to the interval of time which the fantasy took rather than the fantasy per se. Other studies (Pytkowicz, Wagner and Sarason, 1967; Feshbach, 1955) have demonstrated with their control groups that using a task which takes the same amount of time as the fantasy activity but which precludes it, that it is the fantasy not the time elapsing which causes a reduction in the aggression. The inclusion of another control group which controlled the lapsing of time might have been useful.

### III. Further Research

This study raises some questions about the role of the specific content of fantasy in the reduction of hostility. Until recently this area has been somewhat neglected by researchers in the field but it appears to be a very important consideration both for a theoretical understanding as well as in practical applications (e.g. censorship, television viewing, etc.). The role of specific "topics" needs to be further examined. Specifically, it might be asked if neutral pictures are more successful in reducing hostility than are aggressive ones, are pictures which evoke another strong emotional feeling equally successful in blocking or altering the aggressive feelings. Will pleasant pictures work more successfully than unpleasant ones? If, as Tomkins suggests, the reduction in hostility is due to a shift in mood to a more pleasant one, then one could expect that any neutral pictures would be more successful than any negative pictures. Further evidence is needed to ascertain that this is so.

Another possible area for future research might be to consider the role of the subjects' mood at the time of the experiment on the effects of reducing the hostility. There is general agreement (Tomkins, 1962) that mood has an essential influence on our experiences. One possibly fruitful line of research might be to investigate fantasy with reference to the subjects' mood. Firstly, is there a relationship between the subjects' frequency of daydreaming and his mood

state. Biblow (1970) suggests that high daydreamers may be more inclined to sudden shifts in mood. Investigating this as well as the general persistence of mood states can give more information about how subjects use fantasy to control their emotions.

CHAPTER 5SUMMARY

This study was concerned with the role of fantasy content on the reduction of aggression after an insult. Originally it was held that fantasy operates to reduce aggression through the mechanism of catharsis; that is, vicarious experience of the aggression in fantasy reduced some of the energy associated with the aggressive drive. Experimental evidence has questioned this theory and a more recent theory has been put forward by Singer (1966) and Tomkins (1963) which considers that fantasy is used adaptively by some individuals to change their mood from an unpleasant aggressive one to a more pleasant one. The authors postulate that the subsequent reduction in aggression following a fantasy activity is a result of the pleasant mood experienced by the subjects. In our experiment it was hypothesized that those subjects whose fantasies enabled them to alter their moods more completely away from the aggressive one would show less residual hostility. Those subjects who received the neutral fantasy material were expected to show less residual anger than those whose fantasy content was aggressive and did not permit the subject to alter his mood so completely. In addition it was hypothesized that those subjects with highly developed imaginal skills would be able to use the fantasy activity more effectively than those who had not developed this skill.

The subjects were 120 male college students selected

from over 300 students attending the introductory psychology class. They were designated high or low daydreamers on the basis of their scores in the Singer Antrobus Imaginal Processes Inventory. Sixty high and sixty low daydreamers were selected who had scores in the upper or lower third of the distribution on one part of the scale where the other score was on the same side of the mean. The subjects were randomly assigned to one of six groups: no fantasy, neutral fantasy, or aggressive fantasy with prior neutral instructions or the same fantasy groups with insulting instructions. The insulting instructions were designed to arouse aggression by attacking the subjects' motivation, intelligence and maturity. Prior to the experimental session the subjects had been given the Sarason Hostility Scale and the Buss Durkee Aggression Questionnaire. After the insulting or non-insulting instructions the non-fantasy subjects were given the measures of the dependent variable the Experiment Directed Aggression Questionnaire and a repeat of the Sarason Hostility Scale. Following the instructions the fantasy conditions wrote stories about three pictures depicting either aggressive or neutral scenes. These pictures had been selected from newspapers and magazines and had been rated by all three independent judges as either very aggressive or not at all aggressive. After this fantasy experience the subjects received the same measures of the dependent variable as mentioned above. Another control group consisting of both high and low daydreamers was given only the Imaginal

Processes Inventory and then the Experimental Directed Attitude Questionnaire.

An analysis of variance was applied to the Experimental Directed Aggression Questionnaire. The results were that insulted subjects were more aggressive than non-insulted ones. Neutral fantasy reduced hostility more effectively than did aggressive fantasy. High and low daydreamers did not differ on the aggression of aggression.

The results of the difference scores on the Sarason Hostility Scale did not support the hypotheses. In fact the only significant finding to emerge here was that the high daydreamers attained higher scores on both the Sarason pretest and posttest as compared to the low daydreamers. There was no significant relationship observed between the scores on the Sarason Hostility Scale and the Buss Durkee Scale.

The Buss Durkee Scale was found to have a small but significant relationship with the Singer Antrobus Imaginal Processes Inventory.

In analyzing the fantasy content it was found that high daydreamers appeared to be freer and more creative in their fantasy stories than low daydreamers. Neutral pictures also evoked more imaginative stories than did the aggressive pictures.

The results of this study question the relevance of the position that aggressive fantasy is used by individuals to drain away aggressive energy. The view put forward by Tomkins

and Singer seemed a more likely view to understand the results of this study. The finding that neutral fantasy was more successful than aggressive fantasy in reducing aggression offers support for the theory that fantasy alters the aggressive feelings by changing the mood state from an unpleasant one caused by a high level of neural firing to a more pleasant one by reducing the intensity of this firing. Neutral fantasy serves to distract the subject from his feelings of anger and directs him into a mood state which is more pleasant.

The hypothesis concerning the role of the frequency of daydreaming was not confirmed. High daydreamers were not found to be less aggressive following fantasy than were low daydreamers. This finding contradicts that of Pytkowicz who studied adults and Biblow who worked with children. This lack of agreement may be a function of our sample which was selected from a smaller population from Pitkowicz' and in a different manner from Biblow's. Further research is needed in this area to clarify the role of skill and frequency of daydreaming in the individuals using these cognitive processes to alter moods and feelings.

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APPENDIX

"This is part of an experiment which deals with daydreaming. You will each be given a booklet, a file card, and an IBM answer sheet. The file card should have a number on it. Will you please write your name, address, telephone number, age, and sex on the card and transfer the number from the card to the answer sheet. No name should appear on your answer sheet."

"Each item you see describes a daydream or fantasy which may be similar, more or less, to one which you have had. Answer each item on the basis of how often you have had the fantasy or one similar to it. Use the key in your booklet or the same one which is written on the board, to indicate how frequently you have had a given daydream. Answer

1. If you have never had the daydream
2. If you remember having the daydream only once
3. If you remember having the fantasy several times in the past few years, but not in the past six months
4. If you have had the daydream in the past six months, but less often than once a week
5. More often than once a week

"Fill in the IBM scoring sheet in the standard way, answering Parts I and II but do not go on to Part III. Allow some time for each item in order to examine your thoughts but do not spend too long in trying to get the precise answer."

Instructions for Buss Durkee and Sarason Hostility Scales

"Thank you all for coming and agreeing to participate in the experiment. The next tasks for you are two personality questionnaires. Answer true or false to each of the statements in both questionnaires. Please don't spend a lot of time on any one item, just answer according to your first impression. Do not write your name on the answer sheets but use your code number."

Instructions for Insult Condition

"All right. Let's have it quiet. The study in which you are participating is very important, and is going to take all the time we've got this period. A number of quite different tests are going to be administered. One deals with a special aspect of intellectual performance. Others contain items on which I want your opinion. Now I realize that you so called--students --have few academic interests outside of your concern for grades. This probably means that few of you have the perspective for appreciating either the nature or the importance of the tests I am about to administer. However, if you will try to look beyond your limited horizons, your co-operation will be--useful. In other words, I'd like you to respond in an adult fashion.

Now I'll pass out the tests to you. Keep the booklets shut until I tell you to open them. Put your name in the appropriate place,

put your last name where it says last and your first name where it says first. Any questions about the appropriate place? There's one additional thing I'd like to call your attention to. Because of the sensitive intellectual nature of some of these tests, your instructor has indicated an interest in your scores. However, the results will not be reflected in your grades, so there is absolutely no point in any of you cheating."

#### Instructions for Non-Insult Condition

"The study in which you are about to participate involves some tasks which may be new to you and are not really understandable. However, they are all important to the overall research project so your co-operation will be greatly appreciated. I would like to assure you that your answers will be confidential. When I pass out the booklets to you would you please put your name and date on the front, but do not open them. Thank you."

#### Insult Condition Fantasy Instructions

"Turn the page to the first test. This is a test of your creative imagination. A number of pictures will be projected on the screen before you and you are to make up a story about each picture. The object of this test is to measure your imagination and creativity (if you have any) and you should therefore attempt to make your stories vivid and dramatic. You will have 20 seconds to look at each picture and then four minutes to make up a story about it. Notice there is one page for each

picture. The same three questions are asked. They will enable you to cover all the essential elements of a plot in the allotted time. I assume you will be able to understand the questions without help so don't waste valuable time asking irrelevant questions. Plan to spend one minute on each question. I will keep time and let you know when it is time to go on to the next question for each story. Obviously, there are no right or wrong answers, so you may feel free to make up any kind of a story about the picture. Work as fast as you can in order to finish on time -- and make your stories interesting."

The non-insult fantasy condition subjects received the same as above, but with the disparaging remarks omitted.

#### De-Briefing Instructions

"I know that you are all very angry with me. I am sincerely sorry about this but this is exactly what this experiment was about. I have been trying to get the subjects in this experiment angry and to study how this anger is influenced by a fantasy activity as the one you just had. I hope you will be able to forgive me for angering you.

I'm sure you all realize the importance of spontaneity in an experiment like this one, so I would like to ask you to cooperate with me by not discussing with anyone in school what has happened here until the semester is over. By then the experiment will have been completed. Thank you."

## Correlation Matrix of Buss Durkee Subscales

	I	R	S	Ir	I <sup>+</sup> I	R+S
I	-	.127	.08	.47	.77	.10
R	.127	-	.49	.26	.17	.71
S	.08	.49	-	.16	.13	.88
Ir	.47	.26	.16	-	.89	.25
I <sup>+</sup> Ir	.77	.17	.13	.89	-	.02
R+S	.10	.81	.88	.24	.02	-

Suspicion = S )

Resentment = R )

Indirect Aggression = I )

Irritability = Ir )

Buss' Factors

II

I

Content Analysis of Fantasies:First Scoring System:

1. No response
2. Enumeration or simple listing of objects seen in picture
3. Overt description of action, such as crying, kissing, etc.
4. Interpretive level I
  - a) interpretation of kinship or type such as occupational, religious or mythological characters as represented by teacher, boss, witch, Jesus, etc.
  - b) emotions - e.g. happy, scared
  - c) assignment of character traits to individuals, such as good, nice, etc.
5. Interpretive level II - both criteria necessary
  - a) telling how one feels about others in the picture
  - b) a story with a beginning, middle, and outcome, i.e. a plot.

Content Analysis of Fantasies:Weisskopf Scoring System:

1. Intrareception - ascribing emotions, desires, thoughts, fantasies, to the figures in the picture.
2. Temporal transcendence - inclusion of events which occur prior to or after the event shown in the picture.
3. Spatial transcendence - the inclusion of persons, objects, events, etc., which are outside the field of vision represented by the picture.
4. Relationship - the characterization of figures as related to each other in the same picture. The most common relationship described is that of kinship but others, e.g. friend, have also been included.
5. Content of speech - verbal statements made by pictorial figures.
6. Evaluation - the characterization of figures, objects, or the total picture by a subjective value statement - either aesthetic or moral evaluations.
7. Atmosphere - characterization of the whole picture or part of it in terms of the emotional response elicited in the picture.
8. Imperative - comments to the effect that a pictorial figure "should" "must" "is supposed to" act, feel or think in a certain manner.
9. Symbolism - the conscious and explicitly verbalized ascribing of symbolic meaning to the picture.
10. Emphasis - singling out or stressing of a part of the picture.
11. Miscellaneous - all other deviations from the objective picture.

## PERSONALITY QUESTIONNAIRE

Directions: Please write "True" or "False" in the space provided.

---

- \_\_\_\_\_ 1. I rebel against bossy teachers.
- \_\_\_\_\_ 2. When anyone makes a rule I don't like, I am tempted to break it.
- \_\_\_\_\_ 3. I am known as a person who is not easily provoked.
- \_\_\_\_\_ 4. I have had several bitter arguments with my father.
- \_\_\_\_\_ 5. I have often done things just to spite my parents.
- \_\_\_\_\_ 6. I never let a teacher dominate me.
- \_\_\_\_\_ 7. As a child I got into few fights or arguments with my playments.
- \_\_\_\_\_ 8. At times I feel like smashing things.
- \_\_\_\_\_ 9. I never let my parents push me around.
- \_\_\_\_\_ 10. I have had several bitter arguments with my mother.
- \_\_\_\_\_ 11. A child must assert his independence from parental control as soon as possible.
- \_\_\_\_\_ 12. Sometimes I enjoy hurting persons I love.
- \_\_\_\_\_ 13. I refuse to let my mother dominate me.
- \_\_\_\_\_ 14. During one period when I was a youngster I engaged in petty thievery.
- \_\_\_\_\_ 15. In discussions with my parents I have always stood up for my rights.
- \_\_\_\_\_ 16. I refuse to let my father dominate me.
- \_\_\_\_\_ 17. I can think of no good reason for ever hitting anyone.
- \_\_\_\_\_ 18. There have been times when I have felt like striking my mother.

- \_\_\_\_\_ 19. There have been times when I have felt like striking my father.
- \_\_\_\_\_ 20. I like to read newspaper articles on crime.
- \_\_\_\_\_ 21. I am often so annoyed when someone tries to get ahead of me in a line of people that I speak to him about it.
- \_\_\_\_\_ 22. I like to poke fun at people.
- \_\_\_\_\_ 23. Once in a while I feel hate towards members of my family whom I usually love.

## A SURVEY OF REACTIONS TO RESEARCH PARTICIPATION

1. How much did you like participating in the study just recently conducted? (Check One)

I liked it very much  
 I liked it somewhat  
 I liked it a little but on the whole was indifferent  
 I was very irritated by it  
 I was extremely irritated by it

2. How worthwhile was it to participate in the study just recently conducted? (Check One)

It was extremely worthwhile  
 It was very worthwhile  
 It was somewhat beneficial  
 It was somewhat of a waste of time  
 It was a considerable waste of time  
 It was a complete waste of time

3. If you were asked by the experimenter who conducted the study in which you just participated to volunteer for another study she was conducting, would you volunteer? (Check One)

Yes, I definitely would volunteer  
 Yes, I probably would volunteer  
 Yes, I might volunteer but I'm not sure  
 No, I don't think I would volunteer but I'm not sure  
 No, I probably would not volunteer  
 No, I definitely would not volunteer

4. In your opinion, how much of a contribution will this study make to the field of psychology? (Check One)

A very large contribution  
 A fairly large contribution  
 Some contribution but not very much  
 A small contribution  
 Very little contribution  
 None at all

5. In your opinion, how competent was the psychologist who conducted the experiment in which you just participated? (Check one)

Extremely competent  
 Very competent  
 Fairly competent  
 Somewhat incompetent  
 Very incompetent  
 Extremely incompetent

6. What is your reaction now to the psychologist who conducted the experiment in which you just participated - how much do you like or dislike her? (Check One)

I like her very much  
 I like her quite a bit  
 I like her a little  
 I dislike her a little  
 I dislike her very much  
 I dislike her intensely

7. Is there anything about the experiment that you disliked? (Check One)

No

Yes (what was it that you disliked?)

## BUSS DURKEE SCALE

I sometimes spread gossip about people I don't like.  
 I never get mad enough to throw things.  
 When I am mad, I sometimes slam doors.  
 I never play practical jokes.  
 When I am angry, I sometimes sulk.  
 I sometimes pout when I don't get my own way.  
 Since the age of ten, I have never had a temper tantrum.  
 I can remember being so angry that I picked up the nearest thing and broke it.  
 I sometimes show my anger by banging on the table.  
 I lose my temper easily but get over it quickly.  
 I am always patient with others.  
 I am irritated a great deal more than people are aware of.  
 It makes my blood boil to have somebody make fun of me.  
 If someone doesn't treat me right, I don't let it annoy me.  
 Sometimes people bother me just by being around.  
 I often feel like a powder keg ready to explode.  
 I sometimes carry a chip on my shoulder.  
 I can't help being a little rude to people I don't like.  
 I don't let a lot of unimportant things irritate me.  
 Lately, I have been kind of grouchy.  
 I don't seem to get what's coming to me.  
 Other people always seem to get the breaks.  
 When I look back on what's happened to me, I can't help feeling mildly resentful.  
 Almost every week I see someone I dislike.  
 Although I don't show it, I am sometimes eaten up with jealousy.  
 I don't know any people that I downright hate.  
 If I let people see the way I feel, I'd be considered a hard person to get along with.  
 At times I feel I get a raw deal out of life.  
 I know that people tend to talk about me behind my back.  
 I tend to be on my guard with people who are somewhat more friendly than I expected.  
 There are a number of people who seem to dislike me very much.  
 There are a number of people who seem to be jealous of me.  
 I sometimes have the feeling that others are laughing at me.  
 My motto is "Never trust strangers".  
 I commonly wonder what hidden reason another person may have for doing something nice for me.  
 I used to think that most people told the truth but now I know otherwise.  
 I have no enemies who really wish to harm me.  
 I seldom feel that people are trying to anger or insult me.

## INSULT

## NO FANTASY

## HIGH DAYDREAMERS

No	Age	Daydreaming	Quest.	I	R	S	Ir	I+Ir	R+S	Pre Sarason	Post	Att.Q.
4D	18	87	67	4	1	1	0	6	2	14	10	20
93E	20	66	77	5	1	1	6	11	2	6	9	28
102D	18	84	83	4	1	0	6	10	1	10	12	28
98D	19	98	69	6	2	3	7	13	5	10	12	18
120D	19	77	82	3	2	4	1	4	6	13	16	13
134D	19	97	102	6	2	4	5	11	6	16	15	21
142D	18	94	97	4	5	5	7	11	10	11	10	22
149D	18	69	74	4	0	0	4	8	0	10	16	21
151D	18	89	88	5	2	0	6	11	2	15	14	23
152D	18	79	94	7	5	9	8	15	14	16	15	25

## LOW DAYDREAMERS

17D	20	64	53	5	4	3	7	12	7	10	11	29
26E	18	60	60	5	3	3	5	10	6	7	14	28
64E	23	57	58	5	3	1	8	13	4	21	17	17
121D	19	46	57	8	5	1	9	17	6	11	10	17
215D	-	65	53	1	2	5	4	5	7	12	13	23
303D	-	64	52	2	0	2	5	7	2	8	11	28
308D	18	63	59	6	2	4	4	10	6	8	11	25
315D	20	60	59	2	3	4	7	9	7	12	14	21
333D	19	54	49	5	0	0	7	12	0	13	14	21
358D	18	60	56	5	0	0	4	9	0	12	14	22

NO INSULT

AGGRESSIVE FANTASY

HIGH DAYDREAMERS

No	Age	Daydreaming	Quest.	I	R	S	Ir	I+Ir	R+S	Pre Sarason	Post	Att.Q.
6D	19	73	73	4	1	1	5	9	2	12	12	16
18D	17	90	66	5	1	0	6	11	1	12	11	13
23D	19	78	64	4	2	1	4	8	3	12	7	19
37D	23	78	66	3	3	0	8	11	3	5	7	19
53E	18	78	75	6	4	5	6	12	9	7	6	16
83D	18	82	68	2	7	4	4	6	11	16	14	18
84D	19	91	70	3	6	4	2	5	10	10	10	13
95D	20	94	98	7	4	6	9	16	10	16	18	16
108D	18	68	84	3	3	6	1	4	9	7	6	15
140D	20	92	89	4	5	6	6	10	11	13	14	16

LOW DAYDREAMERS

19D	-	41	61	4	2	1	9	13	3	14	12	14
29D	19	49	53	6	4	3	7	13	7	4	5	15
34D	19	46	42	8	4	3	8	16	7	9	5	13
43D	18	45	48	4	1	5	5	9	6	9	11	16
47D	19	49	62	3	1	3	7	10	4	5	5	19
67E	24	58	55	6	1	4	6	12	5	11	10	10
94E	32	51	45	1	2	2	4	5	4	11	14	14
112D	19	48	54	5	1	2	6	11	3	9	9	15
154D	18	57	46	5	0	1	5	10	1	13	9	18
268D	20	58	56	5	1	3	5	10	4	10	11	10

NO INSULT

NEUTRAL FANTASY  
HIGH DAYDREAMERS

No	Age	Daydreaming	Quest.	I	R	S	Ir	I+Ir	R+S	Pre Sarason	Post	Att.Q.
16D	20	93	81	6	2	3	8	14	5	15	12	13
32D	19	75	75	5	2	1	6	11	3	9	8	18
33E	19	72	75	5	1	3	6	11	4	11	11	17
38D	19	106	73	3	2	4	5	8	6	15	12	13
58E	20	113	72	5	4	4	9	14	8	13	14	17
91D	18	72	72	2	2	2	6	8	4	9	10	12
102D	18	84	83	7	0	0	7	14	0	10	6	18
228D	19	83	71	2	5	3	4	6	8	11	11	14
259D	19	85	64	5	6	2	7	12	8	13	12	16
336D	19	109	96	6	1	6	8	14	7	16	20	18

LOW DAYDREAMERS

15E	23	37	53	5	2	0	5	10	2	9	9	18
31E	22	53	39	3	2	1	3	6	3	2	3	19
34E	22	67	49	1	4	4	3	4	8	8	11	11
60E	21	43	39	4	0	0	5	0	0	4	5	16
62E	22	59	52	6	2	4	5	11	6	5	6	12
63E	22	40	36	5	0	0	4	9	0	4	3	12
252D	21	35	46	5	3	1	6	11	4	12	11	17
272D	-	57	57	2	4	1	1	3	5	14	16	12
294D	-	61	63	5	3	1	4	9	4	8	7	14
331D	19	54	64	4	1	0	3	7	1	2	8	15

EXPERIMENTAL CONDITION

INSULT  
AGGRESSIVE FANTASY

I            II            HIGH DAYDREAMERS

No	Age	Daydreaming	Quest.	I	R	S	Ir	I+Ir	R+S	Pre Sarason	Post	Att. Q.
220D	-	69	80	7	2	0	6	13	2	13	14	17
238D	18	92	78	4	0	0	5	9	0	13	12	15
240D	18	78	70	4	5	2	2	6	7	9	14	14
248D	21	106	71	7	3	3	4	11	6	14	15	21
251D	18	85	89	3	4	6	6	9	10	16	15	27
263D	21	101	83	1	2	6	9	10	8	19	16	17
271D	19	92	66	4	4	7	5	9	11	15	12	18
277D	18	79	72	6	2	3	4	10	5	12	12	18
280D	20	79	65	2	1	7	3	5	8	8	7	12
285D	20	98	89	6	6	6	9	15	12	17	14	20

LOW DAYDREAMERS

28D	19	44	47	3	4	7	6	9	11	10	8	13
106D	18	52	64	8	0	3	6	14	3	12	14	18
118D	18	46	54	2	0	1	1	3	1	7	9	10
209D	21	47	63	4	0	0	4	8	0	9	8	16
210D	19	63	54	8	2	4	7	15	6	12	18	14
264D	-	44	38	2	0	4	5	7	4	11	9	23
269D	20	57	64	3	1	1	1	4	2	12	11	21
273D	21	65	47	6	1	2	6	12	3	12	11	32
305D	19	59	42	3	0	1	1	4	1	11	11	18

EXPERIMENTAL CONDITION

INSULT

NEUTRAL FANTASY

No.	Age	I		II		HIGH DAYDREAMERS				R+S	Pre Sarason	Post	Att.Q.
		Daydreaming	Quest.	I	R	S	Ir	I+Ir					
93E	20	66	77	1	0	1	0	1	1	9	8	12	
218D	19	97	72	4	0	2	5	9	2	16	11	20	
299D	21	69	73	3	0	2	3	6	2	9	12	15	
300D	20	89	67	4	0	0	8	12	0	11	10	16	
306D	19	95	64	3	3	1	2	5	4	5	6	18	
307D	19	75	70	5	3	4	7	12	7	9	10	14	
320D	18	104	94	5	2	9	5	10	11	13	15	9	
334D	18	70	73	6	2	1	6	12	3	7	7	19	
353D	17	91	81	6	3	1	5	11	4	15	16	22	
357D	16	108	73	6	5	3	7	13	8	15	16	25	

LOW DAYDREAMERS

12E	18	65	42	2	2	4	6	8	6	10	6	20
57E	29	43	53	1	0	1	1	2	1	1	0	11
65E	25	41	34	2	2	2	5	7	4	12	11	16
95E	33	46	38	6	1	5	1	7	6	6	8	11
96E	40	61	38	1	0	3	0	1	3	6	5	11
114D	21	40	52	3	1	0	2	5	1	7	7	11
318D	19	59	59	6	6	4	5	11	10	14	15	18
349D	19	59	64	6	1	1	6	12	2	11	11	20
351D	18	57	62	4	1	3	6	10	4	11	8	15
352D	17	57	63	9	2	6	5	14	8	17	19	18

ANALYSIS OF COVARIANCE FOR EXPERIMENTAL  
DIRECTED HOSTILITY QUESTIONNAIRE  
WITH AGE (N = 120)

Source	SS	DF	MS	F	P
Within	1394.12	97	14.37	-	-
Regression	71.67	1	71.669	4.99	.03
Insult	320.77	1	320.77	22.32	.001
Insult x Fantasy	3.58	1	3.58	.05	-
Fantasy	2.19	1	2.19	.15	-
Content	103.75	2	51.87	3.61	.03
Content x Insult	228.47	2	114.23	7.95	.001
Content x Fantasy	29.60	2	14.30	.99	-
Content x Fantasy x Insult	19.07	2	9.53	.07	-











