# SOME RELATIONSHIPS AMONG HOSTILITY, FANTASY AGGRESSION, AND AGGRESSIVE BEHAVIOR

Thesis for the Degree of Ph. D.

MICHIGAN STATE UNIVERSITY

Gary M. Heymann

1955

This is to certify that the

thesis entitled

Some Relationships Among Hostility, Fantasy Aggression, And Aggressive Behavior.

presented by

Gary M. Heymann

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Psychology

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Major professor

Date October 28, 1955

# SOME RELATIONSHIPS AMONG HOSTILITY, FANTASY AGGRESSION, AND AGGRESSIVE BEHAVIOR

By

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A THESIS

Submitted to the School of Advanced Graduate Studies of Michigan State University of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Department of Psychology

1955

## ABSTRACT

The present research was designed to test the general hypothesis that a systematic relationship exists between aggressive fantasy and aggressive behavior. Two major kinds of aggressive fantasy were considered. Direct aggressive fantasy was assumed to be positively correlated with aggressive behavior, while indirect aggressive fantasy was assumed to stand in a negative relationship to aggressive behavior. The modifying effects of defense against aggression, punishment, suppression, fantasy gratification, and repression, on the postulated relationship between direct fantasy aggression and aggressive behavior were also studied.

One hundred fifty-six white, middle-class boys, in groups of ten subjects each, wrote stories to ten TAT cards and a specially designed "demand" card. All the stories were scored for Direct Fantasy Aggression, Indirect Fantasy Aggression, Punishment, and Defense themes by a modified method of Murray's scoring scheme. The reliability of these scores ranged from 86 percent to 94 percent agreement between two judges and the investigator. Each boy was rated on aggressive behavior by three of his teachers. The pooled reliability of these behavior ratings was .72. The total

sample was composed of equal numbers (N = 52) of 13-, 14-, and 15-year-old subjects, all age groups being matched for intelligence (I.Q. range 91-127), ethnic and religious background, and number of siblings. Because the three age groups were not homogeneous as regards mean fantasy scores on the several measures, our hypotheses were tested separately for each age group. The data were analyzed by use of partial correlations and analysis of covariance to control statistically for the effects of intelligence.

In terms of the general hypothesis of this research, we would conclude that there is very little evidence to suggest that aggressive behavior can be predicted from the aggressive fantasy productions of adolescent boys. We did not find any significant relationship between direct fantasy aggression and aggressive behavior, even when the effects of punishment themes and themes of defense against aggression were taken into account. Neither were TAT indexes of suppression, fantasy gratification, or repression significantly related to aggressive behavior in our subjects. The only evidence for a positive relationship between direct aggressive fantasy and aggressive behavior was found in the bright-superior intelligence group ($r = .29$, $P < .05$). That our results do not support findings of other workers who report a positive relationship between direct fantasy aggression and aggressive behavior may be due to differences in

age, socioeconomic and psychiatric status between the subjects in our sample and theirs.

Only themes of indirect fantasy aggression were found to be significantly related to aggressive behavior, but only in the 15-year-old age group ($r = -.44$, $P < .01$). Since the construct of indirect fantasy aggression has not been investigated in this manner by other workers, further research with it may prove fruitful.

Intelligence was found to affect the fantasy scores, aggressive behavior ratings, and the relationships between the two. This suggests a need for further research in these areas, as well as the necessity of carefully controlling these factors in future investigations.

## ACKNOWLEDGMENTS

The author wishes to express his indebtedness to the members of his guidance committee for their aid and encouragement in this undertaking. Dr. Albert I. Rabin, who initially chaired the committee, was most instrumental in the creation and maintenance of research order during the author's periods of ideational chaos. Dr. Donald M. Johnson provided a generous combination of wisdom, experience, and kindness at many an odd hour of this research's days and nights. Dr. Gustave M. Gilbert was a source of encouragement and reality-oriented suggestions at the conception of the thesis problem and formalized his interest by joining the committee when Dr. Rabin went on his Sabbatical. A special debt is owed Dr. Milton M. Rokeach, who willingly assumed the task of thesis chairman in the absence of Dr. Rabin, guiding author and data through they valleys of resistance and nonhomogeneity, to whatever merit this study may have.

The author is grateful to Dr. Marie Skodak, Director of Psychological Services, Dearborn Board of Education, for securing the cooperation of the Dearborn schools in providing the subjects for this research. He also wishes to thank Messrs. C. D. Reincke,

Principal, and Robert Young, Assistant Principal of Bryant Junior High School; Mr. Otto Olsen, Principal, and Miss Amy Betts, Assistant Principal of Dearborn High School; and the teachers of these schools, for their genuine interest and cooperation in this research.

Above all, the author wishes to acknowledge the many virtues of his wife, Joan, who shared the work and worry of this research, and of Judy, who knows all about psychology and research, and still loves her daddy.

If this study has any merit whatever, the author would like to dedicate it to his father-in-law, Mr. Arthur Snapper, without whose continued encouragement and financial support this research could not have been completed.

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# CHAPTER I

## INTRODUCTION

There is hardly a psychologist today who would not agree that the development and management of hostile impulses is of primary importance to the functioning of the individual and to his interaction with others in his society. The classical psychoanalytic approach to human personality is based on the assumption that hostile impulses are one of the two basic emotional motivating forces in man. Horney (25) believes that hostile impulses form the main source of neurotic anxiety. Fenichel (17) discusses the different effects of neurotic hostility upon personality functioning in almost every type of psychiatric maladjustment.

When the clinical psychologist evaluates the personality structure of a patient he almost invariably considers hostile needs and their expression in aggressive behavior. Aside from his own clinical experience, a psychologist has no reliable basis for judging the degree of deviation which these hostile needs represent. His experience is long in the making, and is usually based on limited contact with individuals representing a rather selected segment of society. For example, the clinician who notes repeated themes of

aggression in a TAT protocol usually concludes that hostility is an important aspect of his patient's emotional difficulty. But the clinician does not, in fact, know at what point the frequency becomes indicative of maladjustment. To make such judgments reliably, the psychologist must establish quantitative measures of hostility and aggression. Further, he must take into account certain individual differences as well as environmental conditions which may be characteristic of the individual whom he wishes to evaluate.

The major purpose of the present study is to find out what relationship exists between aggressive fantasy and overt aggressive behavior. More specifically, we wish to find out whether any systematic relation exists between direct and indirect fantasy aggression, as measured by the Thematic Apperception Test (TAT), and overt aggression, as determined by ratings of others.

## CHAPTER II

## TWO OPPOSING VIEWPOINTS

The current trend in the entire field of psychology is toward becoming a "science of behavior." The pressures of daily clinical practice, too, are increasingly toward prediction of an individual's behavior in a variety of circumstances. It is perhaps in the light of these trends that a controversy with regard to prediction of behavior from projective data has arisen in the recent literature. The earlier concern of clinical psychologists was more with the psychological tensions of which projective test data are supposedly indicative. These tensions were considered as being responsible for a variety of psychopathological symptoms. It made relatively little difference whether these symptoms were manifested in subjective states or overt behavior. It will be seen shortly that the relationships among psychological tension, fantasy, and overt behavior are often beclouded by our failure to discriminate between these variables.

There is general agreement that the "dynamic needs" of the individual are involved to a certain extent in the organization of the stories he produces on the TAT, but beyond this basic

generalization there is little agreement. Some writers maintain that needs will appear in the TAT stories because they do not appear in overt behavior; others argue that they appear in the stories for the precise opposite reason, i.e., because the person is able to express them in overt behavior. Let us observe the development of these opposing points of view.

Murray (30), in his introduction to the TAT, suggested that the TAT stories reveal covert tendencies of the personality and that high correlation between fantasy and overt behavior may be expected only for tendencies not inhibited by cultural sanctions. Indeed, Murray reports that for the variable of aggression there is no correlation whatever between fantasy and overt behavior as regards college students (28).

Symonds (38) attempted to relate the fantasy themes of adolescent boys and girls to adjustment ratings and teachers' ratings of overt behavior. On the basis of his analysis of the stories of his forty subjects, Symonds concludes that:

> In general, when a theme is exaggerated in the stories there is an absence of this trend in the personality of the individual and vice versa; pronounced trends in the personality of an individual will not be expressed in the stories. It is concluded that when an individual works out a need through his behavior and personality, he does not find it necessary to express it in fantasy, but when a need is repressed from overt expression, it is likely to find expression in fantasy. [38, p. 322.]

In the preceding quotation we see that Symonds' theoretical formulation negates that of Murray. Where Murray maintains that "people reveal their personalities . . . in structuring unstructured situations" (30, p. viii), Symonds concludes that "when an individual works out a need through his behavior and personality, he does not find it necessary to express it in fantasy" (38, p. 322). As regards the relationship between fantasy and behavior, which is the focus of our investigation, Symonds' findings have led him to hypothesize a negative correlation between the two, while those of Murray indicate that no correlation exists at all.

Sanford et al. (35) favor the formulation of a positive as well as a negative relationship. They studied the relationship in a group of school children between fantasy ratings derived from the TAT and overt behavior ratings provided by teachers who had observed the children. They found an average correlation of +.11 between the two sets of ratings. However, there were striking differences in the extent to which fantasy and behavior corresponded, depending on the different variables used. For some needs there was a relatively high positive relationship, while for others there was a significant negative relationship between fantasy and behavior. In accounting for these findings, Sanford et al. suggested that those tendencies which were prohibited by society would be high in fantasy and low

in overt behavior, while those tendencies which were encouraged by society and for which the individual could secure complete overt expression would be high in behavior but low in fantasy. These authors, however, recognized the possibility of a positive relationship as well. They maintain that high ratings would be secured in both fantasy and overt behavior for those tendencies that society encouraged, but for which it did not permit complete freedom of expression. From these formulations it would appear that the nature of the relationship between fantasy aggression and aggressive behavior would, at least in part, be a function of the individual's social environment.

Lindzey (28), after reviewing the evidence and opinions regarding direct and inverse relationships supposedly existing between fantasy and overt behavior, concludes the following.

> Available empirical evidence clearly indicates that the assumed imperfect correlation between fantasied and overt behavior is warranted. However, at present, we are far from an adequate formulation of the signs or cues that might permit specification from fantasy protocols alone of the behavioral tendencies that will secure overt expression as opposed to those that will not. [28, p. 24.]

Bellak (7), after a similar review of the literature, goes so far as to say "I do not believe that one need be able to infer overt behavior from thematic data." He maintains that the contribution of the psychologist and the projective instrument lies in the inference

of repression which can be made if the TAT shows extreme aggressiveness where behavior shows none. One wonders about the use of repression in this example. If hostile impulses are repressed they are unlikely to appear either in fantasy behavior or in overt behavior in any direct fashion. The situation Bellak describes would appear to be one in which there is awareness of hostile needs, as indicated by the aggressive fantasy, but suppression of their expression in overt behavior. Although Bellak does not offer any experimental evidence in support of his position, he would seem to deny that any "signs or cues" exist which might make possible the prediction of behavioral or nonbehavioral expression of thematic data.

Research specifically directed at the relationship between aggressive fantasy and overt aggressive behavior is scarce. Pittluck (34), using the TAT protocols of seventy-two neuropsychiatric patients as a measure of fantasy and reports of spontaneous aggressive behavior on the hospital ward as the behavioral measure, found support for the formulation of a direct relationship between aggressive fantasy responses and behavioral aggression. However, according to Pittluck, this direct relationship could be demonstrated only in the absence of modifying mechanisms such as rejection or denial, rationalization, displacement to nonhuman objects, or noncompletion of aggression planned by the fantasy character. Patients who used

more defense mechanisms in proportion to their aggressive fantasies tended to act out less than patients with proportionately more unmodified, primitive aggressive fantasy responses. On the basis of her results, Pittluck concludes that "measures of aggressive fantasy can provide direct clues to overt aggressive behavior, if these measures stress not the absolute frequency of aggressive responses but the extent to which such responses are free from modification." (34, p. 47.)

A study by Stone (37) lends further support to Pittluck's findings. In comparing the TAT stories of thirty-one soldiers with three convictions for such highly aggressive offenses as murder, assault with intent to kill, et cetera, with those of fifty-two soldiers convicted for going AWOL (low aggressive offenses), the highly aggressive group had a significantly higher TAT aggression score than the low aggression group. Mussen and Naylor (31), working with twenty-nine lower-class delinquent boys aged 9 to 15, also found "a strong positive correlation between overt and covert aggression." Their fantasy measures were based on ten individually administered TAT cards. Their behavioral measures were daily and weekly behavior ratings of overt aggression, which measures correlated +.86 (rho coefficient). They found that the boys with high (above median) fantasy aggression scores showed more overt aggression than boys

with low (below the median) fantasy aggression scores. Furthermore, boys with high punishment/aggression thema ratios on the TAT showed somewhat less overt aggression than those with low punishment/aggression ratios, and the combination of fantasy aggression score with punishment/aggression ratio yielded highly significant predictions.

There is one other study which demonstrates indirectly, though in a theoretically and clinically meaningful way, a positive correlation between hostility scores on projective techniques and behavioral manifestations of hos ility. Walker (40), working with forty neuropsychiatric patients, found significant positive correlations between content scores of hostility on the Rorschach and the Make A Picture Story Test (MAPS) ($r = +.73$), and between these scores and hostility ratings made by therapists after five interviews with the patients (Rorschach, +.78; MAPS, +.69).

The studies by Pittluck, Stone, and Mussen and Naylor cited above do constitute considerable empirical evidence suggestive of a positive relationship between aggressive fantasy and overt aggressive behavior. One should keep in mind, however, that their findings are based on psychologically and/or behaviorally extreme and deviant groups. Whether their findings may be generalized to "normal" populations would seem to remain an empirical question.

Walker's study, it should be noted, deals with projective and behavioral hostility, while other studies dealt with aggression. The possible difference between these two concepts will be given further elaboration in the following chapter. Since Walker's findings are also based on an atypical population (neuropsychiatric patients), their applicability to the general population, thus the existence of a general relationship, remains to be seen. We are raising the question of applicability to the general population of results based on data from populations not representative of the general population. To help bridge this gap between "abnormal" and "normal," between atypical and general populations, it is our intent to employ white, middle-class, adolescent males in order to determine whether the relationship between aggressive fantasy and behavior is in fact a general relationship which holds not only for deviant populations, but also for nondeviant populations.

# CHAPTER III

# THE THESIS PROBLEM

## Definitions

"Fantasy behavior." The fantasy productions which an individual is willing to make public; in this case TAT stories. As used in this research, fantasy does not refer to private fantasy, either conscious or unconscious, although these levels of fantasy may be implicit in the concept of public fantasy.

"Overt aggressive behavior." The observable acts of an individual, manifested as part of his interaction with other people or objects. This includes verbal, gestural, and gross motor behavior. For the purposes of this research, teachers' ratings will serve as a measure of overt aggressive behavior.

"Hostility." An inferred emotional need state of the individual which represents the potential for aggressive fantasy behavior and/or aggressive overt behavior. The TAT stories are the basis for such inferences.

"Direct fantasy aggression." The actualization of hostility in fantasy behavior which is aggressive in the social sense; e.g., arguing, fighting, killing.

"Indirect fantasy aggression." The actualization of hostility in fantasy behavior which is not usually considered to be aggressive in the social sense; e.g., sickness, accidental or unintentional injury, death due to natural causes.

## Group vs Individual Administration of the TAT

On the basis of numerous studies (1, 2, 5, 31, 42) we will assume the TAT to be a valid instrument for measuring various aspects of personality. That the test is sensitive to experimentally induced hostility has been demonstrated by Bellak (6), whose subjects (Ss) produced significantly more aggressive content after criticism of their stories than before. His experiment is summarized as follows.

> He used ten pictures of the TAT with seven subjects. The first three Ss were presented pictures 6-10 first and then 1-5; the remaining four Ss were given the pictures in the 1-10 order. In each case, after the fifth picture, uniform, sharp criticism of the stories produced was made by the experimenter. The resentment produced was reflected in an increase of aggressive content in the stories There was a significant difference at the 1 and 2 percent level, between the frequency of verbs and nouns connoting aggression in the first five and second five stories. [5, p. 216.]

Although originally intended for individual administration and employed primarily in this manner in the clinic setting, the TAT has been administered under group conditions for research purposes.

Group administration was first reported by Clark (9), who gave a modified form of the usual TAT to thirty college subjects and had them write their stories. She found that this method yielded themas comparable to those obtained by individual administration from a different sample of subjects. Clark concluded that the group projection test method merits further study as a possible screening device.

More recently Eron and Ritter (16) further pursued the matter of administration equivalence. They viewed the matter thusly.

> If it can be demonstrated, however, that productions resulting from both methods of administration are essentially similar, the group procedure can be used to build up norms for different sex and age groups and for various educational, intellectual, and socio-economic levels. [16, p. 148.]

Two groups of thirty college males each were given the TAT in the individual-oral and group-written methods, respectively. Statistical comparison showed "marked similarities" between the stories of each group as regards formal content; i.e., the number of words, number of themes, and type of themes. The investigators concluded that "stories gathered by the written method are of value in establishing norms for the TAT, at least insofar as thematic content is concerned." (16, p. 157.)

## A Preliminary Study

Because the above studies were based on college subjects it seemed necessary to conduct a pilot study to determine whether younger boys were capable of producing adequate written protocols and whether the findings of Eron and Ritter about equivalence of administration methods would be applicable to our population as well. The public schools were closed for the summer at this time, so the pilot study was conducted utilizing delinquent boys at the Boys Vocational School (BVS) in Lansing, Michigan.

Twenty BVS subjects of average intelligence (based on Wechsler-Bellevue, WISC, or Primary Mental Abilities test scores), ten subjects aged 14 and ten subjects aged 16, were divided into groups A and B, each group containing five 14-year-olds and five 16-year-olds. Group A first had cards 1, 4, 7BM, 12M, 13MF, and 18BM in written-group administration, then cards 2, 3BM, 6BM, 8BM, 18GF, and the "demand"[1] card in oral-individual administration. The experimenter wrote the stories given by each subject in the individual administration. The sequence of card presentation for Group B was

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[1] A picture of two men fighting in a bar. Its purpose is to confront subject with a stimulus which will literally "demand" that an aggressive story be told. The author wishes to thank Mr. James Wilkins for the original drawing of this card.

reversed, as was method of administration for the series. This group had cards 1, 4, 7BM, 12M, 13MF, and 18BM in oral-individual administration, and cards 2, 3BM, 6BM, 8BM, 18GF, and the "demand" card in written-group administration form. Group administration consisted of five subjects sitting around a large table, each subject with his own pile of TAT cards and writing equipment. The "demand" card was always the last card presented. After the Chief Psychologist[1] of BVS introduced E to the boys, assured them that their performance in the experiment would not affect their stay in any way, and solicited their cooperation, the subjects wrote down some factual information E asked of them, and were then read the following instructions. The interchangeable words were used as they became appropriate to the method of administration.

> You are going to see some pictures, one at a time, and you are supposed to make up a story for each one. Use your imagination in making up these stories. You can make the people in your stories do anything you want them to, be anything you want them to, or say anything you want them to. Be sure you do three things in your stories:
>
> 1. Tell what is happening right now, what the people are feeling, thinking, or saying.
> 2. Tell how come this situation ever happened in the first place, what brought it on.
> 3. Tell how it is all going to end, what the outcome will be.

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[1] The author is indebted to Mr. E. L. V. Shelley for his enthusiastic support of and cooperation in this aspect of the research.

> Just tell me (write) your thoughts as they come to you (don't worry about spelling or grammar). Whatever you think of first will be fine. There are five (six) pictures in all and you'll have all the time you need to tell (write) your stories. (The pictures are in a pile in front of you, face down. When I give the signal, turn the first picture face up and start writing your story. When you are done with it, put it face down next to the others and pick up your second card, and so on. You all have the same cards, so keep your eyes on your own work. No talking with the other guys, please, as this bothers everybody and I'm interested only in your own stories.) All right, let's go.

The protocols were analyzed for number of words, number of aggressive fantasy responses, per cent aggressive fantasy responses of the total number of words, and number of cards on which no aggressive fantasy responses occurred. These data were examined for statistical significance by analysis of variance and chi square techniques (22). The results indicate that there are no statistically significant differences between oral-individual and written-group methods of administration as regards productivity, number of aggressive fantasy responses, and per cent aggressive responses of total number of words, nor did the two methods of administration yield a significantly different number of cards without aggressive fantasy responses. Also, there was no significant difference between 14- and 16-year-old subjects on these variables. Since the two methods of administration did not affect the variable under consideration in any statistically significant way, it seems safe to assume that similar results may be expected in the public school system.

On the basis of the two studies cited and the confirmatory results of this pilot study, it may be concluded that for the purposes of this research the group method of administering the TAT is warranted and may be expected to yield protocols comparable to those obtained by individual administration. Each group will consist of ten subjects, and they will be read the same instructions as were used in the pilot study.

## Problems and Limitations of the Behavioral Measures

Sanford et al. (35) found that TAT fantasy themes and behavior ratings by teachers correlate +.11, while Symonds (38) found a correlation of +.10 between fantasy aggression and teacher ratings of overt aggressive behavior. This would seem to indicate that the teacher rating by itself may not be an adequate behavioral criterion for validating fantasy productions. Ideally, we should have behavioral measures from several entirely different kinds of sources, since impulses which are controlled under one set of conditions may be given partial or free reign under different circumstances. It would have been preferable to obtain behavioral ratings by the peers of our subjects, but administrative considerations forced us to abandon this valuable source of information. It is hoped that the meaningfulness of the behavior ratings will have been at least partially

maintained by the procedure we have adopted. Each subject will be rated on several specific types of aggressive behavior by three different teachers who have had continuous contact with the subject for at least one whole school semester. In order to approximate the ideal of ratings under various conditions, each subject will be rated by a teacher of an academic subject (English, biology, etc.), by a gym teacher, and by an arts or shop teacher. It may be that this attempt to achieve a greater degree of validity will result in some loss of reliability of the teacher ratings. Within limits, this sacrifice of reliability for the sake of validity appears to be accepted practice (22). Even though the subjects will have been rated under these different conditions, the fact that all the conditions include the presence of an authority figure, the teacher, must remain one of the limitations of our methodology. All subjects will be rated on the Teacher Rating Scale (TRS) devised by the investigator in accordance with the various suggestions set forth in two authoritative references in this area (19, 22). The TRS consists of eight 5-point subscales and is fully reproduced in Appendix A. The ratings of the three teachers will be averaged to yield a single aggressive behavior score for each subject.

## Theoretical Formulations

Concerning aggression and hostility. In the previous chapter we distinguished, in passing, between the concepts of "aggression," and "hostility." The above definitions indicate that we understand hostility to be a construct, whereas aggression is its expression in recognizable behavior, in fantasy productions or overtly. It may very well be that part of the controversy in this area stems from a tendency by some of the authors mentioned in the preceding chapter to confuse the construct with the behavior. Their writings suggest that they equate the needs or impulses of the person with his fantasy productions. But this need not necessarily be the case. TAT stories are behavior, "fantasy" behavior, to be sure, in that it is one step removed from action in reality, but behavior nevertheless. It is from this "fantasy" behavior that we infer the need state of the individual. Nor is this inference a simple, single step. One may sometimes infer a need as existing not by the presence, but by the absence of its representation in the TAT stories, because these stories contain not just the id, the "raw" needs of the person, but his ego defenses as well. Thus, if one differentiates hostility and aggression theoretically, one also needs to measure them differentially.

We propose to let direct fantasy aggression (DFA) be our measure of aggressive need, while indirect fantasy aggression (IFA) will be our measure of hostility or repressed aggression, as it has been referred to by some of the previously mentioned authors. To arrive at the rationale for this procedure, let us now consider the functions of hostile needs in regard to the relationship between aggressive fantasy and aggressive behavior.

Concerning need, fantasy, and behavior. The theory on which the TAT is based should make it possible, in fact should require, that fantasy behavior be related both to need and overt behavior simultaneously. It was stated earlier that the needs of the individual cannot be measured directly, but may be inferred from his fantasy behavior. One can postulate a very intimate relationship between need and fantasy. Isaacs (26) implies this when she says:

> There is no impulse, no instinctual urge or response which is not experienced as unconscious fantasy. [26, p. 81.]

> All impulses, all feelings, all modes of defence are experienced in phantasies which give them mental life and show their direction and purpose. To understand the relationship between phantasies and mechanisms, we must look more closely at the relation of both to instinct. On our view, phantasy is the operative link between instinct and ego mechanisms. [26, p. 89.]

> In their developed forms, phantasy thinking and reality thinking are distinct mental processes, different modes of obtaining satisfaction. The fact that they have a distinct character

> when fully developed, however, does not necessarily imply that reality thinking operates quite independently of unconscious phantasy. On our view, reality thinking cannot operate without concurrent and supporting unconscious phantasies. [26, p. 94.]

That extremely high and extremely low amounts of direct fantasy aggression must be considered as significant for predicting aggressive behavior and inferring hostile need may be seen from Nacht's (32) discussion of the development of the ego's ability to handle hostility.

> But this process is conditioned in large measure by the preceding phases: suffering of too many frustrations may have unleashed very violent aggressive reactions, in turn harshly repressed, which crush the developing ego under the weight of the aggression-turned-masochism. If the ego, on the contrary, has tried out too few aggressive reactions, it is deprived of a great energy asset. In both cases there results a personality poor in aggression, an untried ego which will have to abandon the battle before the start. It is a physiological necessity for the child not to overcome aggression before having had the experience and tried it out: this is most clearly shown in the disturbed development of the child who has not had to stand up to his father, because the latter was physically and psychologically absent. The result may be passivity to the extent of homosexuality, or on the contrary, an aggressive character, anti-social to the point of delinquency or murder, or a combination of both. [32, p. 205.]

This theoretical formulation has recently received experimental verification in a study by Eriksen (15). By means of tachistoscopic exposure he determined the perceptual recognition threshold of his subjects for pictures of aggressive behavior and also administered the TAT to them. He found that where "perceptual sensitization"

occurs for aggressive stimuli, the TAT stories are manifestly aggressive in thematic content. Where "perceptual defense" against aggressive stimuli takes place the stories are usually devoid of any aggressive content.

Another study in this area of investigation was recently reported by Holzberg, Bursten, and Santiccioli (24). These authors wished to test the hypothesis that "over-reporting or under-reporting of aggressive implications of a stimulus are both indicative of high aggressive tension." Four TAT cards appropriate to this problem were administered to forty-eight normal subjects to determine empirically how many responses constitute average, over- and under-reporting of overtly aggressive themes. These TAT cards were then administered to thirty-six neuropsychiatric patients who had received low ratings on overt aggressive behavior. These thirty-six subjects then underwent training on four types of learning tasks, each task consisting of aggressive words and neutral words. The authors predicted that, compared to the average reporters, the over- and under-reporters would learn the aggressive material more quickly than the nonaggressive material because the aggressive words would have greater stimulus value for them. These predictions were borne out by their results on three of the four learning tasks, though on two of these tasks only the under-reporters differed significantly

from the average reporters. On the basis of their findings the authors concluded that a consistent absence of reported aggressive themes in response to stimulus material ordinarily eliciting such themes, may be considered indicative of "high aggressive tension in such individuals."

These findings tend to confirm the formulation that stories with extreme aggressive content warrant the inference of strong hostile needs in the individual, and that the subjects who fail to respond with aggressive content where one might expect this are defending against hostile impulses which are disturbing to them. The psychoanalytic formulation also finds confirmation in numerous clinical observations. Deutschberger (13) treated one hundred children with behavior problems and found that there was less overt aggressiveness in those individuals who manifested psychosomatic disorders, which led the author to conclude that in these cases "the aggressive energy is 'anchored' in somatic complaints." Murphy (29) noted that "children who have learned to deal aggressively with conflict situations by kindergarten age are less likely to be neurotic than those who do not have this opportunity."

Concerning direct fantasy aggression. Although there is some difference of opinion about the level of personality to which needs

reflected in TAT stories belong, most authorities on the TAT agree that the law of determinism is basic to projective techniques (1, 2, 39), as well as to other observational techniques. Thus, our basic assumption may be said to be: no behavior, fantasy or overt, without a need. Examining fantasy behavior we first consider high direct aggressive fantasy. From this we would infer a high aggressive need, and because of the direct nature of these responses we would also expect direct aggression in overt behavior. In the case of low direct aggressive fantasy the matter is not so simple. Here we meet three alternative inferences: the subject may have a low hostile need, he may have a relatively high need, but is suppressing its expression in public fantasy behavior, or he may be reacting to a high hostile need with a defense mechanism such as repression, denial, reaction formation, et cetera.

If a subject has a low DFA score because of a low aggressive need, he presents no theoretical or practical problem. However, if a subject has a low DFA score because he suppressed the expression of his aggressive fantasy in the testing situation, or because he is repressing his hostile needs, we are faced with the necessity of testing additional hypotheses. These problems will be given further consideration in a later section of this chapter.

Concerning indirect fantasy aggression. Now let us consider repressed hostile needs. On the basis of psychoanalytic theory one would expect to find "derivatives" of the repressed hostile impulses, and these are the types of responses previously defined as "indirect aggressive fantasy behavior." Sickness, injury, or death of various characters in the subject's TAT stories would be such derivatives, as neither the "hero" of the story nor the teller of the story himself could reasonably be held responsible for such fantasy misfortunes. When such responses occur frequently, and especially when direct aggression fantasy responses are absent, the inference of "repression" can be defended on theoretical grounds. On the basis of this reasoning we would postulate a negative relation between indirect fantasy aggression and overt aggressive behavior.

Concerning fantasy punishment themes. On the basis of previous research findings as well as theoretical considerations we may postulate some further relationships between aggressive behavior and hostility-related fantasy. Mussen and Naylor (31) report that low aggressive behavior could be predicted when their delinquent subjects gave a great number of punishment themes in relation to the number of aggressive themes. This finding leads us to believe that there may be a negative relationship between punishment themes and aggressive behavior.

Concerning fantasy themes of defense against aggression. Pittluck's results indicate that such themes as denial, rejection of cards, noncompletion of intended action, and other defensive maneuvers "prevent acting out of hostile impulses and lead to self-aggression" (34, p. 47). By building such ego modifications into the scoring scheme we can obtain a measure of defense against aggressive behavior. We will consider as contraindications of aggressive behavior such modifications of aggressive impulses as denial of aggressive behavior, noncompletion of ongoing aggressive behavior due to intervention by an external agent, failure to carry out an intended aggressive act, and aggressive actions which are only being thought about. These four types of fantasy responses will be subsumed under the classification "defenses." It is our expectation that there will be a negative relationship between defenses and aggressive behavior.

Concerning suppression on the TAT. Certain considerations arising from the Freudian theory of defense mechanisms (20) would seem to require that several factors be isolated in the fantasy measures and that the relationship between them and aggressive behavior be tested. We have already mentioned the problem posed by subjects whose TAT stories contain only a small number of direct fantasy aggression responses. Subjects could have low DFA scores because

their aggressive needs are minimal, because they are repressing their aggressive needs, or because they are suppressing the expression of their aggressive needs on the TAT. In the instance of minimal need, no methodological problem exists for our purposes, since low aggressive behavior ratings would be expected for subjects with low DFA scores. In the instance of suppression, however, we are confronted with the possibility of subjects with low DFA scores receiving high aggressive behavior ratings because individuals who suppress their aggression in certain situations may give free reign to their aggressive needs in other situations. For example, some subjects may suppress their aggression in fantasy and overt behavior in their relations with adults, such as their teachers or the investigator for whom they wrote their stories. These same subjects might, on the other hand, be quite aggressive in relation to their peers, and consequently might receive high aggressive behavior ratings. This would result in the combination of low DFA score and high aggressive behavior rating, which would be indicative of a negative relationship between fantasy aggression and aggressive behavior instead of the positive one we are positing. This possibility requires that we find some means of identifying those subjects who use suppression and testing the relation of suppression on the TAT to aggressive behavior.

It is thus seen that a special device is needed to differentiate between the three possible meanings of a low DFA score. If a subject fails to respond with direct aggressive fantasy material to any of the TAT cards we might say that he has no aggression to express because his aggressive needs are minimal. However, unless he is repressing his aggressive needs, he should be able to respond aggressively if adequately incited. Such adequate instigation may be expected from a "stimulus demand card" which, for example, clearly depicts a fight between two individuals. On the basis of our analysis we would expect that subjects giving an excessively high number of DFA responses on such a "demand" card, after having given very few such responses on the preceding ten TAT cards, may have used suppression in responding to these more ambiguous cards. This omission of DFA responses may have occurred because they considered this socially approved behavior on their part. However, when the stimulus situation clearly calls for an aggressive response, the subjects release all the aggressive responses they had previously inhibited under the more ambiguous condition.

Thus, having a series of "ambiguous" stimulus cards and an unambiguous "demand" card for the measurement of direct fantasy aggression, should enable us to identify those subjects using suppression in their TAT stories. To derive a quantitative measure

of suppression, we compute the ratio of DFA on the "demand" card to DFA on the ten TAT cards for each subject. The lower the ratio, the more will it be considered indicative of suppression. We shall wish to determine whether suppression on the TAT is, in fact, accompanied by significantly higher aggressive behavior.

Concerning fantasy gratification. One of the assumptions put forward by Freudian theory is that certain individuals may derive sufficient gratification for their needs by means of fantasy alone, consequently their needs would not be expected to appear in behavior. In a recent study, Feshbach (18) attempted to measure the reduction of hostility as a function of writing aggressive TAT stories. He used three groups of subjects; an experimental-insult group, a control-insult group, and a noninsult-control group. His subjects were insulted by the experimenter and then tested for hostility on the Rotter Sentence Completion Test plus an attitude questionnaire. Before being tested for hostility, the subjects in the experimental-insult group wrote stories to four TAT cards, while the subjects in the control-insult group were given tasks which prevented fantasy activity on their part. A noninsult-control group consisted of subjects to whom the experimenter made friendly comments before administering the four TAT pictures Not only did the subjects in the

experimental-insult group express significantly more hostile fantasy on the TAT than the subjects in the noninsult group, but they also showed significantly less aggression on the sentence completion test and the attitude questionnaire. (Feshbach appears to use the terms "hostility" and "aggression" interchangeably.) The author concluded that this reduction of aggression is related to the fantasy aggression these subjects expressed in their TAT stories. These findings lend experimental support to the phenomenon of fantasy gratification. If such a phenomenon is present, we may expect to find subjects with relatively high DFA scores who can gratify their aggressive needs in fantasy alone, thus have low aggressive behavior ratings. This would result in a negative relationship between DFA and aggressive behavior, opposite to the positive relationship we are positing. We must, therefore, find some way to identify these subjects in order to test our hypothesis regarding the effect of fantasy gratification on aggressive behavior.

These subjects can be identified in the following manner. In a card-by-card analysis, most subjects may be expected to give more and more aggressive responses as the "pull value"[1] of the TAT cards

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[1] "Neutral, moderate, and severe pull" refers to the stimulus value of these TAT cards as regards aggressive connotations in the pictures.

increases. Thus, their ratio of frequency of DFA on the "severe pull" cards to frequency of DFA on the "neutral and moderate pull" cards (fantasy gratification ratio) may be expected to be high. The subjects who achieve gratification of their hostile needs by means of fantasy, however, may be expected to give aggressive responses early in the series and be "drained" of their hostile needs by the time they get to the two "severe pull" cards. Thus, their fantasy gratification ratios may be expected to be lower than those of subjects whose hostile needs are not reduced by fantasy activity. On the basis of this reasoning, we would expect that subjects high in fantasy gratification would be low in aggressive behavior.

Concerning repression. It was asserted earlier that indirect fantasy aggression is considered to be indicative of repressed hostility, especially when there is little or no direct fantasy aggression in the protocol. When DFA and IFA scores are both high in the same protocol, it is no longer logical to speak of indirect fantasy aggression as representing repressed hostility in any general sense. We might consider the possibility that indirect fantasy aggression follows a curvilinear function. We might suspect that, when DFA and IFA scores are both high, the subject's hostile needs are so great that all available means of giving expression to them will be

utilized by him. An alternative formulation might be that subjects who have high DFA and IFA scores are able to experience aggressiveness in some situations while resorting to repression in others, perhaps in relation to one or both parents. In any case, a high IFA score in combination with a low DFA score will constitute our index of repression in this research. If our reasoning in regard to repression as evidenced on the TAT is correct, we would expect that subjects who are high in repression would be low in overt aggressive behavior.

## Effects of Age and Intelligence

Developmental changes and new social pressures at puberty might be expected to serve as a unique source of aggressive needs in adolescents. Symonds (38) reports a correlation of +.20 between age and aggressive fantasy, his subjects being adolescent boys and girls. Brackbill and Brackbill (8) studied the TAT protocols (six cards) of two groups of twenty-four male veterans aged 25 and 43. These authors found no differences in the number of words used for each story or the number of needs expressed. These two studies would suggest that the effects of age on TAT protocols may be important during the formative years, but not after chronological maturity. Since the correlation of +.20 reported by Symonds is relatively

low, it could be assumed that the 13-, 14-, and 15-year-old subjects to be employed for this study will constitute a homogeneous population as regards the age variable. The results of our pilot study, utilizing ten 14-year-old and ten 16-year-old delinquent subjects, tend to support the assumption of homogeneity. However, since even "early" adolescence has become an increasingly hectic period in our society, the null hypothesis should be demonstrated before we can accept the assumption that they are a psychologically homogeneous group. It remains to be seen whether the fantasy-behavior relationships under investigation will hold for the three age groups employed in this study.

It is not unreasonable to assume that differences in the level of social perception and private interpretation of life events, both of which are partly a function of intelligence, may lead to differences in aggressive need and aggressive expression in persons of different levels of intelligence. As regards the TAT, there is no research on this problem in the literature. However, Rorschach workers have long utilized the concept of intellectual differences as regards such variables as number of responses given, number of "whole" responses, number of "movement" responses, and the general quality of Rorschach responses. If the fantasy scores employed in this research were a function of intelligence, it would remain to

be seen whether the relationships asserted to exist between aggressive behavior and these types of aggression-related fantasy would hold when intelligence is held constant.

## Hypotheses

This research is an attempt to test several hypotheses concerning the relationship between aggressive fantasy and aggressive behavior. With the effects of age and intelligence held constant, seven hypotheses are advanced.

Hypothesis 1. In line with the consideration that subjects who are able to express their hostile needs openly and directly in TAT stories are also likely to do so in their daily behavior, it is hypothesized that there is a positive relationship between direct aggressive fantasy and aggressive behavior.

Hypothesis 2. Indirect fantasy aggression is considered to be representative of repressed hostile needs. Subjects who are able to express their hostile needs only indirectly even in telling TAT stories are not likely to exhibit openly aggressive behavior in their daily lives. Therefore, it is hypothesized that there is a negative relationship between indirect aggressive fantasy and aggressive behavior.

Hypothesis 3. TAT stories in which punishment themes follow socially unacceptable behavior are assumed to be determined by the subject's past experiences. The expectation of punishment for aggressive behavior may be expected to function as a deterrent to such behavior. Subjects whose fantasy aggressions are consistently followed by punishment themes may be expected to refrain from behaving aggressively in their daily lives as well. Consequently, it is hypothesized that there is a negative relationship between fantasy punishment themes and aggressive behavior.

Hypothesis 4. As part of the socialization process all of us learn to modify the expression of our needs. On the TAT this is reflected when subjects who give evidence of their hostile needs in telling aggressive stories still manage by various means to avoid the culmination of these needs in actual aggressive behavior by their fantasy characters. It may be expected that subjects who defend against the fulfillment of their hostile needs in this way, even in fantasy productions, might curtail their aggressive behavior in a similar fashion in their daily lives. On the basis of these considerations it is hypothesized that there is a negative relationship between aggressive behavior and certain defenses against aggressive fantasy behavior. The defenses under consideration are denial, fantasy,

failure to carry out intended aggressive action, and noncompletion of ongoing aggressive action due to intervention by an external agent.

Hypothesis 5. In line with the consideration that subjects who suppress the direct expression of their hostile needs on the TAT may not do so when interacting with their peers, it is hypothesized that subjects low in direct fantasy aggression and high in suppression are significantly higher in aggressive behavior than subjects who are also low in direct fantasy aggression but do not use suppression on the TAT.

Hypothesis 6. Subjects whose aggressive fantasy activity serves to reduce their hostile needs may not need to give behavioral expression to these needs. On this basis it is hypothesized that subjects high in fantasy gratification are significantly lower in aggressive behavior than subjects who do not give evidence of fantasy gratification on the TAT.

Hypothesis 7. Subjects who repress their hostile needs on the TAT may be expected to do likewise in their daily relationships. Having many IFA responses and few DFA responses is considered indicative of repression, while having many IFA responses as well as many DFA responses in not. On the basis of this reasoning it

is hypothesized that subjects high in repression on the TAT are significantly lower in aggressive behavior than subjects who do not use repression on this test.

# CHAPTER IV

# METHODOLOGY AND PROCEDURE

## Subjects

The total number of subjects in this study was 156 white males. All subjects were residents of Dearborn, Michigan, which is part of metropolitan Detroit. Any possible effect of ethnic or religious background, and number of siblings, was controlled by having nearly identical representation in each subgroup of the total sample.

There were three age subgroups--13, 14, and 15 years--each subject falling into the category appropriate to his last birthday. Thus, subjects aged 13-0 to 13-11 were classified as age group 13, subjects aged 14-0 to 14-11 as age group 14, and subjects aged 15-0 to 15-11 as age group 15. This method of age classification was employed because it covers the age span generally understood by the public, is adhered to in legal matters, and is used in the parlance and procedures of the psychological clinic. The total N for each age group was 52.

There were two intelligence categories based on the I.Q. scores shown in each subject's school record. Their I.Q.'s were derived from the Otis, Primary Mental Abilities, or Wechsler-Bellevue tests which are routinely administered in the Dearborn school system. The Wechsler-Bellevue classification system (43) was used and for the purposes of this research I.Q. scores derived from other intelligence tests were treated as equivalent to Wechsler-Bellevue scores. Subjects with I.Q. scores of 91 to 110 were classified in the "average intelligence" group, subjects with I.Q. scores of 111 to 127 in the "bright-superior intelligence" group. Other intelligence categories were not included in the sample because they represent an almost insurmountable procurement problem. Representation within each intelligence category was evenly distributed throughout the range. There were eighty-four subjects in the "average intelligence" group and seventy-two subjects in the "bright-superior intelligence" group.

All subjects came from a "middle-class" population. The criteria for classification into social class were those described by Warner, Meeker, and Eells (42): income, education, occupation, dwelling area, and type of residence of the subject's parents. Since all our subjects came from middle-class schools, we may say that socioeconomic status has been held constant in the present study.

Table 1. Mean age, I.Q., and number of siblings in the six subgroups of the total population.

| Statistic | Age | | | | | |
|---|---|---|---|---|---|---|
| | 13 | | 14 | | 15 | |
| | I.Q. I | I.Q. II | I.Q. I | I.Q. II | I.Q. I | I.Q. II |
| Mean age . . . . . | 13-5.0 | 13-5.1 | 14-5.7 | 14-5.0 | 15-5.6 | 15-5.0 |
| Mean I.Q. . . . . | 101.04 | 119 | 100.6 | 119.2 | 100.9 | 118.4 |
| Mean number of siblings . . . . | 1.8 | 1.2 | 1.9 | 1.2 | 1.4 | 1.3 |

The composition of our sample is summarized in Table 1. This was deemed necessary because attention has been called to significant differences on many testing devices due to social class differences in the subjects (4, 10). Havighurst and others (11, 12) have attempted to explain some of these differences as resulting from class differences in child rearing, as these affect the personality structure of the individual.

## Cards Used

A total of eleven cards was used, ten of these being standard TAT cards, the other one being the "demand" card discussed in an earlier section. The TAT cards were numbers 1, 3BM, 4, 6BM,

7BM, 8BM, 12M, 13MF, 18BM, and 18GF. These cards were presented in a sequence of increasing "aggression pull" value. These stimulus values were determined empirically by having these and other TAT cards judged as "neutral pull," "moderate pull," and "severe pull" by five experienced staff clinical psychologists.[1] Agreement among these psychologists was four out of five or better on each card finally selected for this research. There were three "neutral" cards, 1, 6BM, 7BM; five "moderate pull" cards, 3BM, 4, 8BM, 12M, 13MF; and two "severe pull" cards, 18BM and 18GF. The "demand" card was always presented last in order that it might fulfill its designated function. It is reproduced in Appendix C.

## Scoring Method

The method of scoring the TAT protocols which was utilized in this study is essentially the need-press system originated by Murray (30) and more recently systematized by Aron (3) and modified by Heymann (23). These changes were introduced to allow for greater objectivity in scoring and quantification of TAT data. The additional modifications employed in this study were designed to eliminate the assumptions about identification of the subject with the "hero" or other characters in his stories. The scoring scheme involves counting the aggressive behavior experienced by the

[1] The author is indebted to Drs. J. Brownfain, M. Hyman, N. Papania, K. Pottharst, and H. Silverman, of the Veterans Administration Mental Hygiene Clinic, Detroit, for the rating of these cards.

characters of the stories, the assumption being that the story teller utilizes his own needs and experiences in organizing his stories. Scoring was done entirely on the basis of objective, manifest content; i.e., each sentence was taken at face value and scored according to content, with a minimum of "interpretation." These TAT scoring categories and their definitions are shown in Appendix B. The definitions are in essence those found in Aron (3), Murray (30), and Stein (36). Their modifications consist mainly in integration of these three sources and the addition of limiting or inclusive features appropriate to the nature of this study.

Scoring of the protocols was based on two main factors: category of expression, and within-category acts. A score was given for each theme falling into one of the categories of expression --for instance, verbal, physical, kill--even if the same basic impulse (direct fantasy aggression) may be involved. For example, the statement, "He called her a bitch, then hit her, and finally pulled out a gun and killed her," would be scored three times:

Agg-V (called her a bitch)
Agg-Phy (hit her)
Agg-Kill (killed her).

Also, a score was given for each time an act occurred within the same category of expression, as long as the act seemed to be the expression of a real impulse, a separate behavioral event. Let us

take this statement as an example. "The wife pushed her down the stairs and now they are pulling each others' hair and slapping each other around." This would be scored three times:

Agg-Phy (pushed her down the stairs)
Agg-Phy (pulling each others' hair)
Agg-Phy (slapping each other).

There were two general exceptions to the scoring procedure just discussed. If an act or event was mentioned in referring back to the original happening, no repeat score was given. For example, after telling that a father died in a car accident, the accident is described in detail and the sentence ended with "and he was killed instantly." This was scored "Death" for the father's death in the accident, but it was not scored again for the recapitulation "and he was killed instantly." The second exception refers to simple descriptive explanations or repetitions of a theme. Two examples will suffice: (1) "This mother is shocked to hear of her only son's death. She doesn't know what to do now that he's gone. She can hardly believe that her boy is dead. Why did he have to die?" In this case only one "Death" was scored. The other references to the son's demise only refer to the same accomplished fact; nothing new is happening in the story. (2) "These two men are fighting over the woman. She enjoys watching the fight. The fight lasts a long time, but finally one man wins the woman." Here again we scored

"Agg-Phy" only once. The other two references to the fight do not suggest that any new or different behavior is going on; it merely refers to the event in a simple, descriptive and repetitive way. Some additional scoring conventions adopted for this research will be given as part of Appendix B.

Six different TAT scores were derived for each subject: (1) The Direct Fantasy Aggression score consists of the sum of all verbal aggression, physical aggression, aggressive destruction, and kill responses. (2) The Indirect Fantasy Aggression score is the sum of all destruction, sick, injury, and death responses. (3) The Punishment score is the sum of all punishment, punishment-kill, and superego-punishment responses. (4) The Defense score consists of the sum of all denial, incomplete aggression, fantasy, and potential activation responses. (5) The Suppression score is the ratio of DFA responses on the ten TAT cards to those on the "demand" card. (6) The Fantasy Gratification score is the ratio of DFA responses on the two "severe pull" cards to those on the eight other TAT cards. (The TAT scores were based on the ten TAT cards, while the demand card score was computed separately from the responses given to this card.) These six scores constituted the basic fantasy measures used in testing the hypotheses of this research.

## Procedure

After the necessary arrangements had been made with the school authorities, subjects were scheduled for testing in groups of ten. After all subjects had been tested, the teachers who were to rate the subjects' behavior were assembled in small groups, given a general orientation to the research, and then rated the subjects assigned to them. To reduce the halo effect on these ratings as much as possible, the teachers were presented one subscale at a time, rating each subject assigned to them on this scale before going on to the next scale. The order in which subjects appeared on each subscale was randomized to minimize memory of sequence effects on the ratings. Teachers whose range of ratings was found, on analysis, to be confined only to the first two points of the scale were replaced by other raters of equal acquaintance with the subjects. The data were then scored by the investigator and analyzed by appropriate statistical procedures.

# CHAPTER V

# RESULTS

## Reliability of the Behavior Ratings

Since each subject was rated by three teachers, we followed the method suggested by Guilford (21, pp. 395-98) for estimating reliability for pooled judgments. This consists of using the Spearman-Brown correction formula for three times the length of test. The correlations between each rater on all the scales used in the study are shown below.

Rater 1 vs Rater 2 = .46
Rater 1 vs Rater 3 = .46
Rater 2 vs Rater 3 = .51

The final behavior rating used was the average of the three ratings given each subject. The estimated reliability of this composite rating is .72.

Although the Teacher Rating Scale originally consisted of eight subscales (see Appendix A), only six of these were used in computing the behavior ratings of the subjects. Scales 2 (Swearing) and 6 (Dictatorial and Monopolistic Behavior) were eliminated from the study because there was an inadequate spread of ratings on these two scales.

## Reliability of the Fantasy Scores

To determine the reliability of the fantasy measures, 10 of the 156 TAT protocols were chosen by use of a table of random numbers. These were scored independently by the investigator and two other clinical psychologists.[1] The average number of judgments for each pair of scorers was 230. The percent of agreement between the latter two judges ($J_1$, $J_2$), the investigator ($E_1$), and repeat scoring by the investigators five months later ($E_2$), are shown in Table 2. These results compare favorably with TAT scoring reliability reported in the literature by other workers (24).

Table 2. Reliability of the fantasy measures as shown by percent agreement between two judges, the investigator, and repeat scoring by the investigator five months later.

| Scorers | $E_1$ | $J_1$ | $J_2$ |
|---|---|---|---|
| $E_2$ | 94 | 89 | 88 |
| $J_1$ | 87 | - | 86 |
| $J_2$ | 86 | 86 | - |

[1] The author is indebted to Dr. Ned Papania and Mr. Ernest Smith for serving in this capacity.

## Homogeneity of the Sample

Homogeneity of the age groups. It was assumed that these "early adolescent" subjects would constitute homogeneous age groups as regards the behavior ratings and fantasy scores. An analysis of variance was done to test this assumption, following the procedure described in Edwards (14, Chap. 10). The results, shown in Table 3, indicate that the three age groups differ significantly on three of the four fantasy scores. The "F" test is statistically significant for DFA beyond the 1 per cent level, and for Punishment and Defense scores at the 5 per cent level of confidence. In testing the differences between the means of each age group on these fantasy scores, the "within variance" was utilized in calculating the standard error of the difference between means, as described by Lindquist (27, p. 243). Comparing the means of our age groups on DFA scores, we note that the mean of the 15-year-old subjects (6.94) is lower than that of the 13-year-olds (8.15) and 14-year-olds (9.88). The difference between the means of the 14- and 15-year-old subjects is significant beyond the 1 per cent level of confidence. This indicates that 15-year-old subjects, as a group, have lower DFA scores than 14-year-old subjects. The differences between the means of the 13- and 14-year-olds and the 13- and 15-year-olds did not reach statistical significance.

Table 3. Analysis of variance showing differences in age groups on the fantasy scores and behavior ratings.

| Fantasy and Behavior Measures | F Total Sample | Mean | | | S.E. Dm | t | | |
|---|---|---|---|---|---|---|---|---|
| | | 13 | 14 | 15 | | 13 v 14 | 13 v 15 | 14 v 15 |
| DFA . . . . | 5.71** | 8.15 | 9.88 | 6.94 | .888 | 1.95 | 1.36 | 3.31** |
| IFA . . . . . | .66 | 5.08 | 5.25 | 4.58 | .610 | .29 | .82 | 1.10 |
| Punish-ment . . . . | 3.07* | 2.48 | 2.83 | 2.04 | .339 | 1.03 | 1.30 | 2.33* |
| Defense . . | 3.10* | 3.46 | 3.27 | 2.38 | .481 | .40 | 2.24* | 1.85 |
| Behavior ratings . . | 1.12 | 1.96 | 2.13 | 1.95 | .139 | N.S. | N.S. | 1.29 |

* Significant at or below the 5 per cent level of confidence.
** Significant at or below the 1 per cent level of confidence.

In Punishment scores the 15-year-old subjects have significantly lower scores than the 14-year-olds ($t = 2.33$, $P < .05$) and the 15-year-olds also have significantly lower Defense scores than the 13-year-old subjects ($t = 2.24$, $P < .05$). There were no significant differences between the means of the three age groups on IFA scores and on the aggressive behavior ratings. The tendency of having a lower group mean even on these scores seems to characterize the 15-year-old subjects. It would appear, then, that the

15-year-old subjects differ significantly from the 13- and 14-year-old subjects on the fantasy measures. Consequently the assumption of homogeneity cannot be maintained in this regard, and the hypotheses put forward will have to be tested separately for each age group.

Effects of intelligence on the fantasy and behavioral measures. The extent to which the fantasy scores and the behavior ratings of our subjects are a function of their intelligence may be seen in Table 4. Intelligence does not appear to affect any of the fantasy scores of the total sample to any statistically significant extent. However, when the correlations between intelligence test scores and the fantasy scores were computed for each age group, several significant relationships emerged. For the 13-year-old subjects there is a negative correlation between intelligence and DFA scores (-.292) and a positive correlation between intelligence and IFA scores (.329), both significant at the 5 per cent level of confidence. Intelligence and Punishment scores are negatively correlated in the 15-year-old age group ($r = -.288$, $P < .05$). The negative correlation between intelligence and aggressive behavior ratings is quite consistent for the total sample ($r = -.32$, $P < .01$) as well as the separate age groups ($r_{13} = -.118$; $r_{14} = -.349$, $P < .05$; $r_{15} = -.447$, $P < .01$).

Table 4. Correlations between intelligence, fantasy scores, and aggressive behavior ratings for the total sample and the three age groups.

| Fantasy and Behavior Measures | Total Sample | Age Groups | | |
|---|---|---|---|---|
| | | 13 | 14 | 15 |
| DFA . . . . . | -.031 | -.292* | .067 | .132 |
| IFA . . . . . | .117 | .329* | -.124 | .147 |
| Punishment . . . . . | -.081 | -.051 | .046 | -.288* |
| Defense . . . . . | -.108 | -.165 | -.199 | .091 |
| Behavior ratings . . . . . | -.320** | -.188 | -.349* | -.447** |

* Significant at or below the 5 per cent level of confidence.
** Significant at or below the 1 per cent level of confidence.

As a consequence of these findings it appeared necessary to control statistically for the effects of intelligence on the fantasy and behavioral measures. This will be accomplished by computing partial correlations in testing hypotheses one through four, and by means of an analysis of covariance for hypotheses five through seven. Furthermore, since our three age groups have been found to differ significantly on the fantasy scores (Table 3) as well as on the relationship between the fantasy scores and intelligence (Table 4), it would appear to be improper to consider our sample as homogeneous.

Therefore, we will test our hypotheses for each age group separately instead of the total sample as a whole. Some of the implications of these age group differences will be considered in the next chapter.

## Findings for the Hypotheses

Results on direct fantasy aggression (Hypothesis 1). Direct fantasy aggression was defined earlier as TAT themes the aggressive character of which was socially recognizable. It was hypothesized that there is a positive relationship between direct fantasy aggression and aggressive behavior. The statistical analysis suggests that this hypothesis must be rejected.

The results concerning our first hypothesis are summarized in Table 5. Correlation coefficients between DFA scores and aggressive behavior ratings were first computed. Then partial correlation coefficients were computed to control statistically for the effects of intelligence upon our measures. Since our interest was primarily in the theoretical relationship between aggressive fantasy and aggressive behavior, the error of measurement in the behavior ratings and the fantasy scores had to be taken into account. This fallibility in the behavioral and fantasy measures was statistically adjusted by correcting the partial correlations for attenuation in the manner described by Guilford (22, p. 528). These corrected correlations

Table 5. Relationship between direct fantasy aggression scores and aggressive behavior ratings for the three age groups and the total sample.

| Statistic | Age Groups | | | Total Sample |
|---|---|---|---|---|
| | 13 | 14 | 15 | |
| Pearson r . . . . . | .000 | .147 | -.131 | .050 |
| Partial r (I.Q. held constant) . . | -.058 | .182 | -.081 | .042 |
| Corrected r . . . . . | -.069 | .216 | -.096 | .050 |
| Standard error of $r_{zero}$ . . . . . | .140 | .140 | .140 | .080 |

represent the maximal degree of relationship among the variables under consideration.

It is apparent from Table 5 that none of the correlations reach statistical significance. To clarify the meaning of these correlations, the standard error of a correlation of zero was computed, as suggested by Peters and Van Voorhis (33, p. 153). These authors consider it to be more conservative than the standard error of the obtained correlation, and it appears to be more meaningful for our purposes. This standard error indicates the size of the correlation which could be obtained by chance alone, even if the correlation between the variables under consideration were really zero. Thus it

can be seen that the correlations for the 13- and 15-year-old students could easily have arisen purely by chance, while that of the 14-year-olds is above the chance level by very little. The effects of age and intelligence on the relationships between fantasy and behavior under investigation will be given further consideration in the next chapter.

Results on indirect fantasy aggression (Hypothesis 2). Indirect fantasy aggression was defined earlier as TAT responses reflecting repressed hostility, but which were not aggressive in the social sense. It was hypothesized that there is a negative relationship between indirect aggressive fantasy and aggressive behavior. The results shown in Table 6 indicate that this hypothesis is tenable only for 15-year-old subjects. The corrected partial correlation of -.437 is significant beyond the 1 per cent level of confidence and suggests that a stable, "substantial" (22, p. 165) negative relationship between indirect fantasy aggression and aggressive behavior exists in this age group. The relationship does not differ significantly from zero in the 13-year-old ($r_c$ = .137) and 14-year-old ($r_c$ = -.06) groups.

Results on punishment themes (Hypothesis 3). Punishment themes were defined earlier as TAT responses in which someone in the story is punished after committing an aggressive act. It was hypothesized that there is a negative relationship between punishment

Table 6. Relationship between indirect fantasy aggression scores and aggressive behavior ratings for the three age groups and the total sample.

| Statistic | Age Groups | | | Total Sample |
|---|---|---|---|---|
| | 13 | 14 | 15 | |
| Pearson r . . . . . | .045 | -.090 | -.391** | -.140 |
| Partial r (I.Q. held constant) . . | .115 | -.050 | -.368** | -.109 |
| Corrected r . . . . . | .137 | -.060 | -.437** | -.129 |
| Standard error of $r_{zero}$ . . . . . | .140 | .140 | .140 | .080 |

* Significant at or below the 5 per cent level of confidence.
** Significant at or below the 1 per cent level of confidence.

themes and aggressive behavior. The results of our statistical analysis are shown in Table 7. None of the corrected correlations exceeded the standard error of a zero correlation. This hypothesis is rejected.

Because Mussen and Naylor (31) utilized a Punishment-Aggression ratio in their research, an attempt was made to find out whether the relationship of Punishment themes to DFA scores contained the possibility of predicting aggressive behavior. We wished to see whether subjects with high Punishment scores had lower aggressive behavior ratings than subjects with low Punishment scores, when their

Table 7. Relationship between punishment scores and aggressive behavior ratings for the three age groups and the total sample.

| Statistic | Age Groups | | | Total Sample |
|---|---|---|---|---|
| | 13 | 14 | 15 | |
| Pearson r . . . . . | -.06 | -.01 | -.219 | -.076 |
| Partial r (I.Q. held constant) . . | -.071 | .006 | -.105 | -.053 |
| Corrected r . . . . . | -.038 | .008 | -.124 | -.062 |
| Standard error of $r_{zero}$ . . . . . | .140 | .140 | .140 | .080 |

DFA scores were high as well as when their DFA scores were low. Subjects who were above the median of DFA scores were classified as high, and subjects whose DFA scores were below the median were classified as low in direct fantasy aggression. The mean and standard deviation of the Punishment scores were then calculated. Subjects with Punishment scores one standard error above the mean were classified as having high Punishment scores, those subjects who were one standard error below the mean were classified as having low Punishment scores.[1] Analyses of covariance were run

[1] The median was used for the DFA cut-off point in order to obtain a sufficient number of subjects for each group. The standard error above and below the mean was chosen for the Punishment scores because the range of the scores was limited and their distribution somewhat skewed.

to test the difference between the means of the high and low Punishment groups. This statistic was employed in order to statistically equate the groups for intelligence, which, as we noted previously, affected both the fantasy and behavior measures. The results of this analysis are shown in Table 8. Although the aggressive behavior rating means are slightly higher for the subjects with low Punishment scores than for those with high Punishment scores, the "F" test indicates that this difference is not statistically significant. As regards our total sample, then, we may say that subjects who are high in direct fantasy aggression and high in Punishment themes (N = 31) do not exhibit less aggressive behavior than subjects who are also high in direct fantasy aggression, but have low Punishment scores (N = 13). This failure to function as a deterrent to aggressive behavior also occurs when the subjects are low in direct fantasy aggression ($N_{Hi}$ = 9, $N_{Lo}$ = 34).

These negative findings for the total group may be expected, since it was determined earlier that our three age groups are not homogeneous and tend to have correlations of opposing signs. The findings for the group are reported, however, because the number of subjects was too small to test these relationships for each age group. Inspection of the data suggests that the findings are just as negative for each age group, the subjects being matched for intelligence.

Table 8. Analysis of covariance comparing the aggressive behavior ratings of subjects high and low on punishment scores when DFA scores are high and when DFA scores are low.

| Statistic | High DFA | | Low DFA | |
|---|---|---|---|---|
| | High Punishment | Low Punishment | High Punishment | Low Punishment |
| Mean aggressive behavior rating . . . . . | 1.99 | 2.15 | 1.87 | 1.97 |
| Covariance "F" . . . . . | .275 | | .03 | |

Since there were just enough 14-year-old subjects (N = 6) to compute a Wilcoxon "T" Test (41, p. 423), this statistic was computed. In neither case did the difference between the groups reach statistical significance. It seems safe to state, therefore, that the number of Punishment themes in relation to the frequency of DFA responses was not significantly related to aggressive behavior ratings in our subjects.

Results on defense against aggression (Hypothesis 4). Defense against aggression was previously defined as TAT responses indicating that a suspected, intended, or ongoing aggressive act was not consummated in the story. It was hypothesized that there is a

Table 9. Relationship between defense scores and aggressive behavior ratings for the three age groups and the total sample.

| Statistic | Age Groups | | | Total Sample |
|---|---|---|---|---|
| | 13 | 14 | 15 | |
| Pearson r . . . . . | .155 | .238 | -.246 | .080 |
| Partial r (I.Q. held constant) . . | .128 | .183 | -.230 | .048 |
| Corrected r . . . . . | .151 | .217 | -.273* | .057 |
| Standard error of $r_{zero}$ . . . . . | .140 | .140 | .140 | .080 |

* Significant at or below the 5 per cent level of confidence.

negative relationship between Defense and aggressive behavior. The results of our analysis are summarized in Table 9, and indicate that the hypothesized relationship holds only for the 15-year-old age group. The corrected correlation of -.273 is significant at the 5 per cent level. This suggests that a low, but reliable, negative relationship between Defense scores and aggressive behavior ratings exists for the 15-year-olds in our sample.

As with Hypothesis 3, analyses of covariance were run to test the difference between the mean behavior ratings of subjects high and low in Defense score as well as high and low in DFA score. The results, shown in Table 10, indicate that, when intelligence is held

Table 10. Analysis of covariance comparing the aggressive behavior ratings of subjects high and low on defense scores when DFA scores are high and when DFA scores are low.

| Statistic | High DFA | | Low DFA | |
|---|---|---|---|---|
| | High Defense | Low Defense | High Defense | Low Defense |
| Mean aggressive behavior rating . . . . . | 1.96 | 1.87 | 1.99 | 2.03 |
| "F" of covariance . . . . . | .153 | | .05 | |

constant, being high or low in Defense against aggression did not affect the aggressive behavior ratings of our subjects to any statistically significant extent. This was true when the subjects' DFA scores were high ($N_{Hi}$ = 15, $N_{Lo}$ = 15) as well as when they were low ($N_{Hi}$ = 7, $N_{Lo}$ = 32). It was again not feasible to test these relationships for each age group because the number of subjects was too small. There were enough 13-year-old subjects (N = 6) to compute a Wilcoxon "T" for that age group, but this did not reach statistical significance. Visual inspection of the data suggested that this lack of relationship would also be true for the 14-year-olds. Since only two 15-year-old subjects were in the high and low Defense groups, no conclusion could be drawn for this age group.

Results on suppression (Hypothesis 5). Suppression on the TAT was defined earlier as occurring when subjects with a low DFA score on the ten TAT cards respond with an excessive number of DFA responses on the "demand" card, which was presented last. It was our hypothesis that subjects who were low in direct fantasy aggression and used suppression on the TAT would be higher in aggressive behavior than subjects with low direct fantasy aggression but not using suppression on the TAT.

To test this hypothesis, a "suppression ratio" was computed for each subject by dividing the number of his DFA responses on the ten TAT cards by the number of his DFA responses on the "demand" card. The mean and standard error of this distribution of ratios was then computed. DFA scores one standard error below the mean of the total sample were then pulled from the sample (N = 32). These subjects were classified as "high" in suppression if their suppression ratio was one standard error below the mean of these ratios (N = 13). The remaining subjects were classified as "low" in suppression (N = 19).

An analysis of covariance was run to test the difference between the means of aggressive behavior ratings, the two groups being statistically equated for intelligence. The results of this analysis are summarized in Table 11a. The above procedure was followed

Table 11a. Analysis of covariance comparing the aggressive behavior ratings of subjects high and low on suppression when DFA scores are low.

| Statistic | High Suppression | Low Suppression |
|---|---|---|
| Mean aggressive behavior rating . . . | 1.96 | 1.85 |
| Covariance "F" . . . . . | 1.72 | |

Table 11b. Analysis of covariance for the three age groups comparing the aggressive behavior ratings of subjects high and low on suppression when DFA scores are low.

| Statistic | Age 13 | | Age 14 | | Age 15 | |
|---|---|---|---|---|---|---|
| | High Suppression | Low Suppression | High Suppression | Low Suppression | High Suppression | Low Suppression |
| Mean aggressive behavior rating . . . . . | 1.87 | 2.01 | 1.85 | 1.30 | 2.04 | 1.70 |
| Covariance "F" | .107 | | .584 | | .446 | |

in computing an analysis of covariance for each age group, the results of which are shown in Table 11b. For the total sample, with age not controlled, the mean behavior rating for the high suppression group (1.96) is somewhat higher than that for the low suppression group (1.85). This also holds true for the 14- (N = 5) and 15- (N = 16) year-old age groups. In the 13-year-olds (N = 11), however, this trend is reversed. It can be seen, however, that none of the "F" tests reached statistical significance. Consequently our hypothesis concerning suppression must be rejected.

Results on fantasy gratification (Hypothesis 6). Fantasy gratification was previously defined as occurring on the TAT when a subject with a high DFA score also had a significantly low "fantasy gratification ratio." The ratio would be low if a subject gave most of his DFA responses early in the series of TAT cards and only a few such responses on the last two cards. It was hypothesized that subjects high in direct fantasy aggression and giving evidence of fantasy gratification on the TAT would have significantly lower aggressive behavior ratings than subjects high in direct fantasy aggression and not using fantasy gratification to reduce their hostile needs.

A "fantasy gratification ratio" was computed for each subject in the total sample by dividing the number of his DFA responses on

the two "severe pull" TAT cards by one-fourth of his DFA responses on the eight other TAT cards. The mean and standard deviation of this distribution of ratio was computed. All subjects whose DFA scores were one standard deviation above the mean of the total sample were then pulled from the sample. These subjects (N = 27) were then classified as "high" in fantasy gratification if their gratification ratio was one standard deviation below the mean of these ratios (N = 7). The remaining subjects (N = 20) were classified as "low" in fantasy gratification.

Analyses of covariance were computed as described in the preceding section, and are summarized in Tables 12a and 12b. Since none of the covariance "F" tests reached statistical significance, our hypothesis failed to be supported by the data. In fact, the mean behavior ratings of the subjects high in fantasy gratification were slightly higher than those of the subjects low in fantasy gratification, which is the reverse of our prediction. As there were no 15-year-old subjects in the "high" fantasy gratification category, our hypothesis could not be tested for this age group.

Results on repression (Hypothesis 7). Repression was defined earlier as occurring on the TAT when a subject's IFA score was high, while his DFA score was low. It was our hypothesis that

Table 12a. Analysis of covariance comparing the aggressive behavior ratings of subjects high and low in fantasy gratification when DFA scores are high.

| Statistic | High Fantasy Gratification | Low Fantasy Gratification |
|---|---|---|
| Mean aggressive behavior rating . . . | 2.3 | 1.89 |
| Covariance "F" . . . . . | 1.04 | |

Table 12b. Analysis of covariance for age groups 13 and 14, comparing the aggressive behavior ratings of subjects high and low in fantasy gratification when DFA scores are high.

| Statistic | Age 13 | | Age 14 | | Age 15 | |
|---|---|---|---|---|---|---|
| | High Fantasy Gratification | Low Fantasy Gratification | High Fantasy Gratification | Low Fantasy Gratification | High Fantasy Gratification | Low Fantasy Gratification |
| Mean aggressive behavior rating . . . . . | 2.07 | 1.89 | 2.48 | 1.80 | - | - |
| Covariance "F" | 1.03 | | .02 | | - | |

subjects giving evidence of repression on the TAT would have significantly lower aggressive behavior ratings than subjects also high on IFA, but showing, by giving numerous DFA responses as well, that they were not using repression in handling their hostile needs on the TAT.

In testing the hypothesis concerning repression, we again followed essentially the same procedure as in testing the preceding two hypotheses. Of the twenty-two subjects whose IFA score was one standard deviation above the mean, ten subjects also had DFA scores one standard deviation below the mean (high repression group), and twelve subjects had DFA scores one standard deviation above the mean (low repression group). Analyses of covariance were computed as before, to test the difference between the mean aggressive behavior ratings of the high and low repressors, the two groups being statistically equated for intelligence.

The findings are summarized in Tables 13a and 13b. When age is not controlled (Table 13a), the high repression group has slightly lower aggressive behavior ratings than the low repression group, but this difference is not statistically significant ($F = .55$). In the 13- and 14-year-old groups the subjects who are high in repression had higher behavior ratings than the subjects low in repression, which is the reverse of our prediction. However, the differences

Table 13a. Analysis of covariance comparing the aggressive behavior ratings of subjects high and low in repression.

| Statistic | High Repression | Low Repression |
|---|---|---|
| Mean aggressive behavior rating . . . | 1.98 | 2.0 |
| Covariance "F" . . . . . | .55 | |

Table 13b. Analysis of covariance for the three age groups, comparing the aggressive behavior ratings of subjects high and low in repression.

| | Age 13 | | Age 14 | | Age 15 | |
|---|---|---|---|---|---|---|
| Statistic | High Repression | Low Repression | High Repression | Low Repression | High Repression | Low Repression |
| Mean aggressive behavior rating . . . . . | 2.18 | 2.10 | 2.55 | 2.03 | 1.50 | 1.75 |
| Covariance "F" | 1.43 | | 5.00 | | 2.83 | |

between the means in these two age groups are not statistically significant, though the "F" value of the 14-year-olds approaches significance ($F = 5.0$). The group differences were in the predicted direction for the 15-year-olds, but did not reach statistical significance ($F = 2.83$). In the light of these findings our hypothesis concerning repression must be rejected.

## Effects of Age and Intelligence on the Relationships

To investigate whether the relationships under consideration would differ as a function of intelligence, our subjects were divided into two groups. Intelligence Group I was made up of eighty-four subjects with I.Q. scores ranging from 91 to 110; Intelligence Group II contained seventy-two subjects with I.Q. scores ranging from 111 to 127. These groups will be referred to as the "average" and "bright-superior" groups, respectively. Correlations between aggressive behavior ratings and the four fantasy scores were computed as before, and the resulting coefficients corrected for attenuation. Our results, shown in Table 14, suggest that the relationship between aggressive fantasy and aggressive behavior may be different for subjects of average intelligence than it is for subjects of bright-superior intelligence. There is a low, but fairly reliable, positive relationship ($r = .268$, $P < .05$) between direct fantasy aggression

Table 14. Comparison of the correlations between aggressive behavior ratings and four fantasy scores, for subjects of average and bright-superior intelligence.

| Fantasy Scores | Average Intelligence | | Bright-Superior Intelligence | |
|---|---|---|---|---|
| | r | $r_c$ | r | $r_c$ |
| DFA . . . . . | -.074 | -.088 | .226 | .268* |
| IFA . . . . . | -.208 | -.247* | -.013 | -.015 |
| Punishment . . . . . | -.178 | -.209 | .127 | .149 |
| Defense . . . . . | .00 | .00 | .214 | 2.53* |
| Standard error of $r_{zero}$ . . . | .11 | | .12 | |

and aggressive behavior for bright-superior subjects, while none exists for subjects of average intelligence (r = -.088). The situation is reversed in regard to indirect fantasy aggression. Subjects of average intelligence show a low, but fairly reliable, negative relationship (r = -.247, P < .05) between indirect fantasy aggression and aggressive behavior, while none was found to exist for the bright-superior subjects (r = -.015). The correlations between Punishment themes and aggressive behavior ratings did not reach statistical significance in either group, but they are in the negative direction for the average intelligence group and in the positive direction for

the bright-superior group. There was no correlation between defense themes and aggressive behavior ratings in the average intelligence group, though a low, relatively stable positive relationship ($r = .253$, $P < .05$) obtains for subjects of bright-superior intelligence. This latter relationship is in the opposite direction of that specified by our fourth hypothesis.

# CHAPTER VI

## DISCUSSION

The purpose of this research was to determine whether certain relationships, which could be predicted on the basis of a current personality theory, exist between aggressive behavior and aggressive fantasy. Our results would seem to indicate that some of the postulated relationships are demonstrable, but by no means in any universal sense. In essence, we found that only in the 15-year-old age group did some of our hypotheses hold up. The negative correlation between indirect fantasy aggression and aggressive behavior (Hypothesis 2), and between defenses and aggressive behavior (Hypothesis 4) could be demonstrated in the 15-year-olds at the 1 per cent and 5 per cent levels of confidence, respectively. The anticipated positive relationship between direct fantasy aggression and aggressive behavior (Hypothesis 1), and the postulated negative relationship between punishment themes and aggressive behavior (Hypothesis 3), were not confirmed in any of the three age groups. A statistically significant correlation between DFA scores and aggressive behavior ratings was found only for our bright-superior subjects. Nor was it possible to demonstrate that TAT indexes of suppression (Hypothesis

5), fantasy gratification (Hypothesis 6), or repression (Hypothesis 7) were related to the aggressive behavior of our subjects in any systematic way. How can these findings be best accounted for and what conclusions may we draw from them?

One possibility is that the behavioral measures employed in this study were too gross. Had we been able to use more ideal measures of aggressive behavior, as was discussed in an earlier chapter, our correlations might have been higher and our other hypotheses might also have been confirmed. However, it seems doubtful that mere improvement of our behavioral measures could do away with the many inconsistencies in our data.

Another reason for our failure to obtain the results reported by other investigators may be that we employed a "normal" population, while all the reported findings of a positive relationship between direct fantasy aggression and aggressive behavior are based on "deviant" populations--neuropsychiatric patients (24, 34, 37, 40) and delinquents (31). The amounts of hostility and the defenses used to deal with it may well be expected to be more exaggerated in these deviant groups. It may, therefore, be on the basis of such extreme conditions that the findings reported by others and those reported here do not support each other.

Socioeconomic status of the subjects is yet another variable which might have contributed to the differences between our findings and those of others. This is particularly relevant to our hypotheses 1 (DFA) and 3 (Punishment themes). Mussen and Naylor (31) reported evidence of "a strong positive relationship between covert and overt aggression," in which modification of DFA responses by defense themes was not taken into consideration. On the basis of their findings we should have obtained a positive correlation between DFA scores and aggressive behavior ratings. Aside from the fact that Mussen and Naylor's subjects were delinquents, one should note that they also differed from our subjects in that ours were from the middle class while theirs were lower class youngsters. This seems worthy of further research, especially since Auld (4) and others have repeatedly called attention to social class-based test differences.

Does the fact that Hypothesis 3 was not confirmed actually stand in contradiction to the results reported by Mussen and Naylor? A closer examination of their findings leads us to believe that the claimed relation between their Punishment/Aggression ratio and aggressive behavior may have been an artifact. They found only "a trend which is mildly supportive of the hypothesis" (31, p. 238) that a low Punishment/Aggression ratio is related to high aggressive behavior, while a high P/A ratio would be related to low aggressive

behavior. As was noted above, they had previously found a positive relationship between fantasy aggression and aggressive behavior. They now proceeded to test their P/A ratio hypothesis by compiling a chi square table in which they compared subjects having high fantasy aggression plus a low P/A ratio with subjects having low fantasy aggression plus a high P/A ratio. That their results were statistically significant was primarily a function of the fact that they were comparing subjects high and low in fantasy aggression, which comparison was already known to yield statistically significant results. Having added the criterion of a high or low P/A ratio merely increased the level of confidence of their results. It now becomes apparent that the reason part of our third hypothesis failed to be confirmed was primarily because we did not have a positive correlation between DFA and aggressive behavior ratings to begin with. Had we run an analysis of covariance comparing the aggressive behavior ratings of subjects with high DFA scores plus low Punishment scores, and subjects having low DFA scores plus high Punishment scores (Table 5 shows that these mean aggressive behavior ratings are 2.15 and 1.87, respectively), the results would still be unlikely to reach statistical significance.

Still another reason why our findings are not in agreement with previously reported research may lie in the age composition of

our sample, and the differential effects of intelligence on the variables and relationships with which we have been concerned. The negative correlation between intelligence and aggressive behavior ratings suggests some interesting possibilities. Not only does aggressive behavior decrease as intelligence increases, but this tendency becomes more pronounced as our boys get older (see Table 4). The correlation coefficient for the 13-year-olds was -.19, it was -.35 for the 14-year-olds, and -.45 for the 15-year-olds. It is possible, of course, that our teacher ratings of aggressive behavior were influenced by the subject's school performance, and thus indirectly by his intellectual ability. It is not too unrealistic to suspect that the smarter subjects may have been perceived as less aggressive by their teachers than the less intelligent ones. However, why this bias should increase with the age of the subjects is not so clear, as long as we attempt to attribute this phenomenon to biased teacher ratings alone.

If we review our results with an eye to possible developmental trends, we note again that there was no support of our hypotheses in the 13- and 14-year-old age groups, while hypotheses 2 and 4 were supported at the 1 per cent and 5 per cent levels, respectively, in the 15-year-old age group (see Table 5, 6, 7, 9). The correlation between Punishment themes and aggressive behavior ratings in the

15-year-old age group was -.12, which is in the predicted direction, though not significantly so. It seems clear that the 15-year-olds are different from the two other age groups. This difference could conceivably be due to the fact that they were in high school, while the other two age groups were in junior high school.[1] Thus, the 15-year-olds were rated by different teachers than the 13- and 14-year-olds. However, it does not seem likely that these findings regarding the 15-year-old subjects are due primarily to their being rated by different teachers. The DFA, Punishment, and Defense fantasy scores of the 15-year-olds were significantly lower than those of the 14-year-olds. Although our findings do not warrant any statement about developmental trends, they do suggest the possibility that the age of 15 may mark the beginning of predictable relationships between aggressive fantasy and aggressive behavior, along the lines we have hypothesized. Only further research with a wider range of age groups can determine the merit of this suggestion.

Our data contain some other clues which might warrant further investigation. We have seen the factor of intelligence as a

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[1] The majority of the 15-year-old subjects came from the same junior high school attended by the 13- and 14-year-olds. Some "retrospective" ratings of these subjects by their junior high school teachers were generally similar to their high school behavior ratings.

significant influence on various aspects of our study (see Table 4). We have seen that bright subjects have lower aggressive behavior ratings than subjects of average intelligence ($r = -.32$). Also, we have found that, in 13-year-old subjects, as intelligence increases the use of DFA responses decreases ($r = -.29$) while that of IFA responses increases ($r = .33$). For subjects in the 15-year-old age group, the use of Punishment themes decreases as intelligence increases ($r = -.29$). Even though these correlations are low, they suggest that intelligence may play an important role in determining the behavior as well as the kind of fantasy an individual acquires. Our results also indicate that the relationship between aggressive behavior and DFA, IFA, and Defense responses on the TAT is different for subjects of average intelligence than for subjects of bright-superior intelligence. All these findings appear to be more susceptible to speculation than to explanation. For this reason it would seem best merely to call attention to them, so that adequate account can be taken of them in future research.

We have discussed some of the reasons why our findings are not in agreement with those reported in the recent literature. Our results, particularly those involving direct fantasy aggression, are quite similar to those reported earlier by Symonds (38) and Sanford (35), however. They, too, used adolescent populations for their

research. As regards this population, it would, therefore, seem that there is little empirical evidence for any predictable relationship between direct fantasy aggression and aggressive behavior. This need not imply that the TAT is a useless instrument for dealing with adolescent populations. The problem of hostile tensions remains to be explored, as such may well exist in an individual without ever gaining behavioral expression. It may be of interest, in this regard, to consider the implications of the fact that Feshbach (18) found evidence for tension reduction as a result of writing aggressive TAT stories, while our hypothesis concerning fantasy gratification had to be rejected because fantasy gratification, as defined in our study, failed to be related to aggressive behavior. Had we attempted to measure changes in tension systems rather than in behavior, our results might have been similar to Feshbach's. The implication appears to be that the clinical use of the TAT is primarily concerned with tension systems and that its validation for this task should not be via behavioral measures. The results of our study seem to suggest that, at least for 15-year-old subjects, the hostile tension reflected in the IFA responses stand in a systematic relationship to aggressive behavior, while those tensions reflected in the DFA responses do not.

An over-all evaluation of our findings requires a word of caution as regards the conclusions to be drawn from them. Since hypotheses 5, 6, and 7 are partially dependent upon Hypothesis 1, we shall not consider them in the discussion of the point we wish to make here. We have, so to speak, tested each of our hypotheses three times; i.e., once with each age group. Out of this total of twelve correlations, only two reached statistical significance. This is slightly better than chance. Therefore this would tend to limit the confidence with which we maintain the notion of a systematic relationship between aggressive fantasy and aggressive behavior. It is mainly on the basis of our suggestion that the age of 15 may represent the beginning of a different stage of development, one corresponding more closely to adulthood, that we feel that further research in this area might prove fruitful.

# CHAPTER VII

## SUMMARY AND CONCLUSIONS

The present research was designed to test the general hypothesis that a systematic relationship exists between aggressive fantasy and aggressive behavior. Two major kinds of aggressive fantasy were considered. Direct aggressive fantasy was assumed to be positively correlated with aggressive behavior, while indirect aggressive fantasy was assumed to stand in a negative relationship to aggressive behavior. The modifying effects of defense against aggression, punishment, suppression, fantasy gratification, and repression, on the postulated relationship between direct fantasy aggression and aggressive behavior were also studied.

One hundred fifty-six white, middle-class boys, in groups of ten subjects each, wrote stories to ten TAT cards and a specially designed "demand" card. These stories were scored for Direct Fantasy Aggression, Indirect Fantasy Aggression, Punishment, and Defense themes by a modified method of Murray's (30) scoring scheme. The reliability of these scores ranged from 86 per cent to 94 per cent agreement between two judges and the investigator. Each boy was rated on aggressive behavior by three of his teachers.

The pooled reliability of these behavior ratings was .72. Our total sample was composed of equal numbers (N = 52) of 13-, 14-, and 15-year-old subjects, all age groups being matched for intelligence (I.Q. range 91-127), ethnic and religious background, and number of siblings. Because the three age groups were not homogeneous as regards mean fantasy scores on the several measures, our hypotheses were tested separately for each age group. The following seven hypotheses were advanced to test various relationships between the aggressive fantasy scores and the aggressive behavior ratings.

Hypothesis 1. There is a positive relationship between direct aggressive fantasy and aggressive behavior.

Hypothesis 2. There is a negative relationship between indirect aggressive fantasy and aggressive behavior.

Hypothesis 3. There is a negative relationship between frequency of fantasy punishment themes and aggressive behavior.

Hypothesis 4. There is a negative relationship between aggressive behavior and certain defenses against aggressive fantasy. The defenses under consideration are denial, fantasy, failure to carry out intended aggressive action, and noncompletion of ongoing aggressive action due to intervention by an external agent.

Hypothesis 5. Subjects high in suppression of direct aggressive fantasy are significantly higher in aggressive behavior than subjects who do not use suppression on the TAT.

Hypothesis 6. Subjects high in fantasy gratification on the TAT are significantly lower in aggressive behavior than subjects who do not give evidence of fantasy gratification on the TAT.

Hypothesis 7. Subjects high in repression on the TAT are significantly lower in aggressive behavior than subjects who do not give evidence of repression on the TAT.

Our results do not support findings of other workers who report a positive relationship between direct fantasy aggression and aggressive behavior. Nor did we find any significant relationship between direct fantasy aggression and aggressive behavior even when the effects of punishment themes and themes of defense against aggression were taken into account. Neither were TAT indexes of suppression, fantasy gratification, or repression significantly related to aggressive behavior in our subjects. The only evidence for a positive relationship between direct fantasy aggression and aggressive behavior was found in the bright-superior group of subjects. The reliability as well as the implications of this finding await further research.

That our findings are not in agreement with those of recent other studies may well be a function of differences in the types of populations employed. Differences in age, socioeconomic status, and psychiatric status were seen to exist between our population

sample and the sample of other investigators. Our findings are in agreement, however, with the two studies also using adolescent subjects. It seems clear, then, that no systematic relationship between direct fantasy aggression and aggressive behavior as measured in public school settings has been demonstrated for adolescent subjects.

Our findings are somewhat more encouraging as regards the postulated negative relationship between indirect fantasy aggression and aggressive behavior. Such a relationship has been found to hold at the 1 per cent level of confidence ($r_c$ = -.44) in our 15-year-old age group. The confidence with which we view this relationship is limited by the fact that it could not be demonstrated in the other two age groups. Since the construct of indirect fantasy aggression has not been investigated in this manner by other workers, further research will be necessary in order to determine the extent to which the relationship we have found can be shown to exist in similar as well as different populations.

This research has raised many more questions than it has been able to answer. The fact that both our significant relationships were found only in the 15-year-old age group suggests the possibility that developmental considerations may be of importance to the relationship between aggressive fantasy and aggressive behavior. The various effects that intelligence has been shown to have on the fantasy

scores, on the aggressive behavior ratings, and on the relationships between the two, all indicate the need for further research in these areas, as well as the necessity of carefully controlling these factors in future investigations.

In terms of the general hypothesis of this research, we would conclude that there is very little evidence to suggest that aggressive behavior can be predicted from the aggressive fantasy productions of adolescent boys. Only themes of indirect fantasy aggression were found to be significantly related to aggressive behavior, the relationship being a negative one. This relationship appears to have no precedent in the literature and should be cross validated in order that it may be properly evaluated. It is also apparent that findings in this area of investigation cannot readily be generalized to other populations.

Lest it be prematurely concluded that the TAT is of little utility in dealing even with early adolescent populations, the author suggests that more comprehensive research be undertaken with this instrument. The TAT was not principally designed as an instrument for the prediction of specific, overt behavior. Murray described its purpose as "a method of revealing to the trained interpreter some of the dominant drives, sentiments, complexes and conflicts of personality. Special value resides in its power to expose the underlying

inhibited tendencies which the subject, or patient, is not willing to admit, or cannot admit because he is unconscious of them. The TAT will be found useful in any comprehensive study of personality, and in the interpretation of behavior disorders, psychosomatic illnesses, neuroses, and psychoses." (30, p. 1.) We have attempted to use some of the constructs of psychoanalytic theory as a bridge between fantasy productions and overt, interpersonal behavior. It may be that in the investigation of such constructs it would be more appropriate to focus attention on the relationship between several constructs, utilizing measures of overt behavior as an explanatory bridge between the constructs. For example, one might investigate the relationship between different hostile needs, as measured by the TAT, and anxiety, as measured by the Taylor Anxiety Scale or any other appropriate instrument, when overt aggressive behavior is high as compared to when this is low. Such an investigation of the psychological tension systems supposedly reflected in TAT protocols and other tests may prove to be a more fruitful area for future, clinically oriented research.

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# APPENDIXES

# APPENDIX A

## TEACHERS' RATING SCALE

You are being asked to rate several of your pupils on various ways of showing aggression as they show this behavior in your contacts with them. This is an important aspect of research on early adolescents and your earnest cooperation will be sincerely appreciated.

In order to have all of the teacher ratings mean the same thing, the different kinds of behavior are carefully and specifically defined for you. Be sure to keep these descriptions well in mind as you assign your ratings. Each type of aggressive behavior is to be rated on a 5-point scale, and there are 8 of these scales in all. Be sure you read the whole scale through before you assign each rating. Please make the ratings requested of you by circling the appropriate number on the scales.

Thank you for your help.

Gary M. Heymann

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1

Boy's Name_____ Rater_____

FIGHTING - physical combat, pushing, shoving, "horsing around."

1 - never or almost never fights: practically never fights, even when provoked by others.

2 - seldom fights: sometimes fights back on provocation, but refrains from retaliation just about as often; occasionally takes part in fighting already under way, but stays out of it more often than he joins in; rarely starts a fight on his own.

3 - fights sometimes: usually fights when provoked, though there are times when provocation may be ignored; is one

of the participants in a group fight about as often as not; once in a while has an "off day" on which he may start a fight.

4 - frequently fights: fights on provocation almost all the time; will join an ongoing group fight most of the time; starts a fight more often than not, but has peaceful periods, too.

5 - always or almost always fights: always fights when provoked; if there is a group fight in progress you can count on his joining in; starts a fight almost all the time.

0 - don't know: no chance to observe adequately.

---

2

Boy's name_____ Rater_____

SWEARING AND CURSING - use of oaths, foul language, etc. in conversation with teachers, pupils, or others in class, halls, or elsewhere.

1 - never or almost never swears: practically never swears, even when angry or somebody else swears at him first.

2 - seldom swears: occasionally swears when angry or when others are doing it too.

3 - sometimes swears: usually swears when angry and occasionally as part of his daily language.

4 - frequently swears: swears like a trooper when angry and uses profanity as part of daily speech more often than not.

5 - always or almost always swears: hardly says a sentence without using a swear word.

0 - don't know: no chance to observe adequately.

---

3

Boy's name_____ Rater_____

ARGUING - violent exchange of words or opinions with teachers or pupils, in class or out.

1 - never or almost never argues: practically never argues with anyone, even when someone else tries to start something.

2 - seldom argues: will put up an argument once in a while, mostly just when provoked by someone.

3 - sometimes argues: will argue at times even when not provoked; may occasionally join into an argument going on between others, or start one himself.

4 - frequently argues: usually argues when provoked; often joins into ongoing arguments; will start arguments as often as not.

5 - always or almost always argues: makes an argument out of almost everything that most anybody says to him; if there is an argument going he's usually in it.

0 - don't know: no chance to observe adequately.

---

4

Boy's name_____ Rater_____

NEGATIVISM, CONTRARINESS, AND OBSTRUCTIONISM: in class or group activities either does nothing, or does just the opposite, or prevents others from carrying out their tasks, or "purposely" does everything wrong, etc., when a suggestion is made to him or the class, or when his ideas are dropped in favor of someone else's, or when he is reprimanded or criticized by pupils or teachers, or for no apparent reason.

1 - never or almost never negativistic, etc.: practically never does any of these things, even when feeling out of sorts.

2 - seldom negativistic, etc.: will act that way once in a while when frustrated by someone or "called down" by the teacher.

3 - sometimes negativistic, etc.: will become stubborn or resistive as often as not whenever frustrated in class or group activities.

4 - frequently negativistic, etc.: gets contrary, negativistic, or obstructionistic more often than not when someone puts the damper on him in class or group activity; often comes to class that way, but may become cooperative some of the time if humored a little.

5 - always or almost always negativistic, etc.: meets every suggestion with negativism, etc., regardless of whether it comes from friend or foe.

0 - don't know: no chance to observe adequately.

---

5

Boy's name_____ Rater_____

MEANNESS AND "ORNERY" BEHAVIOR - in or out of class or group activity is generally unpleasant in his behavior towards others; makes unfavorable remarks about others; "tears down" people or their work; goes out of his way to make life unpleasant for someone or everyone; "tattles" to teacher or others; uses name calling to annoy others; hides other people's property or throws it away or destroys it; teases and bullies others; etc.

1 - never or almost never mean & ornery: practically never does any of these things, even when someone is that way to him.

2 - seldom mean & ornery: is mean and ornery once in a while, mostly just to "pay back" if someone else was that way to him.

3 - sometimes mean & ornery: "pays back" someone by being mean and ornery as often as not; occasionally may join in when others are acting this way towards someone.

4 - frequently mean & ornery: is often mean and ornery without "good cause"; picks on people as often as not.

5 - always or almost always mean & ornery: acts that way toward people most of the time, no matter how pleasant others try to be towards him.

0 - don't know: no chance to observe adequately.

---

6

Boy's name_____ Rater_____

DICTATORIAL AND MONOPOLISTIC BEHAVIOR - in class or group activity always wants his way about everything, insists his ideas be carried out even over the protest of others; monopolizes class or group activity by constant activity of his own, giving others little chance to participate; "hogs" the show or equipment, etc.

1 - never or almost never dictatorial or monopolistic: does practically nothing to keep others from taking over or joining into an activity.

2 - seldom dictatorial or monopolistic: occasionally tries dictatorial practices, but usually gives others a chance and yields when requested.

3 - sometimes dictatorial and monopolistic: monopolizes class situation once in a while, but gives others a chance too and yields most of the time when requested.

4 - frequently dictatorial or monopolistic: takes over the situation more often than not; tries to keep others from participating in discussion or group activity and often refuses to yield when requested.

5 - always or almost always dictatorial and monopolistic: monopolizes class activity almost all the time so that nobody else can get much of a word in edgewise or "carry the ball" in any way; refuses to yield most of the time.

0 - don't know: no chance to observe adequately.

---

7

Boy's name_____ Rater_____

CREATION OF GENERAL DISTURBANCE - in class or group activities throws spit balls; gives cat calls; writes and passes around disturbance-creating notes; plays practical jokes of the more dangerous variety, such as pulling chairs out from under people; any behavior obviously meant to distract the class from its business and perhaps to get others to do likewise.

1 - never or almost never creates disturbance: practically never does anything to disturb class procedure.

2 - seldom creates disturbance: may participate in class disturbance once in a while, but almost never starts any trouble.

3 - sometimes creates disturbance: when someone else starts a class disturbance he takes part in it as often as not, but seldom starts anything himself.

4 - frequently creates disturbance: starts or takes part in class disturbance more often than not.

5 - always or almost always creates disturbance: creates general disturbance almost all the time; if a disturbance occurs he is sure to be involved in it one way or the other.

0 - don't know: no chance to observe adequately.

---

Boy's name_____ Rater_____

THE BOY AS A WHOLE - As your final rating, please rate this boy according to the total impression you have of him as regards aggressive behavior. "Aggressive" means the combination of all the various kinds of behavior previously described: fighting, swearing and cursing, arguing, meanness and orneriness, negativism, contrariness, and obstructionism, dictatorial and monopolistic behavior, and creation of general disturbance. What kind of a boy is he when it comes to aggression?

1 - never or almost never aggressive: practically never shows aggression, even when provoked.

2 - seldom aggressive: sometimes retaliates on provocation, but lets it go by just about as often; occasionally participates in ongoing group aggression, but stays out of it more often than he joins in; may start something aggressive on rare occasions.

3 - sometimes aggressive: usually responds with aggression when provoked, though there are times when provocation may be ignored; sometimes takes part in ongoing group aggression, but stays out of it just about as often; every so often has an "off day" on which he initiates aggressive behavior.

4 - frequently aggressive: retaliates on provocation almost all the time; is a participant in ongoing group aggression more often than not; starts aggressive behavior as often as not.

5 - always or almost always aggressive: always retaliates on provocation, is usually to be found as a participant in ongoing group aggression; starts aggressive behavior more often than not.

0 - don't know: no chance to observe adequately.

# APPENDIX B

## TAT SCORING CATEGORIES

Agg-V (verbal aggression). Expression of anger, scorn, contempt, hate, criticism, ridicule; someone curses, quarrels, belittles, reprimands, slanders, violently disagrees, threatens, argues. Score only when it occurs in conversation between characters in the story (I hate you) or when the occurrence of such a conversation is definitely implied (they had an argument). Do not score descriptive statements such as "He hated the violin."

Agg-Phy (physical aggression). Someone physically attacks another person or animal (he hit the man); a bodily or mental injury befalls someone as a consequence of an aggressive action with destructive intent. Someone suffers pain as result of intentional aggressive attack (he screamed bloody murder when they took the knife out of his back). Someone is physically held fast or restrained against his will. (In card 4, the simple statement that a woman is trying to hold back a man is not scored "Agg-Phy" because this is only a description of the card.) Rape.

Agg-Dest (aggressive destruction). Someone or something brings about the violent destruction of an object, concept, or symbol; no interpersonal relationship involved. (The bomb destroyed the whole city. He dragged her body into the cellar and burned it in the furnace.)

Agg-Kill (killing). Someone kills another person or animal with malicious intent. Someone dies as a consequence of attack with destructive or malicious intent (a gangster was shot in a gang war and arrived dead at the hospital). Suicide following overt aggressive behavior (after killing his wife, a man commits suicide rather than face the police). Death following physical torture by Nazis, Communists, etc.

Dest (destruction). When an object is broken by accident, or no statement of intention is made. (He dropped his mother's best vase and doesn't know what to do.)

Sick (illness). Someone in the story is sick or gets sick, goes insane, faints; no malice involved.

Inj (injury). Someone in the story is injured or wounded without malicious intent (he was hurt in a car accident; this boy tripped and accidentally shot his father in the stomach while they were out hunting). Someone suffers pain as a consequence of injury or sickness; is being cut open as part of an operation. (On card 8BM an operation is scored "Inj" only if this is stated actively. "This is an operation" is not scored on this card because it is only a simple descriptive statement about the card.)

Death (death). Someone in the story dies or is dead; no malicious intent involved, not the result of interpersonal interaction. Suicide due to grief or without any aggressive cause being stated. Being killed in the war.

Antisoc (antisocial behavior). Someone commits a crime other than murder--robbery, theft, etc. Do not score vague, undefined misdeeds (he did something wrong).

Pun (punishment). Someone is punished by another individual or law-enforcing agency for having committed an aggressive or socially undesirable act. The punishment may be implicit (police took him away), or explicit (he was found guilty and went to jail), but must be nonaggressive. (Being shot by the police while escaping across the border to Mexico is not scored "Pun," but "Agg-kill.") Being sent to the insane asylum for having committed an aggressive act is also scored "Pun." When a child is punished by its parents, "Pun" is scored only for psychological forms of punishment, such as being sent to his room or taking away some privileges. A parent beating or spanking his child is scored "Agg-phy."

Pun-Kill (capital punishment). Legal forms of execution.

Sup (superego). The retaliation principle. "Sup" is scored when an aggressive act is directed against a person because this person had committed an overtly aggressive act previously in the story. (The theme of a man who killed his wife and is run over by a truck while leaving town is scored "Sup: Death.")

Dnl (denial). The story explicitly denies that an aggressive act takes place (they did not fight) or that there was any intention of its happening (I didn't mean to do it).

Inc-Agg (incomplete aggression). An ongoing aggressive act is stopped by an external agent (the sheriff came in and broke up the fight before anyone was hurt).

Fan (fantasy). When the category to be scored is being thought about by someone in the story (he wished he could break the violin), takes place in a play, dream, or movie.

[ ] (potential action). When some behavior is described as being in a state of potential activation, a state of readiness or anticipated activation which is explicitly stated as never materializing, or no indication is given that it does happen in the story. (A man is described as dying in the story, but nothing comes of it in the end, nor does the man get well. "[Death]")

# APPENDIX C

## "DEMAND" CARD