THE ROLE OF FANTASY IN THE REDUCTION OF AGGRESSION

by

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PLEASE NOTE:

Several pages contain colored illustrations. Filmed in the best possible way.

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This manuscript has been read and accepted for the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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CHAPTER I

INTRODUCTION

I. The Problem and the Purpose of the Study

It has long been recognized that aggression is an integral part of the individual's behavioral repertory (Freud, 1922; Lorenz, 1966) and fantasy has been widely held to be a means through which man can reduce his aggressive feelings (Dollard et al., 1939). However, there has been great controversy regarding the specific method in which fantasy operates to reduce overt aggression. Experimental evidence (Feshbach, 1955) was originally offered in support of a cathartic theory which maintained that aggression is a drive and that fantasy operates to quantitatively reduce or drain away aggressive energy. The bulk of more recent experimental findings, however, has refuted the cathartic notion by demonstrating no change or an actual increase in aggression following an aggressive fantasy activity (Feshbach, 1956; Mussen & Rutherford, 1961).

A more recent theoretical conception (Hartmann, 1958; Singer, 1966) views fantasy as a general capacity of the organism; a potential skill available for enhancement and enrichment of life. This adaptational approach to fantasy clearly extends beyond drive-reduction, attributing to fan-

tasy a much greater and more variegated role. Specifically, in regard to aggression, the individual with highly-developed imaginal skills is less likely to resort to direct behavioral aggression and is better able to substitute fantasy, aggressive or otherwise, for the overt aggressive response. According to Singer, this substituted fantasy experience is adaptively utilized by the individual to change his prevailing aggressive mood. In this scheme, aggression is viewed, as suggested by Tomkins (1963, 1966), as an affect, not as a drive. The fantasy experience, then, affords a chance for relief from the negative aggressive affect and leads to the substitution of a new and distinct prevailing affective state or mood, thus reducing the ultimate expression of aggression. It is expected that those individuals who have highly-developed imaginal capacities will best utilize the fantasy opportunity to change their mood, and will thus evidence a greater ultimate reduction in aggression than will low-fantasy individuals.

Catharsis theory would maintain that reduction in aggression would occur only through aggressive fantasy stimuli since it is the aggressive elements within the fantasy material which purge or drain away the aggressiveness of the individual. However, an adaptational theory of fantasy would suggest that both aggressive and nonaggressive fantasy stimuli would operate equivalently in reducing aggression; the individual with highly-developed imaginal

skills can utilize any fantasy experience effectively in order to change his mood away from an aggressive one. Specifically, it is the purpose of this study to provide experimental support for this adaptational theory of fantasy and to demonstrate that reduction in aggression occurs following fantasy activity through a change in mood for the individual skilled in imaginal usage.

II. Review of the Literature

The Concept of an Aggressive Drive

It has long been recognized that aggression is an integral part of the individual's behavioral repertory (Dollard et al., 1939; Freud, 1922) and man has thus been faced with the ever-present problem of controlling and reducing his aggressive feelings. Fantasy has been widely held to be a means of reducing behavioral aggression, although there has been great controversy regarding the specific method in which fantasy operates to accomplish this reduction in overt aggression. The original cathartic theory (Dollard et al., 1939) which maintained that fantasy operates to quantitatively drain away aggressive energy was based upon the fundamental assumption that aggression is a drive.

In his second instinct theory, Freud described the aggression drive, which is present from the time of infancy onward, as a derivative of Thanatos, the destructive or death instinct. Freud stated that from the moment of its inception, any living organism carries within itself the source of its own destruction with Thantos having as its goal the regression of the organism to the inorganic world (1922). That is, there is an ever-present aggression turned inward or self-destructive tendency. The aggressive drive, or aggression toward others, then, was seen by Freud as a derivative of Thanatos. In effect,

Freud believed that this somatically-rooted instinct to aggression is self-destruction turned outward against substitute objects.

The existence of an aggressive drive has been more recently propounded by Lorenz (1966). In accord with his insistence on endogenous causation of behavior, Lorenz argues that aggression results from the spontaneous accumulation of some vaguely-defined excitation or substance in neural centers. That is, aggressive behavior can "explode" without demonstrable external stimulation when this internal accumulation reaches a certain maximal point. Storr (1968) has similarly maintained that aggression is a "basic part of human instinctive equipment" (p. 21) and has described it as an "innate,...natural,...powerful" drive (p. 109).

The Cathartic Role of Fantasy in Reducing Aggression

In accord with the notion of an aggressive drive is the cathartic theory which explains the lowering of aggression in quantitative or drive-reducing terms. Catharsis, thus, is seen as the purging or draining away of aggressive energy and the cathartic effect is the subsequent lessening of aggressive behavior or of the arousability of the aggressive drive. This hydraulic concept of catharsis is based upon the analogy to a liquid held under pressure in a container. As Hendricks has described the process (in Buss, 1961, p. 75), "additions to the li-

quid increase pressure on the walls. There are regular channels for drainage ... Each increase in the liquid adds pressure for release of the liquid; each time there is drainage, there is at least a temporary decrement in pressure for release." The pressure, in this context, is analogous to aggressive impulses, with the walls of the reservior representing inhibitions against expressing the aggressive impulses. The overt expression of aggression represents draining of the reservoir; the more drained, the less aggressive drive that remains and thus the less pressure exerted by these impulses seeking release. In Hendricks' terms, "the diminution in the tendency to aggress as a consequence of such expression of aggression is called the cathartic effect" (p. 75). Dollard et al., in agreement with this model, have maintained that the "expression of any act of aggression is a catharsis that reduces the instigation to all other acts of aggression" (1939, pp. 53-54).

Not only has it been proposed that overt aggression can operate to quantitatively reduce further aggression, but it has also been maintained (Dollard et al., 1939; Feshbach, 1955) that fantasy can cathartically reduce aggressive expression. Specifically, Dollard et al. stated that involvement in fantasy aggression may serve as a "displacement" providing a harmless "release" for hostile impulses and thus reducing the instigation to overt acts of aggression. This notion that aggressive energy is dissi-

pated to some degree when the individual engages in fantasized aggression stems from Freud's original notion (1963) that thought and fantasy discharge small quantities of energy and thus reduce the pressure of the drive.

Experimental evidence (Feshbach, 1955) has been offered in support of this cathartic function of fantasy. Feshbach studied a group of college students who were aroused to anger by an experimenter who insulted them and who thereupon left the room. Half of the insulted group were then given an opportunity to write TAT stories while half were assigned a task which presumably precluded opportunity for fantasy expression of their anger. A sentence completion task and questionnaire were then administered to all subjects to determine their final degree of aggression. Feshbach found that the anger of those given an opportunity to engage in aggressive fantasy through story-writing was considerably less than that of the insulted students who had no such opportunity, thus supporting the notion that fantasy is indeed drive-reducing.

Refutation of the Cathartic Function of Fantasy

The bulk of experimental evidence, however, has cast serious doubt upon the cathartic view of fantasy by demonstrating no reduction or an actual increase in aggression following an aggressive fantasy opportunity (Feshbach, 1956; Mussen & Rutherford, 1961).

Feshbach (1956), using children aged five to eight,

found that aggressive thematic material including a record and a related story and toys featuring Indians, cowboys, soldiers or pirates, failed to reduce the subjects' aggressive expression. Indeed the boys, but not the girls, originally low in aggressive behavior demonstrated a significant increase in overt classroom hostility after exposure to experimental sessions revolving around the aggressive themes. In an attempt to make these results consistent with a cathartic theory, Feshbach maintained that only if the subject is angry at the time he engages in an aggressive activity can he then use this activity to satisfy and reduce his hostility. The author stated that since the children had not been aroused to anger prior to the aggressive thematic play, this experience could not be utilized toward lowering their level of hostility. More generally, Feshbach later proposed (1961) that in order for an activity to have drive-reducing properties, components of the drive must be present or evoked. That is, "a child's anger toward its mother will not be reduced by an aggressive act toward a doll figure unless its anger toward the mother is aroused when the aggressive act is performed" (1961, p. 381). In support of this thesis, Feshbach offered experimental evidence (1961) which demonstrated that witnessing a prize fight film resulted in significantly lower levels of subsequent aggression (as measured by the hostility expressed on a questionnaire and on a word association task) for college

students in whom aggression had been previously aroused. For those subjects who had not been insulted, there was an increase rather than a decrease in hostility. However, cathartic theory is seriously weakened by the qualification that subjects must be angered before exposure to aggressive fantasy material in order for catharsis to occur. The cathartic position maintains that there is always some energy existing in the aggressive reservoir of the individual and there thus should be no need to anger the individual and further add to the reservoir before it can be drained.

Of even greater damage to the cathartic position are experimental findings (Berkowitz & Rawlings, 1963; Mussen & Rutherford, 1961) which have offered evidence that even in the presence of anger, engaging in fantasy does not reduce aggression level. Mussen and Rutherford frustrated first-grade subjects by having a teacher frequently criticize their attempts to complete a tedious number-copying task. Immediately following the frustration session, the subjects were either presented with an aggressive or nonaggressive cartoon or were allowed no fantasy experience. The subjects' aggression level was then evaluated by a questionnaire which measured their desire to pop a balloon. Experimental findings indicated that those subjects exposed to the aggressive cartoon evidenced higher final aggression levels than did subjects allowed no fantasy opportunity or presented with the nonaggressive film.

The findings thus supported the authors' hypothesis that "viewing violence in a cartoon may actually stimulate or intensify the child's aggression in a subsequent permissive situation" (p. 462) and thus offered proof in direct contradiction to cathartic theory. It is therefore concluded that the concept that fantasy operates in a cathartic, drive-reducing manner is not adequate to explain the experimental findings.

Adaptational Theory of Fantasy

A more recent theoretical conception (Singer, 1966) views fantasy as a general style of the organism, a dimension of human skill or competence available for enhancement and enrichment of life. This adaptational approach to fantasy clearly extends beyond drive-reduction, attributing to fantasy a much greater and more variegated role. While the Freudian school of thought views fantasy chiefly in its defensive or compensatory role arising as a consequence of conflict, Hartmann (1958) has suggested that fantasy can exist in a conflict-free sphere, serving adaptive functions for the organism from the start. Singer has similarly maintained that "daydreaming is more than a readily available defense or escape; it is a valuable method we all use to explore a variety of perspectives" (1968, p. 20). Singer continues that the individual with highly-developed fantasy ability has "a resource that gives him some control over his future through elaborate

planning, some ability to amuse himself during dull train-rides or routine work, and some sources of stimulation to change his mood through fanciful inner play" (p. 26). Specifically, in regard to aggression, it is proposed that practiced daydreamers can engage in the fantasy realm to work out resolutions of their anger rather than take recourse to direct action.

A large number of studies have demonstrated that a link does exist between fantasy (as measured by human movement responses on the Rorschach test) and inhibition of direct action as reflected in motor control, inhibitory capacity, and delaying ability (Hurwitz, 1954; Singer & Herman, 1954; Singer, Wilensky, & McCraven, 1956). Singer and Herman divided sixty male schizophrenics into High- and Low-M groupings. The experimental situations included observation of subjects alone in a waiting room with rating of the degree of activity manifested and a motor inhibition task measuring the ability to write a phrase as slowly as possible. Results indicated that "High-M Ss differed significantly from Low-M Ss by manifesting longer motor delaying capacity [and] less spontaneous activity during the waiting period" (p. 331). Singer, Wilensky and McCraven, utilizing a factor analytic approach, found the M response to be significantly correlated with variables measuring fantasy (as assessed by the TAT), planning or delaying ability (as revealed through a self-rating scale) and motor inhibition (measured by a task which required the

subject to write as alowly as possible).

The linkage of fantasy tendencies with control of motility and impulsive behavior has also been verified for populations of children (Hurwitz, 1954; McCully, 1961; Singer, 1961). Hurwitz divided children into hypo- and hyper-active groupings upon the basis of behavioral ratings of activity level obtained from teachers, parents, and therapists. It was found that lower levels of overt activity correlated with greater fantasy as measured by M. McCully studied children aged nine to thirteen who had experienced permanent impairment of motor activity due to a progressive loss of muscle tissue (a form of muscular dystrophy). Results indicated that the inherent restriction of movement was related both to a preponderance of M responses and to the presence of an active fantasy life. Finally, Singer studied the behavioral correlates of waiting ability in the child and hypothesized that if the child is placed in a situation in which he must inhibit his motor expression, the presence of a high degree of imagination would enable him to "rely more on his fantasy-making capacity to pass the time." On the other hand, the child with little imaginative capacity would tend to "resort more to direct perceptual and physical contact with the environment" (p. 401). Results indicated that subjects rated as high in imagination were able to sit and stand quietly for more prolonged periods of time than were low-fantasy children. The subjects able to delay or mo-

torically inhibit their responses were those who engaged in fantasy activity during the waiting situation, i. e. invented a "make-believe" situation which engaged them.

Interestingly enough, clinical observation has also illustrated the relationship between the inability to delay or inhibit responses and the lack of fantasy or imaginal living. Goldfarb (1945, 1949), on the basis of observation of institutionalized children and adolescents, characterized these youngsters as having defective control of motoric expression with the normal pattern of self-inhibition not developed. These youngsters evidenced a diffuse random discharge of body energy which manifested itself in hyperactivity, disorganized behavior, distractability, and the inability to attend to a situation long enough to grasp its full meaning. In addition, the children were distinctly low in fantasy capacity. In fact, it is extremely important to note that when strong external controls were introduced, these children proved unable to resort to fantasy, but continued to rely solely upon motoric expression so that strange body movements appeared. The child would manifest such symptoms as twitching of the mouth or nose, shaking the head, continuously moving the legs, twisting the fingers, scratching the entire body, or some other form of constant movement or facial grimace. Godfarb maintained that the absence of reflective, anticipatory and fantasy capacities predisposed these children to such impulsive reactions.

Experimental and clinical evidence has thus supported the thesis that the individual with more highly-developed fantasy skills is better able to inhibit his motoric and impulsive behavior. With specific regard to aggression, a most significant recent study (Townsend, 1968) has indicated that the High-M child has the greatest ability to inhibit his aggressive responses. Townsend studied the Rorschach protocols of sixty-three boys aged seven to twelve at a residential treatment center for children with emotional disturbances. Overt aggression ratings of the subjects were made by a staff social worker who had daily contact with the children and who was well acquainted with the frequency and intensity of each child's aggressive behavior. It was found that the greater the fantasy level of the child (as measured by the number of M responses), the less apt he was to be in the high aggression group. In light of these experimental findings, it is suggested that it is only the individual with well-developed imaginal abilities who can turn to the fantasy realm to work through his aggressive feelings. The low-fantasy individual, on the other hand, is more greatly limited to the direct behavioral expression of his aggression.

Pytkowicz, Wagner and Sarason (1967), in investigating the difference between High- and Low-Fantasy individuals, did in fact find that the "subjects who by self-report were frequent daydreamers were able to utilize a fantasy experience more effectively for the reduction of hostility

than subjects who were infrequent daydreamers" (p. 302). More specifically, the authors found that insulted male college students who were skilled in fantasy usage (as measured by the frequency of daydreaming) utilized either a free daydreaming period or the opportunity to write stories to four TAT cards to significantly reduce their hostility. Subjects generally low in fantasy capacity had no significant reduction in aggression. However, the authors' conclusion that a "cathartic" reduction of hostility had occurred for the High-Fantasy males can be seriously questioned. If catharsis were the process, then it would be expected that all individuals would demonstrate a reduction in hostility following fantasy since every individual, according to drive theory, has an aggressive reservoir which can be drained.

Adaptational Role of Fantasy in Effecting Mood Change

In place of a cathartic theory, Singer (1966) has proposed that the high-fantasy individual adaptively utilizes a fantasy experience to change his prevailing affective mood, not to drain his aggressive drive. In this scheme, aggression is viewed, as suggested by Tomkins (1963, 1966), as an affect rather than as a drive. Tomkins' motivational theory of affects suggests that affects or emotions rather than drives are the basic motivating forces behind human behavior. In order for an affect to be aroused and sustained, it is required that a specific density of neu-

ral firing or stimulation be maintained. Applying this affective theory to the area of aggression, Singer maintains that fantasy can temporarily provide another stimulus situation for the individual that is less negative and intense than the aggressive situation and may thus relieve some of the prolonged quality of the incoming stimulation. Singer believes that especially for persons who are skilled daydreamers, that is, for those who can use a fantasy situation most fully, fantasy opportunity after a frustrating experience affords a chance for relief from negative affect and leads to a change in mood, thus reducing the final expression of aggression.

It is theoretically suggested that while there is thus always a change in mood away from an aggressive affective state, the change may be toward any one of a variety of moods. It is quite possible that for some individuals, fantasy of an aggressive nature leads to feelings of guilt so that the individual then inhibits his expression of aggression; in this case it is a mood of guilt or anxiety which predominates after the fantasy experience. As Singer maintains, however, the change in mood may often be in the direction of more pleasurable affective states such as enjoyment or joy. In such instances, the individual may derive extreme pleasure from his fantasy thoughts so that his aggressive feelings are replaced by a pervasive mood of enjoyment, this also effecting a final reduction in aggression.

The theory that fantasy leads to a reduction in aggression because of the guilt aroused in the individual has been theoretically and experimentally explored by Berkowitz (1962, 1964). It must be noted that while Berkowitz's theory is completely independent of an affective or mood-change theory and while he did not use such a framework, the thesis of guilt-inhibition which he presents can readily be subsumed in the mood-change structure. Berkowitz proposed that the strong arousal of socially-disapproved drives, such as aggression, serves to elicit fairly strong restraints against the display of the prohibited actions. Thus, Berkowitz believes that there is no reduction in feelings of aggression as a result of aggressive fantasy; rather, this fantasy produces guilt arising from the perception that the aggressive action violates the person's own moral standards or anxiety stemming from the anticipation of punishment for aggression, leading the individual to inhibit any overt expression of his felt aggression.

Berkowitz and Rawlings (1963) offered experimental support for this guilt-anxiety theory. The authors presented a situation in which restraints against aggression were lowered in some angered subjects witnessing scenes of violence. Specifically, 160 college men and women were shown a seven-minute prize fight scene after having been deliberately insulted by a male graduate student. Just before the subject viewed the movie, the experimenter

provided them with one of two synopses of the movie plot. In half of the cases, the subjects were told that the film protagonist who received a beating was a scoundrel, and it was thus presumed that the subjects would view the filmed aggression against him as justified. The remaining subjects were told that the protagonist was not really bad, and they supposedly came to regard the filmed aggression as less justified. The guilt-inhibition conception would predict that people seeing fantasy violence under conditions lowering their inhibitions against aggressive responses should display an increased likelihood of final aggression. That is, subjects in the "justified aggression" group, due to the weak restraints and reduced inhibition against aggression, would be free to direct most anger toward the person who had insulted them prior to the movie. The guilt hypothesis was given support with experimental results indicating that insulted subjects who had seen the "justified" movie aggression expressed stronger hostility toward the experimenter than did "unjustified aggression" subjects. These conclusions must be criticized, however, in terms of the authors' neglect to actually measure the subjects' level of guilt or anxiety, which easily could have been done through the administration of an anxiety scale immediately following the fantasy activity. Thus, while it is plausible that guilt was operating in reducing the expression of aggression, the presence of guilt is inferred rather than experiment-

ally verified.

It is thus believed that while guilt is a possible explanation for the reduction of overt aggressive responses following fantasy, and while guilt may operate in some instances or for some individuals, the guilt theory cannot be considered a complete explanation for the role of fantasy in the reduction of aggression. Rather, as earlier posited, a theory which explains the operation of fantasy in terms of mood change would appear to be a complete and experimentally-verifiable thesis. However, it must again be stressed that it is only the high-fantasy individual who can use a fantasy situation to effect such a mood change.

Aggressive and Nonaggressive Fantasy Stimuli

As an outgrowth of the acceptance of an adaptational rather than a cathartic theory of fantasy is the belief that both aggressive and nonaggressive fantasy material can be utilized by the high-fantasy individual to reduce his aggression. The drive-reduction position maintains that a decrease in aggression can occur only through aggressive fantasy stimuli since it is the aggressive elements within the fantasy material which purge or drain away the aggressive energy of the individual. In direct opposition, an adaptational view of fantasy would suggest that both aggressive and nonaggressive fantasy stimuli would operate equivalently in reducing aggression; the individual

with highly-developed imaginal skills can utilize any fantasy experience effectively to change his mood away from an aggressive one, be it to a new mood of guilt, of elation, or to any of the other affective states. In fact, Pytkowicz, Wagner and Sarason (1967), in analyzing the content of the fantasy material used to reduce aggression by the various subjects, found that the majority of the daydreams were either based upon fairly mundane themes (tests, grades, dating, etc.) or were of a freely imaginative nature (flights into fantasy, imaginative conjecture, fragments from the past or future, etc.). "Most subjects described the daydreaming period as relaxing or soothing, a few reported it was boring or difficult ... but no subjects reported hostile or even anxious daydreams" (p. 301).

It will be the purpose of this study to examine experimentally the alternative models presented above concerning the reduction of overt aggression following fantasy activity. The cathartic, drive-reduction model would predict that all people can utilize aggressive fantasy to reduce their aggression and that only aggressive fantasy elements can serve to reduce the individual's aggressive drive. The adaptational theory of fantasy, based upon Singer's position and Tomkins' affect theory, would maintain that only individuals skilled in fantasy usage can utilize a fantasy experience to effectively reduce their aggression and further that any kind of fantasy stimulus,

aggressive or nonaggressive, can be used to change the individual's mood away from an aggressive one. Specifically, it is hypothesized that:

1. High-Fantasy subjects, aroused to anger and presented with either aggressive or nonaggressive fantasy material, will evidence
   (a) a reduction in behavioral aggression and
   (b) a change in their aggressive mood.
2. High-Fantasy subjects, aroused to anger and presented with a task period in which no fantasy opportunity is allowed, will evidence
   (a) no reduction in behavioral aggression and
   (b) no change in their aggressive mood.
3. Low-Fantasy subjects, aroused to anger and presented with either an aggressive or nonaggressive fantasy stimulus or with a period in which no fantasy opportunity is allowed, will evidence
   (a) no reduction in behavioral aggression and
   (b) no reduction in their aggressive mood.

CHAPTER II

PROCEDURE

I. The Sample

Subjects consisted of fifth-grade children from the Rockville Centre and Baldwin Public School Systems in Long Island, New York. Two elementary schools, one from each school district, were selected as sources of subjects. The pupils in these two schools were all Caucasian and were of families in the upper-middle socioeconomic level. Three classes from the Morris School in Rockville Centre and three classes from the Meadow School in Baldwin were chosen, yielding a total of 158 children. The pupils' intelligence test records, specifically the scores on the Otis Quick-Scoring Mental Ability Tests obtained by the Morris School pupils and the scores on the California Test of Mental Maturity achieved by the Meadow School students, were examined. Twenty-eight children whose I. Q. scores did not fall within the 90-120 range were eliminated as potential subjects, leaving 130 pupils. In order to determine the level of imaginative predisposition of each of these pupils, two tests measuring fantasy were group-administered to each of the six classes.

The Holtzman Inkblot Test

The first measures of fantasy level employed was the

number of movement responses given on the Holtzman Inkblot Test (Holtzman et al., 1961). As previously discussed, it has been traditionally found in the literature that the movement response (M) on the Rorschach test is significantly correlated with the individual's general imaginative predisposition. Singer, Wilensky, and McCraven (1956) and Singer and Herman (1954) found the M response to be significantly correlated with TAT measures of fantasy, and Page (1957), in comparing the frequency of reported daydreaming to a number of Rorschach variables, found that only the number of M responses proved to be significantly associated with daydream frequency. In the present study, the Holtzman Inkblot Test was utilized rather than the Rorschach since the former can be administered to a group of subjects. As contrasted with the Rorschach scoring conventions (Rorschach, 1942), Holtzman's M is scored for all movement responses, including animal and inanimate as well as human. The essential characteristic of the movement response is the energy level or dynamic quality of it, rather than the particular content.

The "Just Suppose" Task

The second instrument utilized in determining the subjects' level of imagination was the "Just Suppose" (Torrance, 1966) in which the fluency, flexibility and originality of subjects' responses are numerically scored.

Torrance devised the test in accordance with his findings that the individual's fluency, flexibility and originality in thought reflect the general level of his imaginative skills. Torrance found that imaginative individuals possess the ability to employ adventurous thinking, that is, to break out of the mold and think along new paths. The capacity to shift from more to less regulated thinking with facility and the disposition to greet novel and unusual experiences without undue anxiety, without repression and with ego strength, are the characteristics of those who perform well on the "Just Suppose" task.

Torrance et al. (1960) devised developmental curves for grades one through twelve for the "Just Suppose" task which demonstrated a gradual increase in imaginative abilities from first through third grades, a sharp decrease between the third and fourth grades, and recovery during the fifth and sixth grades. Test-retest reliability for the instrument was determined by the authors to be adequate at .87 for a three-month period. The validity of the task was further demonstrated by Torrance's finding that high scores on the "Just Suppose" instrument were significantly correlated with teacher and peer nominations of imaginativeness (Torrance et al., 1960). In addition, Gottlieb (1968) obtained significant correlations (at the .01 level) between the "Just Suppose" task, the Holtzman M response, and a third measure reflecting subjects' preference for imaginative rather than motoric activities. It

is thus concluded that the "Just Suppose" task can be considered a good indicator of general imaginative predisposition.

Administration of the Holtzman Inkblot Test

The Holtzman Inkblot test and the "Just Suppose" task were administered to each entire class grouping of approximately 25 to 30 children. The "Just Suppose" task is intended to be group-administered and group administration of the Holtzman has been found to be quite satisfactory. According to Holtzman, Reineher, Moseley, and Abbott (1963), the "group method of administration yields inkblot scores which are equivalent to the scores obtained by the standard individual method of administration" (p. 47).

Subjects were administered twenty selected slides of the Holtzman Inkblot test which were chosen since they were believed to best elicit the movement response. The slides were projected onto a standard 50" x 50" Cavalier screen in an adequately darkened room using a Sawyer Rotomatic projector. Answer sheets were provided for all subjects (see Appendix A) and the following instructions were read aloud:

> "I have here a set of inkblots which were made by dropping ink on paper and folding it. I'd like you to look at each inkblot and then, using your imagination, write down on the paper which was given to you the first thing the design looks like or reminds you of. Since these are only inkblots there are no right or wrong answers and each blot looks like different things to different people.

> The design might remind you of several things, but remember, write down only the first thing that the inkblot looks like or reminds you of."

Subjects were then asked if they had any questions regarding these instructions, after which the cards were presented.

The procedure for administering the cards and the accompanying verbal instructions were modeled after those presented by Swartz and Holtzman (1963, p. 463). Trial inkblot X was projected on the screen with the examiner stating that a common response to this inkblot is "a bat." The examiner outlined on the screen the area of the inkblot used in this response, pointed to the various parts (head, wings, tail) of the "bat," and explained that such a response could be written as "bat," or as "bat flying with wings out," or as "big, black bat," etc. The examiner stated that the subjects should write as complete a description of what they saw as time and space permitted. Card Y was then projected on the screen and the examiner stated that the upper central red part might look like two faces rubbing noses; in this way use of detail portions or colored portions of the blot was indirectly suggested in addition to use of the entire blot which was suggested in regard to Card X. In giving this example, the examiner further illustrated that a more complete description should be given rather than merely naming the object so that the likelihood of the subjects reporting motion when it was perceived was increased.

Again, the examiner outlined the portion of the blot to which he was referring and pointed to the various parts. To illustrate another possibility, the examiner stated that the central black portion might be seen as a human body and he again designated the areas used in the response. The initial instructions were then repeated and the subjects were asked if they had any questions. The first three inkblots were each exposed for 120 seconds; the fourth, fifth, and sixth for 100 seconds; the seventh, eighth, and ninth for 90 seconds; and the remaining inkblots were each exposed for 75 seconds.

Holtzman records were scored for M in accordance with the scoring guide accompanying the test. Each response receives a movement score of 0, 1, 2, 3, or 4, so that a numerical score ranging from 0 to 80 for each subject was obtained. The protocols were scored by a doctoral student in clinical psychology with the experimenter blindly rescoring the first fifteen protocols. Interrater reliability between the experimenter and scorer was found to be .97 using Pearson's "r" correlation.

Administration of the "Just Suppose" Task

Following the Holtzman Inkblot test, the "Just Suppose" task was administered to each class grouping. Test forms labeled "Just Suppose" and bearing the instructions which follow were distributed (see Appendix B) with the instructions also read aloud to the children.

> "I think you will have a lot of fun doing this activity. This will give you a chance to think up new ideas. It calls for all of the imagination and thinking ability you have. So I hope you will put on your best thinking caps and that you will enjoy yourselves."
>
> "You are going to be presented with a very strange situation, something that will probably never happen. You will have to JUST SUPPOSE that it has happened. This will give you a chance to use your imagination to think of all the other exciting things that would happen IF this situation were to come true. Write down all the things that would happen IF this strange thing took place."
>
> "Let's look at the first strange situation. Just suppose clouds had strings attached to them which would hang down to earth. What would happen? Just write down all your ideas and guesses of all the things that could happen."
>
> "When you finish the first page, go on to the second, and continue until you complete each "Just Suppose."

There are four "Just Suppose" situations as follows: (1) Just Suppose clouds had strings attached to them which would hang down to earth; (2) Just Suppose a great cloud fell over the earth and people were invisible except for their feet; (3) Just Suppose a hole could be bored through the earth; and (4) Just Suppose the language of birds and animals could be understood by man. Ten minutes were allowed for the completion of the activity.

The test was scored in accordance with the Torrance Scoring Guide. Firstly, a Fluency score was determined by counting the number of different consequences or possibilities listed. No credit was given for inappropriate or irrelevant responses or for responses which describe conditions that already exist. Occasionally, respondants

listed within one sentence a number of different consequences; under this circumstance, multiple scoring was made. Secondly, responses were scored for Flexibility. A score of 1 is given for each change or shift in attitude or focus. There is no credit given when there is no mental leap from one response to the next. Thus, the following set of responses would receive no credit:

> You could not see people's faces.
> You could not see them smile or frown.

However, the following, with asterisks indicating shifts in focus, would receive a score of 2:

> You could hardly breathe.
> *We would pay more attention to people's feet.
> People would wear fancier shoes.
> *Someone would invent a reverse periscope.

Finally, Originality was judged in terms of the rarity of the responses in accordance with Torrance's sample, with Torrance providing a list of common and original responses. Scoring was performed by the doctoral student who scored the Holtzman and a total numerical score for each subject was obtained. Again, the experimenter blindly scored the first fifteen protocols. Inter-rater reliability was determined using Pearson's "r" correlation and was found to be .94. The numerical score obtained on the Holtzman and that received on the "Just Suppose" were combined to indicate a total fantasy score for each subject. The correlation between the two measures of fantasy was also determined using Pearson's "r" measure and was found to be .86.

Selection of Subjects

Of the 130 children tested whose I. Q. scores were in the 90-120 range, 32 were selected as experimental subjects from the Morris School, consisting specifically of the eight females receiving the highest fantasy scores, the eight highest-scoring males, the eight lowest-scoring females and the eight lowest-scoring males. From the Meadow School, twenty-eight subjects were chosen consisting of seven males and seven females in each of the High- and Low-Fantasy groupings. The subjects were then divided into groups of four children with each group composed of a High-Fantasy male, a High-Fantasy female, a Low-Fantasy male, and a Low-Fantasy female, In order to determine if subjects' intellignece level varied as a function of sex, fantasy level, or enrollment in either the Morris or Meadow School, the Kruskal-Wallis H Test (Peatman, 1963, pp. 376-379) was applied to the intelligence data. The data was divided into eight groups representing the combinations of the subjects' sex, fantasy level, and school enrollment (see Table 1). It was found that there were no significant differences among the groups; that is, the intelligence level of the subjects did not vary as a result of the three aforementioned factors.

The experimenter was told only the names of the four children placed in each group; he was not informed about which of the children were High-Fantasy and which were Low-Fantasy. In this way, the experimenter could then

Table 1

Intelligence Scores of Experimental Subjects

Morris School				Meadow School			
High-Fantasy		Low-Fantasy		High-Fantasy		Low-Fantasy	
Male (1)	Female (2)	Male (3)	Female (4)	Male (5)	Female (6)	Male (7)	Female (8)
98	115	118	98	113	97	114	108
119	109	97	118	116	119	111	92
115	113	109	119	109	120	108	119
101	92	108	94	114	116	118	117
117	118	117	107	107	109	107	106
99	109	103	109	113	112	109	111
103	111	119	111	108	118	118	113
118	114	116	117				

Computation for the Kruskal-Wallis H Statistic

Ranks (Overall) of the Measures							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
6.5	39.5	51	6.5	33.5	4.5	37	17.5
57	23	4.5	51	42	57	28.5	1.5
39.5	33.5	23	57	23	60	17.5	57
9	1.5	17.5	3	37	42	51	45.5
45.5	51	45.5	14	14	23	14	12
8	23	10.5	23	33.5	31	23	28.5
10.5	28.5	57	28.5	17.5	51	51	33.5
51	37	42	45.5				

$H = 7.4$ with 7 d. f.

The null hypothesis is accepted

act as an observer during the experiment with his rating of subjects not biased by knowledge of their fantasy level.

II. Procedure

Phase One -- Frustration Period

The first phase of the study was modeled after that procedure employed by Mallick and McCandless (1967, p. 592). In this six-and-a-half-minute frustration condition, the group of four children was required to complete a construction activity involving a "Time Waster" set. This set consists of interlocking wooden pieces and round plastic discs which are easily assembled to form objects. Four objects, specifically, a bridge, a swing, an animal and tent, and a windmill, were created by the experimenter and were presented to the children as models. (Photographs of these four objects are presented in Appendix C). Each child was made responsible for assembling one of these objects with his own "Time Waster" pieces. The four objects were found in a pilot study to require approximately equal amounts of time for construction and thus each child's task was of equivalent difficulty. The pilot study indicated as well that children found the "Time Waster" game to be an absorbing and enjoyable activity.

The children were informed that the group completing construction in a shorter time span than any other group also presented with this activity would receive prizes; each boy in the group would be awarded a "Johnny Toymaker" and each girl would receive a "Barbi" doll family and

house. At the time of the construction activity, these prizes were on display at the front of the room. Since these are rather expensive toys, it was believed that the incentive to complete the activity was strengthened. The instructions to the group regarding the construction task and the experimenter's introduction of himself were as follows:

> "Hi. Ny name is Mr. Biblow. If you remember, I met you several weeks ago when you were looking at those slides.* I'd like you to help me out again today with some things that are really going to be a lot of fun. I'd like to see how you play with some toys and games and I want to know which games you really like. This is because very soon I will be in charge of a new recreation center in this neighborhood for children of your age and I want to buy toys and games which you enjoy the most."
>
> "First of all, I'm considering this 'Time Waster' set that you see on the table. I think that this game is very enjoyable because a lot of different things can be made from it, and I just want to see how easy it will be for you to make these things. If you will look here, you will see some of the things that can be made with 'Time Waster.' Phyllis, why don't you make the bridge. Steven, let's see if you can make the swing. Henry, you make the animal in the tent and Susan, you can make the windmill. In fact, since there will be several groups of children working with this 'Time Waster' set including this group, I thought we might make a contest out of this. Whichever group can finish making these objects in the shortest amount of time will win the prizes that you see over there on that table. Each boy will get a 'Johnny Toymaker' and each girl a 'Barbi' doll family and house.
>
> "I'd like you to meet Barbara and James who will help you along if you get stuck. You might know them; they are in the sixth grade now, and they'll

*At the time of administration of the Holtzman and "Just Suppose" tasks.

> help you out as you go along. I'd also like you to meet Mrs. Krause [the second observer in addition to the experimenter]. She is going to be helping in setting up some other games for you later on. I'd like to watch you build with the 'Time Waster' set but Mrs. Krause and I have some paper work we must do right now, so you get started and we'll see the results later."

The two older sixth-grade children were selected upon their teacher's nomination of them as most dependable and cooperative.

While the experimenter and observer pretended to be busy with paper work in separate parts of the room, away from the children, the group began to work on their construction task. After approximately two minutes, the older youngsters proceeded to deliberately prevent the younger children from completing any of the tasks. They "clumsily" knocked over game pieces with their arms or elbows or, under the pretext of assisting the younger child, deliberately placed pieces in the wrong positions. In addition, they interspersed their interference with a set of seven remarks which were found in a pilot study to be most efficacious in eliciting aggression. (A copy of the complete script of these remarks is included in Appendix D.) If at any time the children sought to complain to the experimenter or observer about the actions of the older children, the experimenter responded "Just finish up as best as you can." During the final two and a-half minutes of the frustration condition, the experimenter and observer rated the children on the Initial Aggression Scale (see Appendix F) and on the Mood Check-List (see Ap-

pendix F).

Subjects were first rated on the Initial Aggression Scale which was constructed on the basis of a pilot study with inter-rater reliability found to be .93. Subjects were rated on this scale for each of eight consecutive fifteen-second intervals and received a score ranging from 0 to 4 for each interval depending upon the degree of aggression shown.

In the final half-minute of the frustration condition the subjects were rated on the Mood Check-List. This scale was originally designed by the experimenter and is grounded theoretically in both Tomkins' theory of affects (1966) and Nowlis' (1965) experimental findings of mood factors. Tomkins has posited the existence of eight major affects of the individual, both positive and negative, and significantly enough, six of these are equivalent to major mood dimensions found by Nowlis in a factor-analytic study of 130 adjectives describing an individual's attitudes and feelings. The six factors common to both Tomkins' and Nowlis' work are aggression or anger, anxiety or fear, surgency or excitement, elation or joy, sadness or distress, and guilt or shame. These six mood factors form basic dimensions of the Mood Check-List. In addition, a seventh factor of contempt-disgust derived solely from Tomkins' theory and an eighth dimension of fatigue-slugishness based upon Nowlis' findings are also included in the Mood Check-List since they seem to be particularly relevant to the

mood which might arise in children in either a frustration or fantasy situation. A pilot study established the behavioral manifestations of varying degrees of each of the eight moods, assigning to each mood gradation a weighted score ranging from 1 to 5. The pilot study determined inter-rater reliability for this Mood Check-List to be .83. This Check-List, then, was utilized in the final half-minute of the frustration situation with the subject receiving eight scores, one in each mood area. For both the Initial Aggression Scale and the Mood Check-List, the experimenter and the observer were each responsible for rating two of the children in the group of four. Thus, the frustration phase of the experiment lasted for six and a-half minutes with the subjects' aggression level and then mood rated during the final two and a-half minutes.

At the conclusion of the "Time Waster" construction task, the experimenter immediately stated the following to all groups of subjects who would then be presented with either the aggressive or nonaggressive film:

> "All right, kids, that's enough for the 'Time Waster' game. I do have some other games that I would like you to play with but it will take us about ten minutes to set them up. I don't want you to just sit around for ten minutes so why don't you watch this film while I get the toys ready."

Those subjects who were to be given no fantasy opportunity were told the following:

> "I do have some other games that I would like

> you to play with but it will take about ten minutes to set them up. Meanwhile I have a few interesting slide games which I will show to you while Mrs. Krause sets up the toys."

The film or non-fantasy slide tasks were then immediately presented so that no elapsed time which might be utilized by the subjects for fantasy purposes was provided.

Phase Two -- Experimental Condition

The aggressive "film" consisted of an eight-minute long continuous tape recording of an originally-composed play. The play, entitled "The Enemies," depicts verbal and physical arguments among several children. The tape recording features voices of both children and of an adult narrator. Accompanying the tape were color slides of children engaged in the activities portrayed in each scene of the play. A copy of the script of the play and a presentation of the accompanying pictures are included in Appendices G and H. The slides were projected by a Sawyer Rotomatic projector onto a 50" x 50" Cavalier screen.

The nonaggressive "film" was composed of a tape recording of the voices of several children and adults reading a script based upon the story The Adventures of Chitty Chitty Bang Bang by Ian Fleming. The recording was also accompanied by color slides of photgraphs taken from the movie by the same name. The story script and a copy of the photographs are included in Appendices

I and J respectively. The portion of this story utilized was selected for its nonaggressive theme and the illustrations from the movie were chosen since they are actual photographs of children and adults as was the case for the aggressive film. A pilot study was undertaken to compare the interest level of children for both of these films with the children rated for attentiveness to these films and enjoyment of them on a five-point interest scale. Results indicated a high degree of interest in each film with no significant differences between the films in the children's enjoyment of them.

The nonfantasy activity consisted of a series of three tasks; specifically (1) adding together five one-digit numbers, (2) computing the total amount of money represented by a picture of seven coins, and (3) placing a series of six numbers in ascending order. The total amount of time for the activity was eight minutes. Each of the three task sets was comprised of seven problems including a sample. A pilot study determined that all of the problems within each task were of approximately equal difficulty, that is, could be correctly answered by all of the children in the given time allotment. The pilot study further determined the appropriate duration of presentation of each task; each of the addition problems were presented for twelve seconds, the coin problems for fifteen seconds each and the ascending order problems for twenty seconds each. It was found that the afore-

mentioned time of presentation was sufficient for the children to satisfactorily complete the task but left no extra time remaining between problems. The presentation of tasks thus allowed as little time as possible which might have been used by the subjects for fantasy activity; yet the tasks did not prove to be a further source of frustration. Individual differences in time required for completion of each problem were found in the pilot study to be quite slight as was expected since the tasks are not difficult and require no more than rote skills which are definitely within the repertory of the fifth-grade child.

Instructions for each of the three activity sets were quite simple, requiring no more than thirty seconds. For example, in the set of coin problems, the instructions which were accompanied by presentation of the sample card were as follows: "Write down on your paper the total amount of money that you get when you add up the seven coins." The sample card illustrated two quarters, two dimes, a nickel and two pennies. The experimenter allowed the children several seconds and then stated "The answer is 77 cents." He then stated, "Now write down for each of the following pictures the amount you get when you add up the seven coins." After all seven cards in one set were presented, the experimenter immediately gave the instructions for the next set of problems and the activity continued without pause.

In order for this activity to be as absorbing as

possible, the stimuli were prepared in an interesting visual form. For example, in the task in which five numbers are to be summed, eye-catching geometric designs were presented with the five numbers located within circles of the design. Each task was presented to the children in slide form and a copy of all the problems is included in Appendix K. The children were given answer sheets which restated the instructions and on which they recorded their answers (see Appendix L).

Phase Three -- Play Period

Immediately after presentation of the "film," or after completion of the nonfantasy activity, the experimenter stated the following:

> "All right, I have all of the games set up now in another part of the room. Play with whatever you want and later you can tell me which games you like the best. Mrs. Krause and I will be busy while you play, but later you and I can talk about the games you like the best."

The play activities consisted of several aggressive and nonaggressive toys. The aggressive games included a Popeye punching doll, a "Fort Apache" toy consisting of soldiers, a fort, and various pieces of military equipment, and a "Targetland Rifle Range" consisting of a blow-gun, non-pointed rubber suction darts and several targets. The nonaggressive toys included a "Silly Faces" game consisting of disguises and a fun-house mirror, a metal doll house equipped with furniture and four "Liddle Kiddle" movable dolls, and clay of various colors. These toys

were found in a pilot study to be of marked attractiveness and interest to the children.

Subjects spent ten minutes in the play situation during which time their behavior was judged by the two observers, each of whom was again responsible for rating two of the four subjects. The observers did not communicate with the children and did not interfere with their behavior in any way but rather pretended to be busy with paper work. Every attempt was made to make it appear that the children were not being observed or rated.

The first four minutes of the play situation were divided into thirty-second intervals. During each interval the observer rated each of the two children whom he was judging for any behavior which might be termed "aggressive," "hostile," or "destructive," whether this behavior was directed toward a toy, toward another child, or toward the self. If no aggression was observed for the child during the thirty-second interval, a score of 0 was noted. If aggression was observed, its intensity was rated with a score of 1, 2, 3, or 4. Examples of physical aggression include punching or striking the Popeye doll, grabbing a toy away from another child, or shooting darts at another child. Examples of verbal aggression include name-calling, directing comments such as "Take that" at the punching doll, or stating during play with the "Fort Apache" game "I killed your soldier; I got you." The Final Aggression Scale, consisting of

the complete list of the various aggressive actions or aggressive statements and their accompanying scores is included in Appendix M. This list and the assignment of weighted aggression scores were based upon a pilot study in which inter-rater reliability for the scale was found to be .91. The list of aggressive acts was used as a reference by the observers as they were rating the children to determine the numerical score to be assigned to each child for each thirty-second interval.

After these first four minutes of the play period, the observers were then alloted two minutes in which to rate the children on the Mood Check-List. It was decided to rate the child's mood at this particular time since four minutes was deemed a long enough period for the child to have selected and become actively engaged in play with a particular toy and for the observer to accurately determine the child's mood during the play activity. In addition, it was felt that four minutes was not a long enough period of time for the subject's mood to have become significantly changed as a result of the play activity itself.

Finally, the last four minutes of the play activity were again divided into thirty-second intervals and an aggression score was again noted for each child during each interval. Thus, a total of sixteen intervals were arranged during which the child's aggressiveness in play was noted.

The experiment was concluded with the experimenter briefly discussing with the children their reactions to the toys (i. e. which they liked the most) and thanking them for their cooperation.

III. Analysis of Data

Behavioral Aggression

Overt or behavioral aggression was rated at two points during the experiment. First an initial aggression score was obtained during the final 2½ minutes of the frustration condition for each subject. Second, the subject was rated on the Final Aggression Scale during the play situation. Aggression in each instance was rated from 0 to 4 for each of the eight intervals in the Initial Aggression Scale and for each of the sixteen intervals in the Final Aggression Scale. The mean score obtained for each subject for both initial and final aggression level was taken as the dependent variable. The data thus consisted of 120 scores; specifically, an initial (Stage 1) and a final (Stage 2) aggression score for each of the ten subjects in each of the six treatment groups.

A 2 x 3 x 2 trend analysis of variance was applied to this data. The three factors were Fantasy (high and low levels), Films (aggressive, nonaggressive, or none), and Stages (initial and final aggression level). Furthermore, in order to specifically determine which group or groups had undergone significant changes in overt aggression from initial to final scores and to ascertain if differences existed among the six groups either among their mean initial scores or among their mean final scores

a Duncan's New Multiple Range Test was applied to the data.

Mood State

A similar procedure to that used to analyze the behavioral aggression scores was employed for the data consisting of the initial and final mood scores. For each of the eight mood variables under consideration, a separate analysis of variance was applied to the initial and final data. The dependent variable for each of the eight analyses of variance consisted of the mood score, ranging from 1 to 5, assigned to each subject during the frustration period and the score, again from 1 to 5, achieved by the subject during the play activity. For each mood or affective state rated by the Mood Check-List, a 2 x 3 x 2 trend analysis of variance was employed. The factors considered for each analysis were Fantasy (high and low levels), Films (aggressive, nonaggressive or none) and Stages (initial and final mood levels). Again, following each analysis of variance, a Duncan's New Multiple Range Test was applied to the data to determine the precise nature of the differences between the experimental groups.

Sex Differences

An analysis of the data was undertaken to determine if any differences existed between the sexes for behav-

ioral aggressiveness. A 2 x 3 x 2 analysis of variance on the dependent variable of initial aggression scores was done to determine if any differences were present between the boys' and the girls' aggression levels during the Frustration Period. The factors considered were Fantasy with high and low levels, Films with the levels being aggressive, nonaggressive, or none, and Sex. A 2 x 3 x 2 analysis of variance was also applied to the final aggression scores with the same three factors considered to determine if there were differential effects for sex upon behavioral aggression after the film-mediated fantasy experience or the nonfantasy task.

CHAPTER III

RESULTS

I. Preliminary Analysis of Data

Behavioral Aggression Scores

A trend analysis of variance was applied to the data consisting of the initial behavioral aggression scores achieved by subjects during the Frustration Period and the final aggression scores as measured during the Play Period (see Table 2). Of the three factors under consideration (i. e. Fantasy, Films, and Stages) there were significant main effects for Fantasy and for Stages as well as a significant Fantasy x films x stages interaction. This latter interaction is graphically depicted in Figure 1. Duncan's New Multiple Range Test was applied to this data (see Table 3) and revealed significant decreases from initial to final levels of behavioral aggression for High-Fantasy subjects presented with the aggressive and with the nonaggressive films. The High-Fantasy subjects given no fantasy opportunity and all Low-Fantasy subjects evidenced no significant changes in behavioral aggression.

Mood Scores

Angry-Annoyed Mood. The trend analysis of variance

Table 2

Analysis of Variance of Overt Aggression Scores

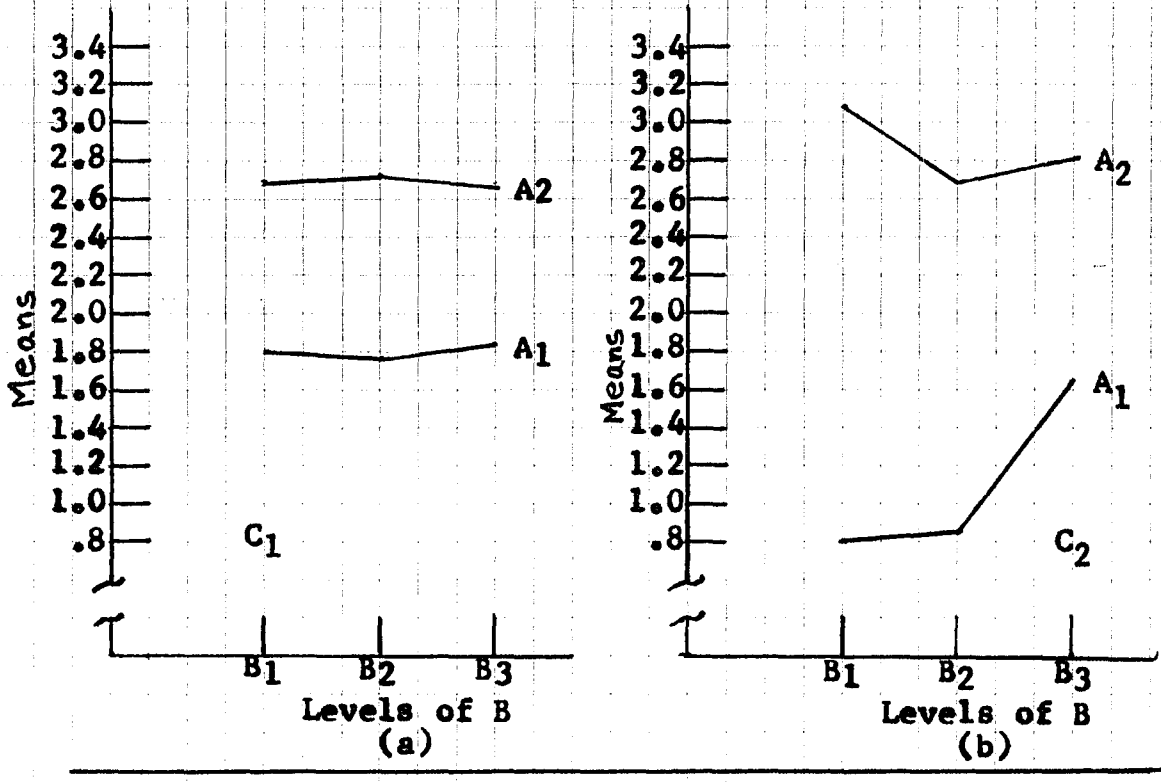
Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Fantasy	54.74	1	54.74	184.94**
B: Films	.93	2	.47	1.57
A x B: Fantasy x films	1.81	2	.91	3.06
Error (a)	16.01	54	.30	
C: Stages	2.14	1	2.14	12.53**
A x C: Fantasy x stages	5.65	1	5.65	33.06**
B x C: Films x stages	.98	2	.49	2.87
A x B x C: Fantasy x films x stages	1.47	2	.74	4.31*
Error (b)	9.23	54	.17	
Total	92.96	119		

*significant at the .05 level

**significant at the .005 level

Figure 1

Graphic Presentation of the Fantasy x Films x Stages Interaction for Overt Aggression Scores



(a) Means for levels of A at each level of B for C_1.

(b) Means for levels of A at each level of B for C_2.

A_1=High Fantasy A_2=Low Fantasy	B_1=Aggressive Film B_2=Nonaggressive Film B_3=No Film	C_1=Frustration Stage C_2=Play Stage

Table 3

Duncan's New Multiple Range Test Applied to the Differences Between the Treatment Means of the Overt Aggression Scores

Means	HiF Agg Post .80	HiF Non Post .85	HiF No Post 1.63	HiF Non Pre 1.77	HiF Agg Pre 1.80	HiF No Pre 1.82	LoF No Pre 2.68	LoF Agg Pre 2.71	LoF Non Post 2.71	LoF Non Pre 2.74	LoF No Post 2.81	LoF Agg Post 3.11	Shortest Significant Ranges
.80		.05	.83	.97	1.00	1.02	1.88	1.91	1.91	1.94	2.01	2.31	R_2=.616
.85			.78	.92	.95	.97	1.83	1.86	1.86	1.89	1.96	2.26	R_3=.648
1.63				.14	.17	.19	1.05	1.08	1.08	1.11	1.18	1.48	R_4=.670
1.77					.03	.05	.91	.94	.94	.97	1.04	1.34	R_5=.686
1.80						.02	.88	.91	.91	.94	1.01	1.31	R_6=.698
1.82							.86	.89	.89	.92	.99	1.29	R_7=.708
2.68								.03	.03	.07	.13	.43	R_8=.716
2.71									---	.03	.10	.40	R_9=.723
2.71										.03	.10	.40	R_{10}=.729
2.74											.07	.37	R_{11}=.734
2.81												.30	R_{12}=.739
	HiF Agg Post	HiF Non Post	HiF No Post	HiF Non Pre	HiF Agg Pre	HiF No Pre	LoF No Pre	LoF Agg Pre	LoF Non Post	LoF Non Pre	LoF No Post	LoF Agg Post	

SUMMARY

Group	Pre Score	Post Score	Significance of Difference*
High Fantasy-Aggressive Film	1.80	.80	Significant
High Fantasy-Nonaggressive Film	1.77	.85	Significant
High Fantasy-No Film	1.82	1.63	Not Significant
Low Fantasy-Aggressive Film	2.71	3.11	Not Significant
Low Fantasy-Nonaggressive Film	2.74	2.71	Not Significant
Low Fantasy-No Film	2.68	2.81	Not Significant

*α=.05

applied to the angry-annoyed mood data indicated significant main effects for Fantasy and for Stages and significant interactions for Fantasy x stages and for Fantasy x films x stages (see Table 4). The fantasy x films x stages interaction is graphically presented in Figure 2. The Duncan's New Multiple Range Test revealed significant decreases in this mood for the High-Fantasy-Aggressive-Film and for the High-Fantasy-Nonaggressive-Film groups while no significant changes were indicated for any other group (see Table 5).

Fearful-Tense Mood. A significant main effect for Fantasy and significant interactions for Films x stages and for Fantasy x films x stages were indicated in the analysis of variance upon the dependent variable of fearful-tense mood scores. A summary of the analysis of variance is presented in Table 6 and a graphic depiction of the Fantasy x films x stages interaction is given in Figure 3. The Duncan's New Multiple Range Test applied to this data revealed no significant changes in fearful-tense mood scores from initial to final levels for any of the experimental groups (see Table 7).

Lively-Excited Mood. The analysis of variance of lively-excited mood scores resulted in significant main effects for Fantasy and for Stages and no significant interactions (see Table 8). The nature of the Fantasy x films x stages interaction is graphically presented in Figure 4. There were no significant changes in this mood

Table 4

Analysis of Variance of Angry-Annoyed Mood Scores

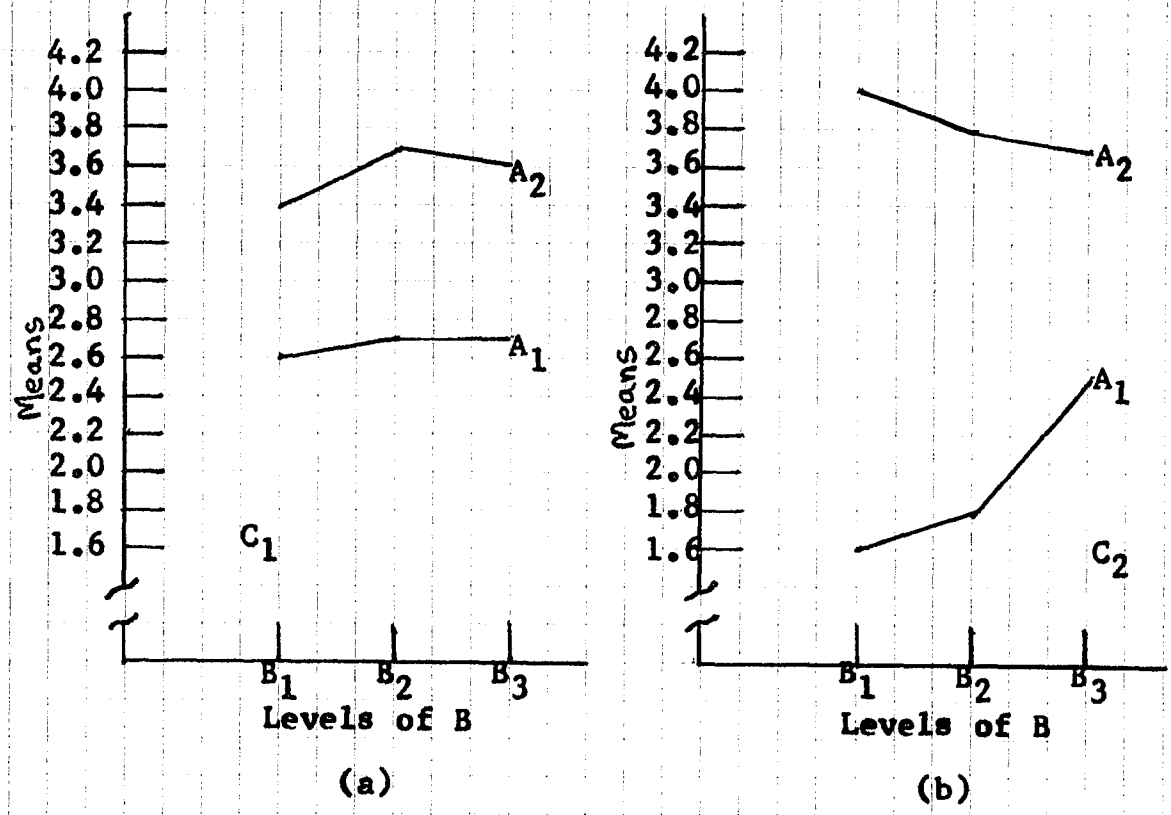
Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Fantasy	57.41	1	57.41	122.15**
B: Films	1.02	2	.51	1.09
A x B: Fantasy x films	1.66	2	.83	1.77
Error (a)	25.40	54	.47	
C: Stages	1.41	1	1.41	7.42*
A x C: Fantasy x stages	7.00	1	7.00	36.84**
B x C: Films x stages	.61	2	.31	1.63
A x B x C: Fantasy x films x stages	2.18	2	1.09	5.73*
Error (b)	10.30	54	.19	
Total	106.99	119		

*significant at the .01 level

**significant at the .005 level

Figure 2

Graphic Presentation of the Fantasy x Films x Stages Interaction for the Angry-Annoyed Mood Scores



(a) Means for levels of A at each level of B for C_1.

(b) Means for levels of A at each level of B for C_2.

A_1=High Fantasy A_2=Low Fantasy	B_1=Aggressive Film B_2=Nonaggressive Film B_3=No Film	C_1=Frustration Stage C_2=Play Stage

Table 5

Duncan's New Multiple Range Test Applied to the Differences Between the Treatment Means of the Angry-Annoyed Mood Scores

Means	HiF Agg Post 1.6	HiF Non Post 1.8	HiF No Post 2.5	HiF Agg Pre 2.6	HiF Non Pre 2.7	HiF No Pre 2.7	LoF Agg Pre 3.4	LoF No Pre 3.6	LoF Non Pre 3.7	LoF No Post 3.7	LoF Non Post 3.8	LoF Agg Post 4.0	Shortest Significant Ranges
1.6		.2	.9	1.0	1.1	1.1	1.8	2.0	2.1	2.1	2.2	2.4	R_2=.728
1.8			.7	.8	.9	.9	1.6	1.8	1.9	1.9	2.0	2.2	R_3=.766
2.5				.1	.2	.2	.9	1.1	1.2	1.2	1.3	1.5	R_4=.792
2.6					.1	.1	.8	1.0	1.1	1.1	1.2	1.4	R_5=.810
2.7						---	.7	.9	1.0	1.0	1.1	1.3	R_6=.825
2.7							.7	.9	1.0	1.0	1.1	1.3	R_7=.836
3.4								.2	.3	.3	.4	.6	R_8=.846
3.6									.1	.1	.2	.4	R_9=.855
3.7										---	.1	.3	R_{10}=.862
3.7											.1	.3	R_{11}=.868
3.8												.2	R_{12}=.873
	HiF Agg Post	HiF Non Post	HiF No Post	HiF Agg Pre	HiF Non Pre	HiF No Pre	LoF Agg Pre	LoF No Pre	LoF Non Pre	LoF No Post	LoF Non Post	LoF Agg Post	

SUMMARY

Group	Pre Score	Post Score	Significance of Difference*
High Fantasy-Aggressive Film	2.6	1.6	Significant
High Fantasy-Nonaggressive Film	2.7	1.8	Significant
High Fantasy-No Film	2.7	2.5	Not Significant
Low Fantasy-Aggressive Film	3.4	4.0	Not Significant
Low Fantasy-Nonaggressive Film	3.7	3.8	Not Significant
Low Fantasy-No Film	3.6	3.7	Not Significant

*$\alpha = .05$

Table 6

Analysis of Variance of Fearful-Tense Mood Scores

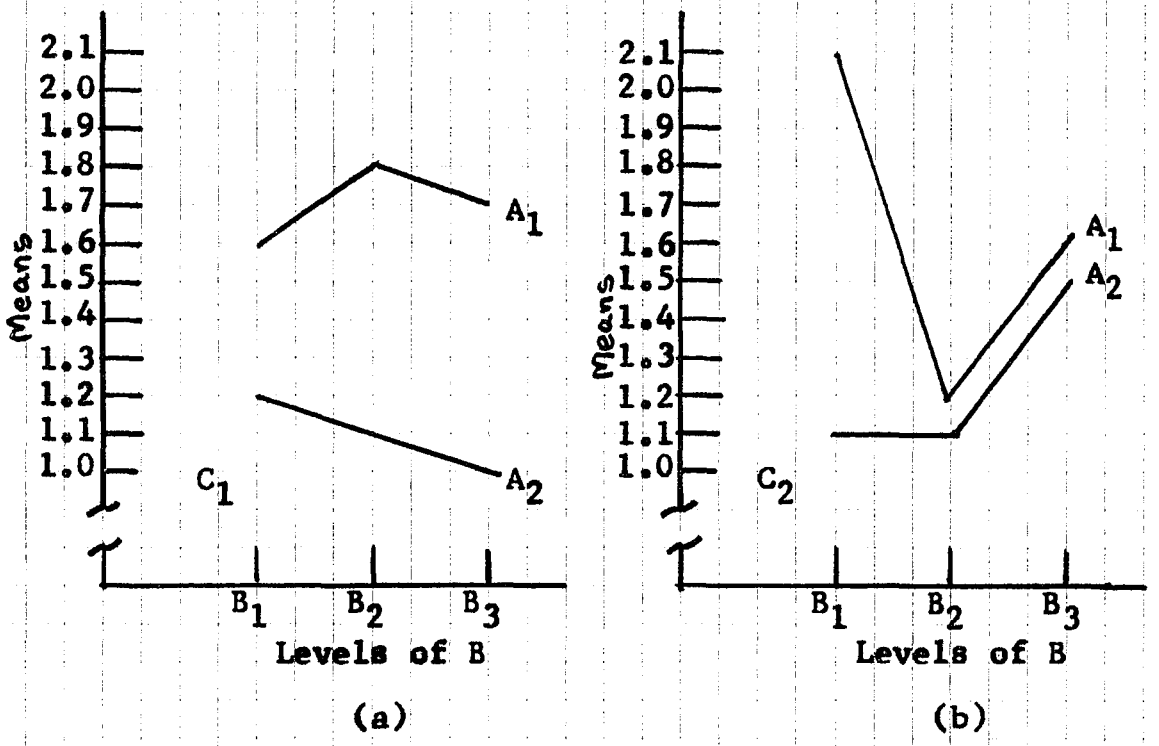
Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Fantasy	7.50	1	7.50	23.44**
B: Films	.87	2	.44	1.38
A x B: Fantasy x films	.60	2	.30	---
Error (a)	17.20	54	.32	
C: Stages	.04	1	.04	---
A x C: Fantasy x stages	.30	1	.30	1.88
B x C: Films x stages	1.66	2	.83	5.19*
A x B x C: Fantasy x films x stages	2.40	2	1.20	7.50**
Error (b)	8.60	54	.16	
Total	39.17	119		

*significant at the .01 level

**significant at the .005 level

Figure 3

Graphic Presentation of the Fantasy x Films x Stages Interaction for the Fearful-Tense Mood Scores



(a) Means for levels of A at each level of B for C_1;

(b) Means for levels of A at each level of B for C_2.

A_1=High Fantasy	B_1=Aggressive Film	C_1=Frustration Stage
A_2=Low Fantasy	B_2=Nonaggressive Film	C_2=Play Stage
	B_3=No Film	

Table 7

Duncan's New Multiple Range Test Applied to the Differences Between the Treatment Means of the Fearful-Tense Mood Scores

Means	LoF No Pre 1.0	LoF Non Pre 1.1	LoF Agg Post 1.1	LoF Non Post 1.1	LoF Agg Pre 1.2	HiF Non Post 1.2	LoF No Post 1.5	HiF Agg Pre 1.6	HiF No Post 1.6	HiF No Pre 1.7	HiF Non Pre 1.8	HiF Agg Post 2.1	Shortest Significant Ranges
1.0		.1	.1	.1	.2	.2	.5	.6	.6	.7	.8	1.1	R_2=.616
1.1			---	---	.1	.1	.4	.5	.5	.6	.7	1.0	R_3=.648
1.1				---	.1	.1	.4	.5	.5	.6	.7	1.0	R_4=.670
1.1					.1	.1	.4	.5	.5	.6	.7	1.0	R_5=.686
1.2						---	.3	.4	.4	.5	.6	.9	R_6=.698
1.2							.3	.4	.4	.5	.6	.9	R_7=.708
1.5								.1	.1	.2	.3	.6	R_8=.716
1.6									---	.1	.2	.5	R_9=.723
1.6										.1	.2	.5	R_{10}=.729
1.7											.1	.4	R_{11}=.734
1.8												.3	R_{12}=.739
	LoF No Pre	LoF Non Pre	LoF Agg Post	LoF Non Post	LoF Agg Pre	HiF Non Post	LoF No Post	HiF Agg Pre	HiF No Post	HiF No Pre	HiF Non Pre	HiF Agg Post	

SUMMARY

Group	Pre Score	Post Score	Significance of Difference*
High Fantasy-Aggressive Film	1.6	2.1	Not Significant
High Fantasy-Nonaggressive Film	1.8	1.2	Not Significant
High Fantasy-No Film	1.7	1.6	Not Significant
Low Fantasy-Aggressive Film	1.2	1.1	Not Significant
Low Fantasy-Nonaggressive Film	1.1	1.1	Not Significant
Low Fantasy-No Film	1.0	1.5	Not Significant

*α = .05

Table 8

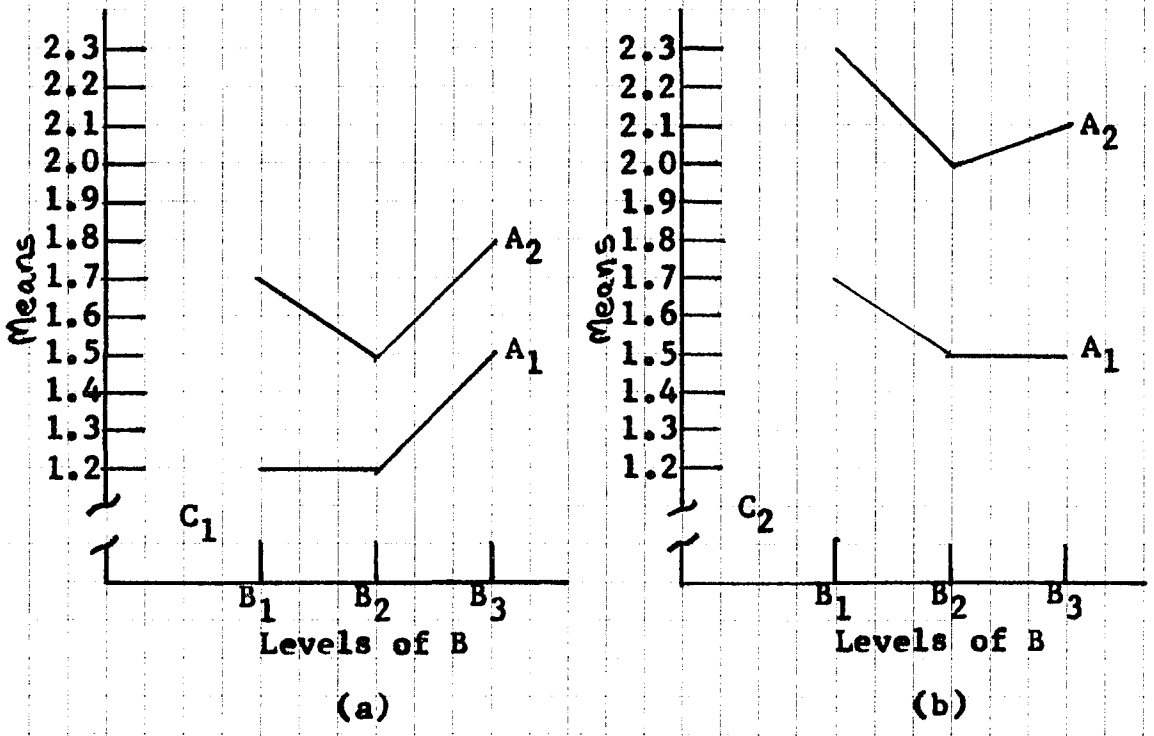
Analysis of Variance of Lively-Excited Mood Scores

Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Fantasy	6.54	1	6.54	10.06*
B: Films	.82	2	.41	---
A x B: Fantasy x films	.11	2	.06	---
Error (a)	35.20	54	.65	
C: Stages	4.04	1	4.04	14.96*
A x C: Fantasy x stages	.29	1	.29	1.07
B x C: Films x stages	.81	2	.41	1.52
A x B x C: Fantasy x films x stages	.06	2	.03	---
Error (b)	14.80	54	.27	
Total	62.67	119		

*significant at the .005 level

Figure 4

Graphic Presentation of the Fantasy x Films x Stages Interaction for the Lively-Excited Mood Scores



(a) Means for levels of A at each level of B for C_1.

(b) Means for levels of A at each level of B for C_2.

A_1=High Fantasy A_2=Low Fantasy	B_1=Aggressive Film B_2=Nonaggressive Film B_3=No Film	C_1=Frustration Stage C_2=Play Stage

from the Frustration Phase to the Play Period for any of the experimental groups with the results of the Duncan's New Multiple Range Test summarized in Table 9.

Elated-Pleased Mood. The analysis of variance of elated-pleased mood scores indicated significant interactions for Fantasy x stages and for Films x stages as well as significant main effects for Fantasy and for Stages (see Table 10). The Fantasy x films x stages interaction is presented graphically in Figure 5, Duncan's New Multiple Range Test indicated a significant increase in elated-pleased mood for High-Fantasy subjects presented with the nonaggressive film while all other groups evidenced no significant changes in this affective state (see Table 11).

Sad-Downhearted Mood. Significant main effects for Fantasy and for Films and significant interactions for Fantasy x films, for Films x stages and for Fantasy x films x stages were found in the analysis of variance of sad-downhearted mood scores (see Table 12). The interaction of the three factors is graphically depicted in Figure 6. There was a significant increase in this mood for High-Fantasy subjects presented with the aggressive film with no significant changes from initial to final levels for any of the other groups as indicated in the Duncan's New Multiple Range Test (see Table 13).

Ashamed-Contrite Mood. The analysis of variance upon the dependent variable of ashamed-contrite scores revealed a significant main effect for Fantasy and significant in-

Table 9

Duncan's New Multiple Range Test Applied to the Differences Between the Treatment Means of the Lively-Excited Mood Scores

Means	HiF Agg Pre 1.2	HiF Non Pre 1.2	HiF No Pre 1.5	LoF Non Pre 1.5	HiF Non Post 1.5	HiF No Post 1.5	LoF Agg Pre 1.7	HiF Agg Post 1.7	LoF No Pre 1.8	LoF Non Post 2.0	LoF No Post 2.1	LoF Agg Post 2.3	Shortest Significant Ranges
1.2		---	.3	.3	.3	.3	.5	.5	.6	.8	.9	1.1	R_2=.840
1.2			.3	.3	.3	.3	.5	.5	.6	.8	.9	1.1	R_3=.884
1.5				---	---	---	.2	.2	.3	.5	.6	.8	R_4=.914
1.5					---	---	.2	.2	.3	.5	.6	.8	R_5=.935
1.5						---	.2	.2	.3	.5	.6	.8	R_6=.952
1.5							.2	.2	.3	.5	.6	.8	R_7=.965
1.7								---	.1	.3	.4	.6	R_8=.976
1.7									.1	.3	.4	.6	R_9=.986
1.8										.2	.3	.5	R_{10}=.994
2.0											.1	.3	R_{11}=1.000
2.1												.2	R_{12}=1.005
	HiF Agg Pre	HiF Non Pre	HiF No Pre	LoF Non Pre	HiF Non Post	HiF No Post	LoF Agg Pre	HiF Agg Post	LoF No Pre	LoF Non Post	LoF No Post	LoF Agg Post	

SUMMARY

Group	Pre Score	Post Score	Significance of Difference*
High Fantasy-Aggressive Film	1.2	1.7	Not Significant
High Fantasy-Nonaggressive Film	1.2	1.5	Not Significant
High Fantasy-No Film	1.5	1.5	Not Significant
Low Fantasy-Aggressive Film	1.7	2.3	Not Significant
Low Fantasy-Nonaggressive Film	1.5	2.0	Not Significant
Low Fantasy-No Film	1.8	2.1	Not Significant

*α=.05

Table 10

Analysis of Variance of Elated-Pleased Mood Scores

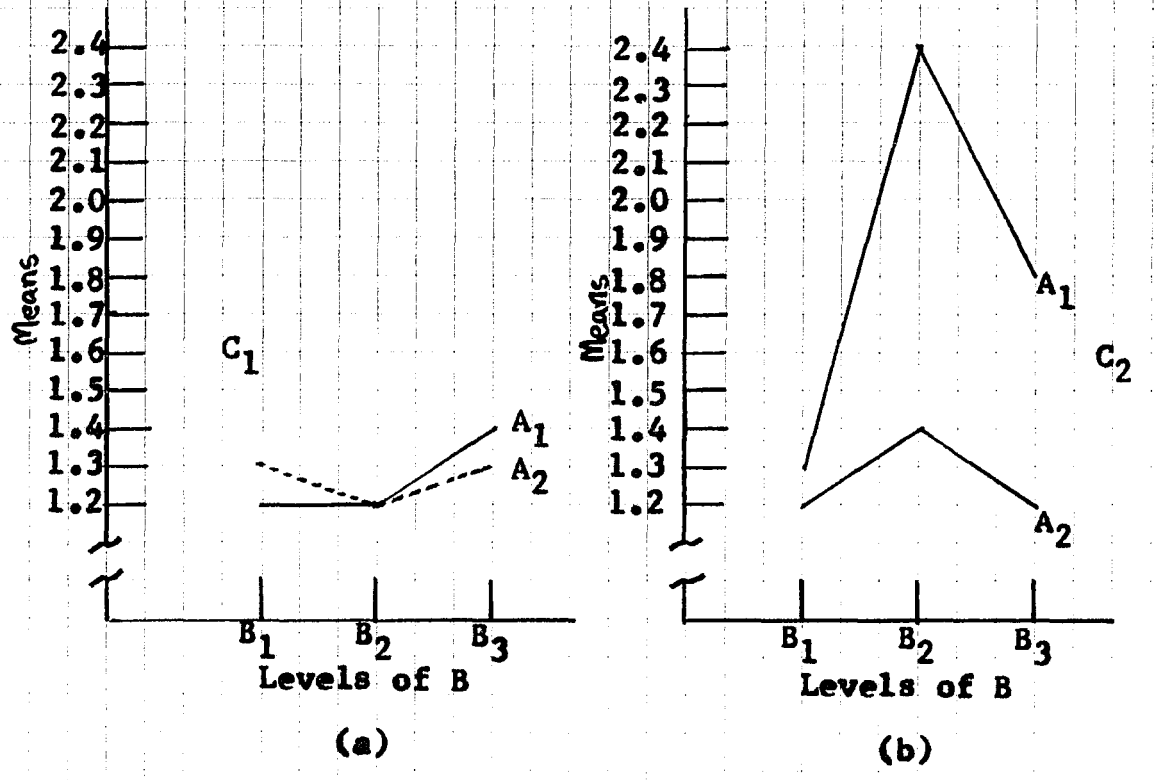
Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Fantasy	2.41	1	2.41	6.51*
B: Films	1.82	2	.91	2.46
A x B: Fantasy x films	1.31	2	.66	1.78
Error (a)	19.95	54	.37	
C: Stages	2.41	1	2.41	14.18**
A x C: Fantasy x stages	2.40	1	2.40	14.12**
B x C: Films x stages	2.71	2	1.36	8.00**
A x B x C: Fantasy x films x stages	.83	2	.42	2.47
Error (b)	9.15	54	.17	
Total	42.99	119		

*significant at the .05 level

**significant at the .005 level

Figure 5

Graphic Presentation of the Fantasy x Films x Stages Interaction for the Elated-Pleased Mood Scores



(a) Means for levels of A at each level of B for C_1.

(b) Means for levels of A at each level of B for C_2.

A_1=High Fantasy A_2=Low Fantasy	B_1=Aggressive Film B_2=Nonaggressive Film B_3=No Film	C_1=Frustration Stage C_2=Play Stage

Table 11

Duncan's New Multiple Range Test Applied to the Differences Between the Treatment Means of the Elated-Pleased Mood Scores

Means	HiF Agg Pre 1.2	HiF Non Pre 1.2	LoF Non Pre 1.2	LoF Agg Post 1.2	LoF No Post 1.2	LoF Agg Pre 1.3	LoF No Pre 1.3	HiF Agg Post 1.3	HiF No Pre 1.4	LoF Non Post 1.4	HiF No Post 1.8	HiF Non Post 2.4	Shortest Significant Ranges
1.2		---	---	---	---	.1	.1	.1	.2	.2	.6	1.2	R_2=.644
1.2			---	---	---	.1	.1	.1	.2	.2	.6	1.2	R_3=.678
1.2				---	---	.1	.1	.1	.2	.2	.6	1.2	R_4=.700
1.2					---	.1	.1	.1	.2	.2	.6	1.2	R_5=.717
1.2						.1	.1	.1	.2	.2	.6	1.2	R_6=.729
1.3							---	---	.1	.1	.5	1.1	R_7=.740
1.3								---	.1	.1	.5	1.1	R_8=.748
1.3									.1	.1	.5	1.1	R_9=.756
1.4										---	.4	1.0	R_{10}=.762
1.4											.4	1.0	R_{11}=.768
1.8												.6	R_{12}=.773
	HiF Agg Pre	HiF Non Pre	LoF Non Pre	LoF Agg Post	LoF No Post	LoF Agg Pre	LoF No Pre	HiF Agg Post	HiF No Pre	LoF Non Post	HiF No Post	HiF Non Post	

SUMMARY

Group	Pre Score	Post Score	Significance of Difference*
High Fantasy-Aggressive Film	1.2	1.3	Not Significant
High Fantasy-Nonaggressive Film	1.2	2.4	Significant
High Fantasy-No Film	1.4	1.8	Not Significant
Low Fantasy-Aggressive Film	1.3	1.2	Not Significant
Low Fantasy-Nonaggressive Film	1.2	1.4	Not Significant
Low Fantasy-No Film	1.3	1.2	Not Significant

*α=.05

Table 12

Analysis of Variance of Sad-Downhearted Mood Scores

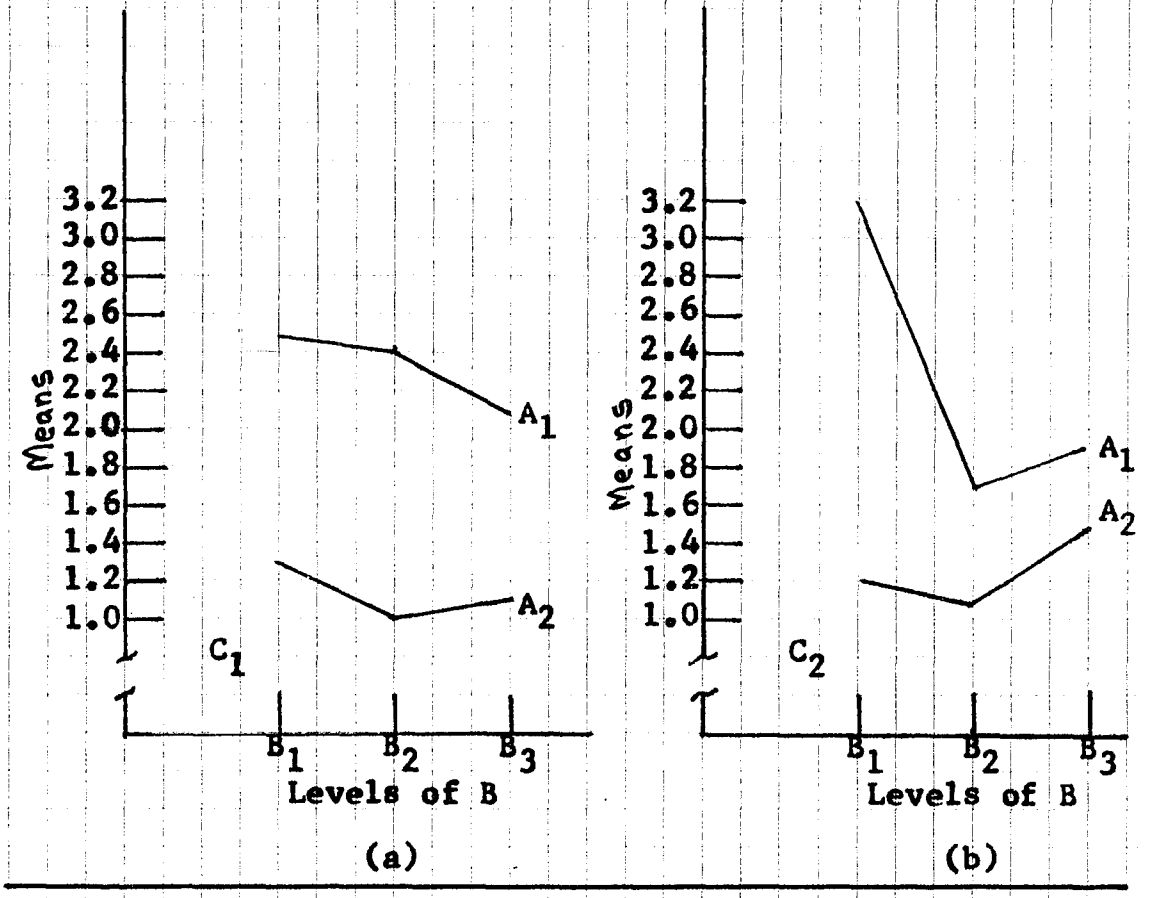
Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Fantasy	36.30	1	36.30	80.65**
B: Films	5.60	2	2.80	6.22**
A x B: Fantasy x films	4.20	2	2.10	4.67*
Error (a)	24.40	54	.45	
C: Stages	.03	1	.03	---
A x C: Fantasy x stages	.30	1	.30	2.00
B x C: Films x stages	1.87	2	.94	6.27**
A x B x C: Fantasy x films x stages	3.80	2	1.90	12.67**
Error (b)	8.00	54	.15	
Total	84.50	119		

*significant at the .05 level

**significant at the .005 level

Figure 6

Graphic Presentation of the Fantasy x Films x Stages Interaction for the Sad-Downhearted Mood Scores



(a) Means for levels of A at each level of B for C_1.

(b) Means for levels of A at each level of B for C_2.

A_1=High Fantasy	B_1=Aggressive Film	C_1=Frustration Stage
A_2=Low Fantasy	B_2=Nonaggressive Film	C_2=Play Stage
	B_3=No Film	

Table 13

Duncan's New Multiple Range Test Applied to the Differences Between the Treatment Means of the Sad-Downhearted Mood Scores

Means	LoF Non Pre 1.0	LoF No Pre 1.1	LoF Non Post 1.1	LoF Agg Post 1.2	LoF Agg Pre 1.3	LoF No Post 1.5	HiF Non Post 1.7	HiF No Post 1.9	HiF No Pre 2.1	HiF Non Pre 2.4	HiF Agg Pre 2.5	HiF Agg Post 3.2	Shortest Significant Ranges
1.0		.1	.1	.2	.3	.5	.7	.9	1.1	1.4	1.5	2.2	R_2=.700
1.1			---	.1	.2	.4	.6	.8	1.0	1.3	1.4	2.1	R_3=.737
1.1				.1	.2	.4	.6	.8	1.0	1.3	1.4	2.1	R_4=.761
1.2					.1	.3	.5	.7	.9	1.2	1.3	2.0	R_5=.779
1.3						.2	.4	.6	.8	1.1	1.2	1.9	R_6=.793
1.5							.2	.4	.6	.9	1.0	1.7	R_7=.804
1.7								.2	.4	.7	.8	1.5	R_8=.814
1.9									.2	.5	.6	1.3	R_9=.822
2.1										.3	.4	1.1	R_{10}=.829
2.4											.1	.8	R_{11}=.834
2.5												.7	R_{12}=.849
	LoF Non Pre	LoF No Pre	LoF Non Post	LoF Agg Post	LoF Agg Pre	LoF No Post	HiF Non Post	HiF No Post	HiF No Pre	HiF Non Pre	HiF Agg Pre	HiF Agg Post	

SUMMARY

Group	Pre Score	Post Score	Significance of Difference*
High Fantasy-Aggressive Film	2.5	3.2	Significant
High Fantasy-Nonaggressive Film	2.4	1.7	Not Significant
High Fantasy-No Film	2.1	1.9	Not Significant
Low Fantasy-Aggressive Film	1.3	1.2	Not Significant
Low Fantasy-Nonaggressive Film	1.0	1.1	Not Significant
Low Fantasy-No Film	1.1	1.5	Not Significant

*α=.05

teractions for Fantasy x films, for Films x stages, and for Fantasy x films x stages (see Table 14) with the interaction of the three factors presented graphically in Figure 7. There was a significant increase in ashamed-contrite scores for High-Fantasy subjects presented with the aggressive film and a significant decrease in this mood for subjects in the High-Fantasy-Nonaggressive-Film group while the other groups evidenced no significant change (see Table 15).

Contemptuous-Disgusted Mood. Significant main effects for Fantasy and for Stages and significant interactions for Fantasy x stages and for Films x stages were indicated in the analysis of variance of contemptuous-disgusted mood scores (see Table 16). The nature of the Fantasy x films x stages interaction is graphically depicted in Figure 8. The Duncan's New Multiple Range Test indicated no significant changes in this mood for any of the experimental groups from initial to final levels (see Table 17).

Fatigued-Sluggish Mood. The analysis of variance on the dependent variable of fatigued-sluggish scores rerevaled a significant main effect for Fantasy and significant interactions for Films x stages and for Fantasy x films x stages (see Table 18) with the latter interaction graphically depicted in Figure 9. There were no significant differences between initial and final levels of this mood for any of the experimental groups (see Table 19).

Table 14

Analysis of Variance of Ashamed-Contrite Mood Scores

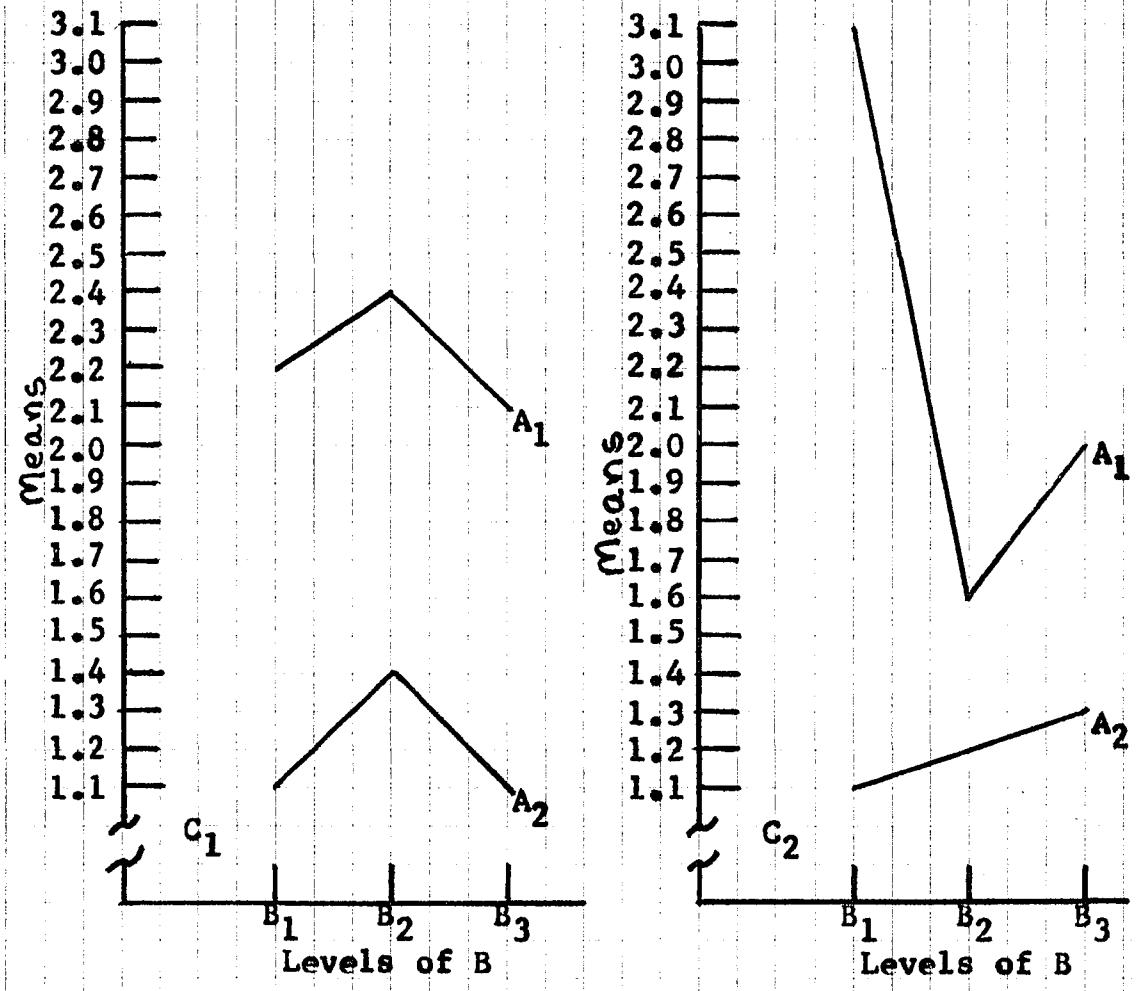
Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Fantasy	32.04	1	32.04	72.82**
B: Films	1.52	2	.76	1.73
A x B: Fantasy x films	4.11	2	2.06	4.68*
Error (a)	23.70	54	.44	
C: Stages	.00	1	.00	---
A x C: Fantasy x stages	.00	1	.00	---
B x C: Films x stages	4.55	2	2.28	22.80**
A x B x C: Fantasy x films x stages	3.15	2	1.58	15.80**
Error (b)	5.30	54	.10	
Total	74.37	119		

*significant at the .05 level

**significant at the .005 level

Figure 7

Graphic Presentation of the Fantasy x Films x Stages Interaction for the Ashamed-Contrite Mood Scores



(a) Means for levels of A at each level of B for C_1.

(b) Means for levels of A at each level of B for C_2.

A_1=High Fantasy	B_1=Aggressive Film	C_1=Frustration Stage
A_2=Low Fantasy	B_2=Nonaggressive Film	C_2=Play Stage
	B_3=No Film	

Table 15

Duncan's New Multiple Range Test Applied to the Differences Between the Treatment Means of the Ashamed-Contrite Mood Scores

Means	LoF Agg Pre 1.1	LoF No Pre 1.1	LoF Agg Post 1.1	LoF Non Post 1.2	LoF No Post 1.3	LoF Non Pre 1.4	HiF Non Post 1.6	HiF No Post 2.0	HiF No Pre 2.1	HiF Agg Pre 2.2	HiF Non Pre 2.4	HiF Agg Post 3.1	Shortest Significant Ranges
1.1		---	---	.1	.2	.3	.5	.9	1.0	1.1	1.3	2.0	R_2=.672
1.1			---	.1	.2	.3	.5	.9	1.0	1.1	1.3	2.0	R_3=.707
1.1				.1	.2	.3	.5	.9	1.0	1.1	1.3	2.0	R_4=.731
1.2					.1	.2	.4	.8	.9	1.0	1.2	1.9	R_5=.748
1.3						.1	.3	.7	.8	.9	1.1	1.8	R_6=.760
1.4							.2	.6	.7	.8	1.0	1.7	R_7=.772
1.6								.4	.5	.6	.8	1.5	R_8=.781
2.0									.1	.2	.4	1.1	R_9=.789
2.1										.1	.3	1.0	R_{10}=.795
2.2											.2	.9	R_{11}=.801
2.4												.7	R_{12}=.806
	LoF Agg Pre	LoF No Pre	LoF Agg Post	LoF Non Post	LoF No Post	LoF Non Pre	HiF Non Post	HiF No Post	HiF No Pre	HiF Agg Pre	HiF Non Pre	HiF Agg Post	

SUMMARY

Group	Pre Score	Post Score	Significance of Difference*
High Fantasy-Aggressive Film	2.2	3.1	Significant
High Fantasy-Nonaggressive Film	2.4	1.6	Significant
High Fantasy-No Film	2.1	2.0	Not Significant
Low Fantasy-Aggressive Film	1.1	1.1	Not Significant
Low Fantasy-Nonaggressive Film	1.4	1.2	Not Significant
Low Fantasy-No Film	1.1	1.3	Not Significant

*α=.05

Table 16

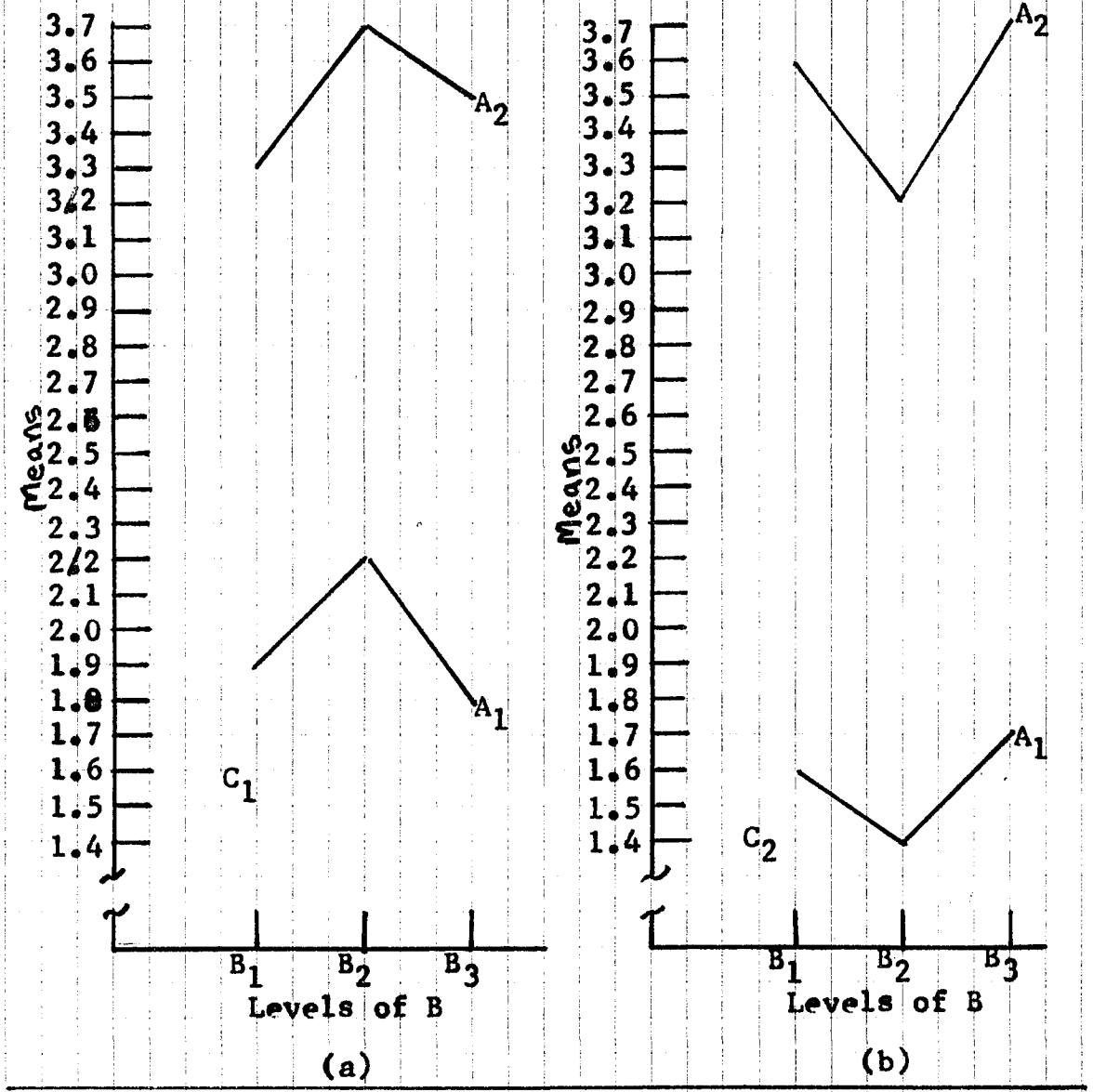
Analysis of Variance of Contemptuous-Disgusted Mood Scores

Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Fantasy	90.14	1	90.14	136.58**
B: Films	.12	2	.06	---
A x B: Fantasy x films	.21	2	.12	---
Error (a)	35.40	54	.66	
C: Stages	1.20	1	1.20	10.00**
A x C: Fantasy x stages	1.20	1	1.20	10.00**
B x C: Films x stages	3.05	2	1.53	12.58**
A x B x C: Fantasy x films x stages	.15	2	.08	---
Error (b)	6.40	54	.12	
Total	137.87	119		

**significant at the .005 level

Figure 8

Graphic Presentation of the Fantasy x Films x Stages Interaction for the Contemptuous-Disgusted Mood Scores



(a) Means for levels of A at each level of B for C_1.

(b) Means for levels of A at each level of B for C_2.

A_1=High Fantasy	B_1=Aggressive Film	C_1=Frustration Stage
A_2=Low Fantasy	B_2=Nonaggressive Film	C_2=Play Stage
	B_3=No Film	

Table 17

Duncan's New Multiple Range Test Applied to the Differences Between the Treatment Means of the Contemptuous-Disgusted Mood Scores

	HiF Non Post	HiF Agg Post	HiF No Post	HiF No Pre	HiF Agg Pre	HiF Non Pre	LoF Non Post	LoF Agg Pre	LoF No Pre	LoF Agg Post	LoF Non Pre	LoF No Post	
Means	1.4	1.6	1.7	1.8	1.9	2.2	3.2	3.3	3.5	3.6	3.7	3.7	Shortest Significant Ranges
1.4		.2	.3	.4	.5	.8	1.8	1.9	2.1	2.2	2.3	2.3	R_2=.784
1.6			.1	.2	.3	.6	1.6	1.7	1.9	2.0	2.1	2.1	R_3=.825
1.7				.1	.2	.5	1.5	1.6	1.8	1.9	2.0	2.0	R_4=.853
1.8					.1	.4	1.4	1.5	1.7	1.8	1.9	1.9	R_5=.872
1.9						.3	1.3	1.4	1.6	1.7	1.8	1.8	R_6=.888
2.2							1.0	1.1	1.3	1.4	1.5	1.5	R_7=.901
3.2								.1	.3	.4	.5	.5	R_8=.911
3.3									.2	.3	.4	.4	R_9=.920
3.5										.1	.2	.2	R_{10}=.928
3.6											.1	.1	R_{11}=.934
3.7												---	R_{12}=.941
	HiF Non Post	HiF Agg Post	HiF No Post	HiF No Pre	HiF Agg Pre	HiF Non Pre	LoF Non Post	LoF Agg Pre	LoF No Pre	LoF Agg Post	LoF Non Pre	LoF No Post	

SUMMARY

Group	Pre Score	Post Score	Significance of Difference*
High Fantasy-Aggressive Film	1.9	1.6	Not Significant
High Fantasy-Nonaggressive Film	2.2	1.4	Not Significant
High Fantasy-No Film	1.8	1.7	Not Significant
Low Fantasy-Aggressive Film	3.3	3.6	Not Significant
Low Fantasy-Nonaggressive Film	3.7	3.2	Not Significant
Low Fantasy-No Film	3.5	3.7	Not Significant

*α=.05

Table 18

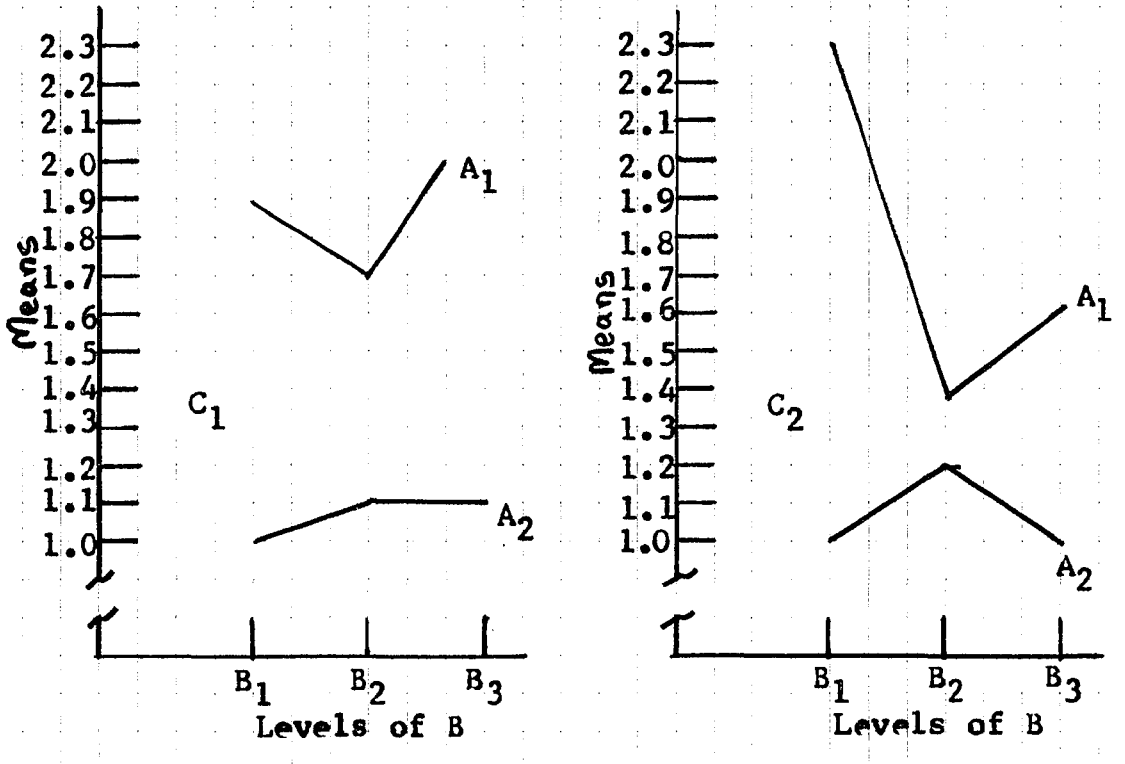
Analysis of Variance of Fatigued-Sluggish Mood Scores

Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Fantasy	16.87	1	16.87	43.26**
B: Films	.82	2	.41	1.05
A x B: Fantasy x films	2.45	2	1.23	3.15
Error (a)	20.95	54	.39	
C: Stages	.07	1	.07	---
A x C: Fantasy x stages	.08	1	.08	1.00
B x C: Films x stages	1.05	2	.53	6.63**
A x B x C: Fantasy x films x stages	.95	2	.48	6.00**
Error (b)	4.35	54	.08	
Total	47.59	119		

**significant at the .005 level

Figure 9

Graphic Presentation of the Fantasy x Films x Stages Interaction for the Fatigued-Bluggish Mood Scores



(a) Means for levels of A at each level of B for C_1.

(b) Means for levels of A at each level of B for C_2.

A_1=High Fantasy A_2=Low Fantasy	B_1=Aggressive Film B_2=Nonaggressive Film B_3=No Film	C_1=Frustration Stage C_2=Play Stage

Table 19

Duncan's New Multiple Range Test Applied to the Differences Between the Treatment Means of the Fatigued-Sluggish Mood Scores

Means	LoF Agg Pre 1.0	LoF Agg Post 1.0	LoF No Post 1.0	LoF Non Pre 1.1	LoF No Pre 1.1	LoF Non Post 1.2	HiF No Post 1.4	HiF Non Post 1.6	HiF No Pre 1.7	HiF Agg Pre 1.9	HiF No Pre 2.0	HiF Agg Post 2.3	Shortest Significant Ranges
1.0		---	---	.1	.1	.2	.4	.6	.7	.9	1.0	1.3	R_2=.588
1.0			---	.1	.1	.2	.4	.6	.7	.9	1.0	1.3	R_3=.619
1.0				.1	.1	.2	.4	.6	.7	.9	1.0	1.3	R_4=.640
1.1					---	.1	.3	.5	.6	.8	.9	1.2	R_5=.654
1.1						.1	.3	.5	.6	.8	.9	1.2	R_6=.666
1.2							.2	.4	.5	.7	.8	1.1	R_7=.676
1.4								.2	.3	.5	.6	.9	R_8=.683
1.6									.1	.3	.4	.7	R_9=.690
1.7										.2	.3	.6	R_{10}=.696
1.9											.1	.4	R_{11}=.702
2.0												.3	R_{12}=.705
	LoF Agg Pre	LoF Agg Post	LoF No Post	LoF Non Pre	LoF No Pre	LoF Non Post	HiF No Post	HiF Non Post	HiF No Pre	HiF Agg Pre	HiF No Pre	HiF Agg Post	

SUMMARY

Group	Pre Score	Post Score	Significance of Difference*
High Fantasy-Aggressive Film	1.9	2.3	Not Significant
High Fantasy-Nonaggressive Film	1.7	1.4	Not Significant
High Fantasy-No Film	2.0	1.6	Not Significant
Low Fantasy-Aggressive Film	1.0	1.0	Not Significant
Low Fantasy-Nonaggressive Film	1.1	1.2	Not Significant
Low Fantasy-No Film	1.1	1.0	Not Significant

*α=.05

A summary of the nature of the mood changes for all eight affective states for each of the six experimental groups is given in Table 20.

Sex Differences

A 2 x 3 x 2 analysis of variance on the dependent variable of initial aggression scores was done (see Table 21) to determine if any differences were present between the boys' and the girls' aggression levels during the Frustration Period. The factors considered were Fantasy with high and low levels, Films with the levels being aggressive, nonaggressive, or none, and Sex. The main effect for Sex was not significant. The Sex x fantasy, Sex x films, and Sex x fantasy x films interactions were also not significant.

A 2 x 3 x 2 analysis of variance was also applied to the final aggression scores (see Table 22) with the same three factors considered to determine if there were differential effects for sex upon behavioral aggression after the film-mediated fantasy experience or the nonfantasy task. Again, nonsignificant F values were found for the main effect for Sex and for the Sex x fantasy, Sex x films, and Sex x fantasy x films interactions.

Table 20

Summary of Amount and Direction of Mood Change for Each Treatment Group

	Angry-Annoyed	Fearful-Tense	Lively-Excited	Elated-Pleased	Sad-Down-hearted	Ashamed-Contrite	Contemptuous-Disgusted	Fatigued-Sluggish
High Fantasy-Aggressive Film	-1.0*	+.5	+.5	+.1	+.7*	+.9*	-.3	+.4
High Fantasy-Nonaggressive Film	-.9*	-.6	+.3	+1.2*	-.7	-.8*	-.8	-.3
High Fantasy-No Film	-.2	-.1	0	+.4	-.2	-.1	-.1	-.4
Low Fantasy-Aggressive Film	+.6	-.1	+.6	-.1	-.1	0	+.3	0
Low Fantasy-Nonaggressive Film	+.1	0	+.5	+.2	+.1	-.2	-.5	+.1
Low Fantasy-No Film	+.1	+.5	+.3	-.1	+.4	+.2	+.2	-.1

*Significant change

Table 21

Analysis of Variance of Initial Aggression Scores

Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Sex	.81	1	.81	---
B: Fantasy	7.84	1	7.84	8.43**
C: Films	.75	2	.38	---
A x B: Sex x fantasy	.93	1	.93	1.00
A x C: Sex x films	.76	2	.38	---
B x C: Fantasy x films	.12	2	.06	---
A x B x C: Sex x fantasy x films	.65	2	.33	---
Error	40.07	43		
Total	51.93	54		

**significant at the .005 level

Table 22

Analysis of Variance of Final Aggression Scores

Source of Variation	Sum of Squares	d.f.	Mean Square	F
A: Sex	1.06	1	1.06	1.09
B: Fantasy	8.23	1	8.23	8.46**
C: Films	5.43	2	2.72	2.80
A x B: Sex x fantasy	.97	1	.97	1.00
A x C: Sex x films	.86	2	.43	---
B x C: Fantasy x films	5.92	2	2.96	3.05
A x B x C: Sex x fantasy x films	.45	2	.23	---
Error	41.79	43		
Total	64.71	54		

**significant at the .005 level

II. Evaluation of Hypotheses

Hypothesis 1

The first hypothesis stated that:

> High-Fantasy subjects, aroused to anger and presented with either aggressive or nonaggressive fantasy material, will evidence (a) a reduction in behavioral aggression and (b) a change in their aggressive mood.

This hypothesis was supported by the data.

Hypothesis 1(a): Behavioral aggression. Subjects in both the High-Fantasy-Aggressive-Film and the High-Fantasy-Nonaggressive-Film groups evidenced significant decreases in behavioral aggression mean scores from initial to final conditions as revealed in the Duncan's New Multiple Range Test. The High-Fantasy subjects in the aggressive film group obtained scores which decreased from a mean of 1.80 during the Frustration Period to a mean of .80 during the Play Period with all ten subjects achieving decreasing scores. The mean scores of the subjects in the High-Fantasy-Nonaggressive-Film group showed a reduction from an initial level of 1.77 to a final mean score of .85 with all of these ten subjects displaying decreasing levels of behavioral aggression. In order to ascertain if the reductions in overt aggression were the same for these two groups, a t-test was applied to the differences between initial and final aggression scores for the two groups. The results of the t-test indicated that the decrease in aggression shown by High-Fantasy-Aggressive-Film subjects was not significantly different from the

reduction manifested by subjects in the High-Fantasy-Non-aggressive-Film group. The results thus support the contention that High-Fantasy subjects are able to utilize either an aggressive or a nonaggressive fantasy opportunity to lower their overt aggression level.

Hypothesis 1(b): Mood Scores. The High-Fantasy subjects in both the aggressive and nonaggressive film groups evidenced significant changes in aggressive mood as well as in overt aggression with their angry-annoyed mood scores decreasing significantly from initial to final conditions. Specifically, the High-Fantasy-Aggressive-Film group revealed a decrease in mean score from 2.6 to 1.6 with eight subjects manifesting reduced angry-annoyed scores and the remaining two subjects showing no change in this mood. High-Fantasy subjects in the nonaggressive film group decreased in angry-annoyed mood scores from an initial mean level of 2.7 to a final mean level of 1.8 with eight subjects evidencing decreases and two remaining at the same level of anger or annoyance.

For High-Fantasy subjects presented with the aggressive film there was a concomitant significant increase in the sad-downhearted mood (2.5 to 3.2 with six subjects increasing and four remaining the same) and in the ashamed-contrite mood (2.2 to 3.1 with nine subjects evidencing increasing scores and one remaining at the same level). High-Fantasy subjects who viewed the nonaggressive film revealed a significant increase in the elated-pleased mood

with an initial mean score of 1.2 and a final mean score of 2.4 and with nine subjects achieving increasing scores while one remained at the same level. Subjects in the High-Fantasy-Nonaggressive-Film group also evidenced a significant decrease in the ashamed-contrite mood (2.4 to 1.6 with eight subjects decreasing and two remaining at the same level). There was, as well, a nonsignificant decrease in the contemptuous-disgusted mood (2.2 to 1.4 with seven subjects decreasing and three remaining at the same level). In addition, mood scores for High-Fantasy subjects who viewed the nonaggressive film showed a nonsignificant reduction in the sad-downhearted dimension (2.4 to 1.7 with seven subjects evidencing reduced scores while three showed no change in this mood).

Hypothesis 2

> The second hypothesis stated that
>
> > High-Fantasy subjects, aroused to anger and presented with a task period in which no fantasy opportunity is allowed, will evidence (a) no reduction in behavioral aggression and (b) no change in their aggressive mood

and was also supported by the data.

Hypothesis 2(a): Behavioral aggression. The subjects in this High-Fantasy-No-Film group demonstrated no significant change in overt aggression scores having obtained a mean initial score of 1.82 and a mean final score of 1.63. Seven of the ten subjects evidenced slight decreases, two evidenced slight increases and one subject manifested no

change between initial and final behavioral aggression levels.

Hypothesis 2(b): Mood Scores. For all eight mood variables, the Duncan's New Multiple Range Tests revealed no significant changes in mood level from initial to final conditions for subjects in this High-Fantasy-No-Film group.

Hypothesis 3

The third hypothesis stated that

> Low-Fantasy subjects, aroused to anger and presented with either an aggressive or nonaggressive fantasy stimulus or with a period in which no fantasy opportunity is allowed, will evidence (a) no reduction in behavioral aggression and (b) no reduction in their aggressive mood

and was also supported by the data.

Hypothesis 3(a): Behavioral aggression. Low-Fantasy subjects presented with the aggressive film manifested an actual although nonsignificant increase in overt aggression scores having obtained an initial mean score of 2.71 and a final mean score of 3.11. All ten subjects in this group achieved scores which increased from the Frustration Period to the Play Period. Subjects in the Low-Fantasy-Nonaggressive-Film group evidenced no significant change in overt aggression having obtained an initial mean score of 2.74 and a final mean score of 2.71 with four subjects achieving increasing scores, five achieving decreasing scores and one remaining at the same level of overt aggression. The Low-Fantasy subjects given no fantasy opportun-

ity evidenced a slight nonsignificant increase in overt aggression having changed from an initial mean score of 2.68 to a final mean score of 2.81. Six of the subjects in this group increased in overt aggression scores, three manifested decreasing scores and one subject remained at the same level of behavioral aggression.

Hypothesis 3(b): Mood Scores. For all eight mood variables, the Duncan's New Multiple Range Tests revealed no significant changes in mood level from initial to final conditions for all Low-Fantasy subjects. For subjects in the Low-Fantasy-Aggressive-Film group, however, there was an increase which fell just short of significance in angry-annoyed mood scores (3.4 to 4.0 with five subjects increasing and five remaining at the same level). Subjects in this group also manifested an increase in lively-excited mood scores (1.7 to 2.3 with seven subjects increasing, one decreasing and two remaining at the same level), although this increase as well fell just short of significance. Subjects in the Low-Fantasy-Nonaggressive-Film group manifested an increase approaching significance in lively-excited mood scores (1.5 to 2.0 with five subjects increasing and five evidencing no change) and a decrease approaching significance in contemptuous-disgusted mood level (3.7 to 3.2 with five subjects showing decreasing scores and five remaining at the same level). Low-Fantasy subjects allowed no fantasy opportunity evidenced an increase short of significance in fearful-tense scores with

an initial mean level of 1.0 and a final mean level of 1.5. Five of the ten subjects in this group manifested increasing scores while five remained at the same mood level.

III. Evaluation of General Differences Between High- and Low-Fantasy Subjects

Analysis of all data strongly confirms the existence of significant differences between High- and Low-Fantasy subjects both in behavioral aggression and in all mood states. In the analysis of variance of overt aggression scores, the main factor for Fantasy was significant at the .005 level with an F value of 184.942. In the eight analyses of variance for the eight mood states, the main effects for Fantasy were significant at the .005 level for seven of the affective states and at the .05 level for the elated-pleased mood.

Behavioral Aggression

In reviewing the Duncan's New Multiple Range Test for behavioral aggression scores, the exact nature of the differences between High- and Low-Fantasy subjects is revealed. The mean behavioral aggression scores during the Frustration Period were significantly lower at the .05 level for the three High-Fantasy groups (with mean scores of 1.80, 1.77 and 1.82) than for the three Low-Fantasy groups who scored 2.71, 2.74 and 2.68. These results thus indicate that under the same frustration conditions, the High-Fantasy subjects were significantly less likely to display overt aggressive responses. Even while less overtly aggressive at the initial stage, however,

these subjects high in fantasy predisposition who were presented with the aggressive or nonaggressive film evidenced significant reductions in behavioral aggression while their Low-Fantasy counterparts showed no significant reduction with aggression scores indeed increasing, although nonsignificantly, for the Low-Fantasy-Aggressive-Film group.

Mood Scores

Similarly, significant differences between High- and Low-Fantasy subjects emerged on the mood scores. On the variable of angry-annoyed mood scores, differences between subjects high in fantasy development and those less skilled in fantasy usage were identical to those revealed in the analysis of overt aggression scores. The High-Fantasy subjects evidenced significantly lower angry-annoyed mood scores in the Frustration Phase than did the Low-Fantasy children. The High-Fantasy subjects, however, evidenced a significant reduction in this mood following the aggressive or nonaggressive film while the Low-Fantasy youngsters showed no significant change subsequent to the nonaggressive film and an increase, although nonsignificant, in the angry-annoyed mood following the aggressive fantasy material.

Further striking differences between the High- and the Low-Fantasy youngsters were revealed in the evaluation of the other mood scores obtained by the subjects in the Frustration Phase. High-Fantasy subjects scored signif-

icantly higher on the sad-downhearted, ashamed-contrite, and fatigued-sluggish mood variables and significantly lower in contemptuous-disgusted mood than did Low-Fantasy subjects. High-Fantasy subjects also scored higher on the fearful-tense mood variable than did Low-Fantasy children although these results fall short of statistical significance. Finally, the High-Fantasy children tended to be slightly lower in lively-excited mood. The only mood state for which no differences were found between High- and Low-Fantasy youngsters during the Frustration Period was the elated-pleased state with all subjects revealing very little evidence of being elated during these anger-arousal minutes. In general, then, those children high in imaginal skill showed less anger, less excitement and less disgust during the Frustration Period and more fear, sadness, contrition and fatigue than did the Low-Fantasy subjects.

In addition to these major differences in initial mood states between High- and Low-Fantasy youngsters, there were also significant differences in the nature of the change in mood from initial to final conditions for these two types of children. After viewing the aggressive film, High-Fantasy children manifested significant increases in the sad-downhearted and ashamed-contrite moods and increases approaching significance in fearful-tense and fatigued-sluggish scores while the Low-Fantasy-Aggressive-Film group evidenced no change in any of these dimensions. Futhermore, the High-Fantasy children showed a

decrease, although nonsignificant, in the contemptuous-disgusted mood while the Low-Fantasy youngsters manifested a nonsignificant increase in this mood score after exposure to the aggressive film. Finally, as previously mentioned, the High-Fantasy-Aggressive-Film group showed a significant decrease in the angry-annoyed mood while Low-Fantasy subjects actually increased, although nonsignificantly, in their angry-annoyed scores after exposure to the aggressive film. For the two groups who were presented with the nonaggressive film, High-Fantasy youngsters decreased significantly in ashamed-contrite mood and nonsignificantly in fearful-tense, sad-downhearted, and fatigued-sluggish affective states while the Low-Fantasy children remained the same in these mood states. In addition, there was a significant increase in the elated-pleased mood for the High-Fantasy children but no change in this state for the Low-Fantasy group. Again, as previously mentioned, the High-Fantasy children significantly decreased in angry-annoyed mood after viewing the nonaggressive film while the Low-Fantasy children evidenced no change in this mood.

CHAPTER IV

DISCUSSION

I. Refutation of Cathartic Theory

The results of this study offer strong refutation of the cathartic position that aggressive fantasy is used by all individuals to hydraulically purge or drain away aggressiveness. According to cathartic theory, aggressive fantasy serves to drain the internal reservoir of aggressive energy so that the act of engaging in aggressive fantasy lessens the intensity of the aggressive excitation within the individual. Experimental support of this cathartic model was originally offered by Feshbach (1955). The bulk of experimental literature (Feshbach, 1956; Mussen & Rutherford, 1961), however, gave evidence of an increase in aggressive behavior following exposure to an aggressive fantasy experience, thus contradicting the cathartic position. The results of the present study further refute catharsis by demonstrating that not all subjects manifested a decrease in aggression following a film-mediated aggressive fantasy experience. Specifically, while the High-Fantasy subjects demonstrated a reduction in behavioral aggression following the aggressive fantasy opportunity, the Low-Fantasy subjects evidenced an actual increase in aggression under the same conditions.

The findings of the present study are also in opposition to the implication of cathartic theory that it is specifically the aggressive elements within the fantasy which are utilized to drain away aggressiveness. The results indicated that the High-Fantasy subjects were able to utilize either the aggressive or the nonaggressive fantasy experience to achieve similar significant reductions in aggression. This indication that the individual skilled in fantasy usage can utilize any type of fantasy experience to reduce his aggressiveness is in accord with the experimental findings of Pytkowicz, Wagner, and Sarason (1967). These authors analyzed the contents of the fantasy experiences (TAT stories or free daydreaming) of High-Fantasy male subjects which were used to reduce their feelings of aggression. It was found that the fantasy centered upon mundane matters such as tests or dating or were of a freely imaginative nature (flights into fantasy). No subject reported fantasy elements of aggression as would be expected in the cathartic framework; rather, most subjects described the daydreaming period as relaxing and soothing.

Refutation of a cathartic position is in accord with the theoretical belief that aggression cannot be viewed as a drive and that therefore aggression level could not possibly be lessened through drive-reduction. Berkowitz (1962) has maintained that Freud's view of aggression as a drive has little empirical support and that Freud had advanced this view merely to bring the concept of aggression

into line with his generally drive-oriented theory. Lorenz's (1966) belief that aggression is a drive and his theory of neural accumulation of aggressive excitation can also be severely criticized. Lorenz's conclusions are based largely upon his analogies between man and the lower animals, especially geese. He claims that there are close similarities between the behavior of the human and the animal and implies that insight into animal actions produces understanding of human activity. In contrasting the behavior of the Greylag goose and that of man, Lorenz concludes that they "are not only similar but down to the most absurd details the same" and that therefore all of these behaviors must be governed by instincts (p. 218). However, it seems rash to assume that the mechanisms underlying two similar response characteristics are in any way identical or even "similar" merely because the actions of different species seem to resemble each other. In general, as Berkowitz (1967) has maintained, Lorenz is "extremely free and arbitrary in his use of the term 'instinctive'" (p. 581).

Lorenz's belief that "the aggressive drive, like many other instincts, springs 'spontaneously' from the inner human being" (1966, p. 50) can thus be seen as quite similar to Freud's position stressing the innateness of the aggressive drive. This aspect of Freud's theory has been elaborated by Ruth Monroe:

> "For most Freudians, the highly complex concept of the death instinct became an inborn aggres-

> sivity which requires consideration as such. The young child 'naturally' destroys and takes pleasure in destruction. This urge is thought of not as merely a by-product of thwarted libido but as an instinctual trend in its own right which requires expression and may undergo repression in much the same manner as the sexual instincts" (1955, p. 91).

However, this entire conception of aggression as a drive with its own internal arousal mechanism can be seen as contradictory to the basic assumption of the Frustration-Aggression school of thought (Dollard et al., 1939) that "the occurrence of aggressive behavior always presupposes the existence of frustration" (p. 1). In Dollard's framework, then, aggression cannot occur unless an outside experience, that of frustration, has activated the aggressive response. This need for an outside arouses casts serious doubt upon the assumption that aggression can be labelled a drive. Scott (1958) has reached much the same conclusion in a biological tracing of the antecedents of human aggressive responses. Scott has maintained that fighting may start with a sensation of pain when the fighter is attacked by another individual. He may have been previously excited by the sight of the attacker and his behavior may be modified by this outside experience. The stimuli are carried to the brain where a feeling of anger results. Scott then traces the stimulation passing from the hypothalamus down through the sympathetic nerves to the visceral organs and the eventual production of cortisone leading to other sensations throughout the body. But, Scott has stressed most strongly that

> "The important fact is that the chain of causation

> in every case [of aggression] eventually traces back to the outside. There is no physiological evidence of any spontaneous stimulation for fighting arising within the body. This means that there is no need for fighting, either aggressive or defensive, apart from what happens in the external environment ... We can also conclude that there is no such thing as a simple 'instinct' for fighting in the sense of an internal driving force which has to be satisfied" (p. 62).

This indication that aggression is not an innate drive lends support to the findings of the present study in refuting a theory which posits the lowering of aggression in cathartic or drive-reducing terms.

II. Support of Mood Theory

In opposition to a cathartic stance, a theory is offered which maintains that the individual uses fantasy not to reduce his aggressive drive but to change his mood away from an aggressive one. The results of the present study indicated that the aggressive mood of the High-Fantasy subjects yielded to new and distinct affective states after presentation of the aggressive or nonaggressive film. Specifically, accompanying the significant reductions in overt aggression and in angry-annoyed mood for the High-Fantasy-Aggressive-Film group, there were significant increases in the ashamed-contrite and sad-downhearted affective states. For High-Fantasy subjects presented with the nonaggressive film, significant decreases in overt aggression and in ahsamed-contrite and angry-annoyed mood scores were accompanied by a significant increase in the elated-pleased dimension. These findings thus lend support to the position that fantasy operates to change an aggressive mood, not to reduce an aggressive drive.

In this mood theory, aggression is viewed, as suggested by Tomkins (1963, 1963) as an affect rather than a drive. Tomkins' motivational theory of affects suggests that it is the affects or emotions rather than the drives which are the basic motivating forces behind human behavior. In order for an affect to be aroused and sustained, it is required that a specific density of neural firing or stimulation be maintained. Specifically, the affect of anger

requires a high, constant level of neural stimulation in order to be activated and sustained. Applying this affective theory to the area of aggression, Singer (1966) has maintained that fantasy can temporarily provide another stimulus situation for the individual that is less negative and intense and may thus relieve some of the prolonged quality of the incoming stimulation. Singer believes that, especially for persons who are skilled daydreamers, that is, for those who can use a fantasy situation most fully, fantasy opportunity after a frustrating experience affords a chance for relief from negative affect and leads to a change in mood, thus reducing the final expression of aggression.

Tomkins' theory delineating aggression as an affective state is notable for its significant break with drive-reduction position:

> "the prevailing conception of drive as the most widely accepted motivational constuct leads psychologists to believe that organisms behave as they do in order to reduce drive. Our conceptualization of affect as the basis of motivation finds the notion of drive reduction not only inadequate but frequently 180 degrees off course (1966, p. 84).

Singer has been in agreement with Tomkins' view, stating that "freeing oneself from the specificity of a drive theory, as Tomkins has urged, prepares the way for a more complex set of possibilities in human behavior" (1966, p. 100). Indeed, a non-drive view of aggression appears to be more aligned with the complex changes in aggression, both in behavioral aggressiveness and in aggressive mood, which resulted from the fantasy experience in the present

study. These differing effects of the film-mediated fantasy upon the individual's aggression, depending upon his fantasy level and upon the specific fantasy material, are congruent with the view of aggression as the mood or affect of anger.

Tomkins (1962, 1963, 1966) has been one of the chief proponents of the importance of affect as a major personality subsystem, labelling it the "primary motivational component" of human personality. According to Tomkins:

> "Affect is a complex concept that has neurophysical, behavioral, and phenomenological aspects. At the neurophysical level, affect is defined in terms of density of neural firing or stimulation and changes in stimulation. At the level of behavioral or motor expression, affect is primarily facial response and secondarily visceral and bodily response. At the phenomenological level, affect is essentially motivating experience. To activate an affect is to motivate" (1966, p. 87).

Tomkins has designated eight innate affects and described them in terms of their primary facial responses. There are three positive affects: interest-excitement with eyebrows down and fixed stare; enjoyment-joy with the smiling response; and surprise-startle with eyebrows raised and eyeblink. The five negative affects are distress-anguish with the crying response; fear-terror with eyes frozen open in a fixed stare, skin pale, cold, sweating, trembling, and hair erect; shame-humiliation with eyes and head lowered; contempt-disgust with upper lip raised in a sneer; and anger-rage with a frown, clenched jaw and red face. Each affect is an organized set of responses trig-

gered at subcortical centers where specific "programs" for each distinct affect are stored. These programs are innately endowed and have been genetically inherited. They are capable, when activated, of simultaneously capturing such widely distributed organs as the face, the heart, and the endocrines and imposing on them a specific pattern of correlated responses. Tomkins specifically explains this process of affect activation at the physiological level in terms of the density of neural firing or stimulation, i. e., the number of neural firings per unit time. If internal or external sources of neural firing suddenly increase, the individual will startle, or become afraid, or become interested, depending upon the suddenness of increase of stimulation. If such sources of neural firing reach and maintain a high, constant level of stimulation, he will respond with distress or anger, depending upon the level of stimulation. If neural firing suddenly decreases, he will laugh or smile with enjoyment, again depending upon the suddenness of decrease of stimulation.

As contrasted with Freud's view that the individual is always striving to discharge drive tension or seek reduction of excitation, Tomkins has stressed that individuals often behave as they do in order to amplify affect. In fact, positive affects are seen as constituting the motivating experiences or conditions that instigate and sustain the behavioral functions requisite to effective functioning and creative activity. Tomkins argues that the af-

fect system is the primary motivational system and that the drive system is of secondary motivational importance; the drives require amplification from the affects but the affects are sufficient motivators in the absence of drives. Tomkins maintains that much of the apparent urgency of a drive is an artifact of the combined strength of both affect and drive. For example, if one is excited and sexually aroused, the excitement (which is in the chest and face and not in the genitals) sustains potency, but if one is guilty or afraid about sexuality he may lose his potency. Thus one needs to be excited to enjoy the sexual drive, but one need not be sexually aroused to be excited. In fact, Tomkins sees the primary function of the drive system as providing motivational information; that is, it is a signal-sending system which tells the organism when to behave, what to do, and what to be responsive to. The drive in the absence of concurrent affect, however, is too weak in motivational power to activate the individual.

The significance of affects was also stressed by Schachtel (1959) who distinguished between embeddedness-affect and activity-affect. The former is aligned with Freud's view that the individual is motivated toward discharge of drive tension and the avoidance of stimulation. The activity-affects, however, "have energetic, zestful, interested feeling tones and they are characterized by a positive tension feeling; they lend impetus to the ongoing activity and are felt to energize, activate and sustain it,

rather than to get rid of tension" (p. 32). As a specific example, Freud viewed the affect of pleasure in a negative way, as the relief from excitation. The positive aspects of life -- stimulation and activity -- were seen as disturbances, nuisances, which the organism tries to get rid of in order to return to a quiescent state which is felt as pleasure. Schachtel agrees with this view but considers it as merely one aspect of pleasure, the embeddedness-affect. In contrast, he stresses the existence as well of the activity-affect of pleasure which he defines as the "desire for, and enjoyment of, stimulation and activity rather than the wish to get rid of it" (p. 56) and maintains that the organism welcomes stimulation and enjoys the heightened tension of activity. Pleasure is seen as positive, joyful expansion of relatedness to the environment as is the case in the infant's play where he desires not the reduction of tension nor the abolition of an intruding stimulus but derives pleasure from the maintenance of the relation to objects and the continuation of the ongoing stimulus for its own sake.

This concept that the organism is not always motivated to reduce tension but often by a need to be active, to explore and manipulate, in all, a need for stimulation, has received much experimental support. Harlow, Harlow, and Meyer (1950) have demonstrated that well-fed monkeys will learn to unassemble a three-device puzzle with "no other reward than the privilege of unassembling it" (p. 232).

In another study, Harlow (1950) found that two well-fed and well-watered monkeys worked repeatedly at unassembling a six-device puzzle for ten continuous hours and they were still showing what he characterized as enthusiasm for their work on the tenth hour of testing. Butler (1953) found that the opportunity to open a window and see what was going on outside operated as a positive incentive for monkeys. Berlyne (1955) presented three- to nine-month old infants with six patterns and found that they most frequently turned their eyes to the most complex figures. This bulk of experimental evidence is in accord with White's position (1964) that organisms are motivated by a desire for competence and for experiences of efficacy. It is thus seen that the theory stressing the motivating nature of affects rather than the position favoring the tension-reduction process of drive would be more aligned with these experimental findings and with the results of the present study. It would follow, then, that the role of fantasy in reducing aggression is not one of drive reduction but rather one of mood change away from the affect of anger. Fantasy is thus seen, as posited by both Hartmann (1958) and Singer (1966), in its adaptive role, as operating in a conflict-free sphere and as having a much greater and more variegated role than that dictated by drive-reduction theory.

III. The Relationship Between the Guilt Hypothesis and Mood Theory

It can be seen that Berkowitz's guilt theory of aggression inhibition (1962) can be subsumed under the more comprehensive mood change position. Berkowitz maintained that the strong arousal of socially-disapproved behavior, such as aggression, serves to elicit fairly strong restraints against the display of the prohibited actions. Thus, Berkowitz believes that there is no reduction in feelings of aggression as a result of fantasy but rather that this fantasy produces guilt leading the individual to inhibit any overt expression of his felt aggression. In regard to the present experiment, it is true that the High-Fantasy subjects presented with the aggressive film did show behavioral evidence of guilt through increases in their sad-downhearted and ashamed-contrite mood scores. The High-Fantasy subjects who viewed the nonagressive film, however, evidenced an identical reduction in aggression without any manifestation of increased guilt. In fact, these children demonstrated instead a significant increase in the elated-pleased mood dimension. Thus, we cannot accept Berkowitz's position that the fantasy experience always produces guilt or aggression-anxiety causing the subject to then inhibit his aggressive behavior. The broad implications of mood theory, while not negating Berkowitz's position, relegate it to a subsidiary posi-

tion as only one possible result of fantasy exposure. The results of the present study suggest that the individual skilled in fantasy usage may respond to a fantasy situation with guilt but that he has as well a wide range of other moods which may be activated by the fantasy experience.

IV. Implications of Fantasy Predisposition

The experimental finding that it was only the High-Fantasy subjects who were able to undergo a mood change away from an aggressive affective state reveals the significance of skill in fantasy usage for the individual. Low-Fantasy subjects seemed to make very little use of their fantasy opportunities to alter their aggressive feelings. They showed no significant change in any mood state following exposure to either of the fantasy situations. In effect, the affective state of the less imaginative children seemed largely unchanged as a result of the fantasy experience with the only trend toward change occuring in the nonsignificant increase in angry-annoyed mood scores following presentation of the aggressive film. This increase might possibly be traced to the fact that these angered children were further stimulated by the aggressive film but were less able to deal with this arousal through fantasy means and thus expressed anger more overtly during the play situation.

It can be tentatively hypothesized that the heightened aggression of these Low-Fantasy children might have been a result of identification with the aggressive film characters. Mussen and Rutherford (1961) supplied a similar explanation for their results that subjects viewing an aggressive cartoon thereafter evidenced higher final aggression levels than subjects presented with a nonaggres-

sive film. The authors stated that "intensification of instigation to aggression may have resulted from the child's identification with the aggressive cartoon characters with accompanying assumption of their motives" (p. 463).

Such an explanation is akin to the modeling theory of aggression as posited by Bandura, Ross, and Ross (1961). These experimenters exposed 72 nursery school children to either aggressive or nonaggressive adult models or gave them no exposure to a model. Subjects were then measured for the amount of imitative or nonimitative aggression performed in a new situation in the absence of the model. Results indicated that the children expressed aggression in ways that clearly resembled the novel pattern exhibited by the models, thus providing strong evidence for the occurrence of learning of aggression by imitation. Similar results were found by Bandura, Ross, and Ross in a later study (1963) in which children were exposed to film rather than live models. It was found that subjects modeled their behavior after the film characters with filmed aggression effectively shaping the form of the subjects' aggressive behavior. The profound effect of viewing an aggressive film model can be seen in the fact that subjects exposed to such a model exhibited nearly twice as much aggression as did subjects in the control group who were not exposed to aggressive film content. The results of the present study suggest that for the Low-Fantasy child, the aggressive film was less likely to stim-

ulate fantasy activity; rather, these youngsters were more likely to either model themselves after or identify with the aggressive characters on an overt, behavioral level. In contrast, the High-Fantasy youngsters were able to change their mood through the fantasy experience and were thus not bound to the aggressive elements within the film.

V. Qualitative Observational Data of Subjects' Behavior During the Frustration and Play Periods

Response to Frustration

Interesting differences were noted between the types of reactions to frustration displayed by the High- and Low-Fantasy children. The High-Fantasy youngster, in general, was more passive in the face of frustration and more reluctant to react against the frustrator. This restraint was evidenced in such behavior as the attempts of several High-Fantasy subjects to physically shield their construction from the frustrator and thus indirectly prevent interference with their task. When aggression was expressed directly to the frustrator, it tended to be in verbal form and to have a whining, complaining tone. The Low-Fantasy child, in contrast, revealed less reservation in responding to the taunts of the frustrator. He would, in more assertive tones, express annoyance and seemed more unable to tolerate being thwarted, responding immediately to the frustrator's attempts to interfere. For example, there were some instances of pushing the frustrator, and a good deal of evidence of menacing, threatening gestures coupled with angry tones. This was in marked contrast to the more subtle, modified tones, facial expressions and bodily gestures of the High-Fantasy child.

In general, then, the High-Fantasy youngsters seemed more disturbed and made more uncomfortable by the frustra-

tor's interference. Not only did these children high in fantasy predisposition manifest less overt aggression than their Low-Fantasy counterparts, but they also evidenced a greater degree of anxiety (fearful-tense mood) and guilt (sad-downhearted and ashamed-contrite moods). These observed reactions and mood scores are consistent with some research findings (Singer & Rowe, 1962; Singer & Schonbar, 1961) relating fantasy predisposition and anxiety. The observer and experimenter, thus noting the greater anxiety and hesitancy in regard to aggression on the part of some subjects, may have prematurely concluded which subjects were High- and which were Low-Fantasy. That is, although the observer and experimenter were not informed as to the fantasy level of the subjects, the differences that were discernible among the children in their responses to frustration did provide good indications of fantasy predisposition. The ratings of the subjects' responses, that is, the magnitude and type of their reactions to the frustration, might have been influenced by these indications of the subjects' fantasy level. In order to correct for this observer bias, the frustration period could have been videotaped with independent judges later viewing the film and rating the subjects on the Initial Aggression Scale and Mood Check-List.

Play Behavior

Further major differences between High- and Low-Fantasy youngsters were observed during the play session as well. It was apparent that the Low-Fantasy children were more prone to play with a toy for a shorter period of time and thus to be engaged with a greater total number of toys during the ten minutes than were the High-Fantasy subjects. While there were no differences in preference for a particular toy, differences were revealed in the specific manner in which the various toys were utilized.

The boys, both High- and Low-Fantasy, preferred most often to play with "Fort Apache," "Targetland," and clay. It appeared, however, that the boy with low imaginal development was usually more motorically oriented in play with these toys, revealing much action and little thought in his activity. In fact, of the fifteen Low-Fantasy boys, eleven had been generally described, in observational notations made by the experimenter, as "motoric" while of the fifteen High-Fantasy boys, only four were so characterized. The High-Fantasy boy was, instead, more highly structured and creative in his play. For example, in play with the "Fort Apache" game, the boy skilled in imaginal activity would arrange the soldiers in positions indicating planned activity. In contrast, the Low-Fantasy boys would shoot the guns and knock down the soldiers randomly, with little plan to this ac-

tivity. Similarly, the Low-Fantasy boy would often bang and pound his clay upon the table while the High-Fantasy boy would more creatively manipulate the clay into objects.

Generally, the boys tended to play together with a given activity, especially when they were involved in play with "Fort Apache" or "Targetland," although there were many instances of solitary play. The expression of aggression took two major forms for both High- and Low-Fantasy boys, either expression through interpersonal contact or expression through the toy. In interpersonal contact, the Low-Fantasy boy was more disparaging and less tolerant of the play activities of his High-Fantasy playmate. For example, the Low-Fantasy child during play with "Targetland" was quick to vehemently ridicule the shooting ability of the High-Fantasy youngster and in isolated instances to push him aside to show him how the shot should be done. The High-Fantasy boy was more apt to express interpersonal aggression verbally than physically, as reflected in his lower overt aggression scores, but the verbal expression itself was more subdued and less derogatory in tone. The same directness of expression of the Low-Fantasy boy was apprent in the aggression he expressed through play. As previously mentioned, he was more apt to knock down the soldiers than to arrange them in positions indicating planned activity. It is important to note that in the great ma-

jority of the experimental groups, the children were classmates and thus knew each other well, with this facilitating the expression of interpersonal aggression.

The play activities of the girls also revealed wide differences between the High- and Low-Fantasy child with ten of the fifteen Low-Fantasy girls described as "motoric" and with only three of the fifteen High-Fantasy girls thus characterized. While most of the girls became involved in doll play, the Low-Fantasy child's play was more action-oriented and less often revolved around a story theme; these girls would typically dress and undress the dolls or make them walk or perform other actions. The girls with more skill in fantasy usage, however, would more often indicate through their doll play behavior that they had a story theme in mind with the dolls being made to act out the various roles. While the girls did play together with the dolls and did sporadically converse, most of the doll play was done side-by-side with little verbal enactment of the play between the dolls. Thus, thematic content of the doll play was more frequently inferred by the manner in which the child utilized the dolls and equipment, for example performing a set sequence of activities such as methodically putting the dolls to sleep in the various rooms. The verbal interaction which was expressed was tangential to these play activities with most of the verbal aggression thus occuring outside of the direct doll play and including

such comments as "That looks ugly; you're dressing her funny."

In addition, the girls spent a good deal of time with the boys, especially in the Targetland and clay activities. Interaction with the boys mainly took the forms of shooting at the targets together or working side-by-side with clay, with aggression expressed at these times mostly through verbal means (i. e. the girls belittled a playmate's creations or engaged in name-calling) although there were some instances of pushing mainly during play with Targetland. The fact that the expression of aggression was predominantly verbal for both the boys and the girls can perhaps explain the fact that no sex differences emerged in the expression of aggression. It is quite possible that if the experimenter had not been present, the boys would have expressed more direct physical aggression while the girls would have most probably maintained their verbal mode of response. That is, if the dampening effects of the experimenter's presence had been removed, the boys would possibly have scored higher in overt aggression than the girls.

VI. Methodological Issues

Arousal of Anger

The methodological question can be raised of whether the subjects, both High- and Low-Fantasy, were actually aroused to anger during the frustration phase of the experiment. In previous studies (Feshbach, 1955; Pytkowicz, Wagner, & Sarason, 1967), nonfrustrated control groups were utilized in the anticipation that insulted subjects would score higher on subsequent measures of aggression than would noninsulted subjects, thus establishing that anger arousal had occurred. In the present study while nonfrustrated control groups were not employed, a pilot study, concerned with the development of the Initial Aggression Scale, determined that the frustration method did actually arouse anger in the subject. Observation and subjective reports by the children indicated greater manifestations of anger for the frustrated subjects than for children placed in a free play situation.

However, to more directly demonstrate that anger had been aroused, nonfrustrated control groups could have been utilized in the experiment itself. Two such control groups, a High-Fantasy-Nonfrustrated and a Low-Fantasy-Nonfrustrated group, could have undergone the first phase of the experiment, that involving the construction activity. For each group, scores on the Initial Aggression Scale and on the Mood Check-List would be noted. Since a

comparison of these scores with the scores obtained by the frustrated subjects would indicate whether anger arousal had occurred, it would not be necessary for these subjects to receive the second or third phases of the experiment.

As an alternative method to determine anger arousal, the High- and Low-Fantasy groups actually involved in the experiment could have been tested a week earlier in a nonfrustration condition. The children, in the same groups of four, could have been presented with a similar construction activity involving, for example, a "Tinkertoy" set. Again, models could be presented but the children would receive no interference with their construction activity and would be allotted ample time to complete the task. Under these circumstances, scores could be obtained on the Initial Aggression Scale and on the Mood Check-List and these scores could then be compared with those received by these same youngsters a week later under the frustration condition. In this manner as well it could thus be determine if anger arousal had taken place..

Experiential Reaction to Films

During the presentation of the films, it was not physically possible to observe the children's reactions in any systematic manner. The experimenter was operating the slide projector and of necessity was standing behind the children. The other observer was occupied at this

time with arranging the toys for the play session so that the children could proceed to the play activity immediately after the film presentation. However, a pilot study did determine that the two films were of equal interest and were both extremely absorbing. While it can thus be assumed that the children were totally occupied with the film material, no analysis was done regarding the precise nature of the child's thoughts while viewing the aggressive or nonaggressive film. The children could have been questioned, subsequent to the experiment, to determine the content of their fantasy. Such content analysis was undertaken by Pytkowicz, Wagner, and Sarason (1967) who examined subjects' fantasy thoughts in free daydreaming and TAT situations. Such a content analysis in the present study would further add to the information supplied by the mood data. It would have been interesting to determine what thoughts accompanied the mood swing to elation as compared with the fantasy experiences of those subjects who became guilty and downhearted.

Sensitivity of Mood Check-List

Examination of the subjects' scores on the Mood Check-List leads to the question of whether this instrument was sensitive enought to slight or subtle nuances of mood expression for some of the eight mood states. For example, in regard to the fatigued-sluggish mood, Low-Fantasy groups achieved mean initial scores of 1.0, 1.1

and 1.1 and mean final scores of 1.0, 1.2 and 1.0 for the aggressive-film, nonaggressive-film, and no-film groups respectively. The High-Fantasy subjects also received scores clustered at the lower end of the scale; specifically initial mean scores of 1.9, 1.7 and 2.0 and final mean scores of 2.3, 1.4 and 1.6. This clustering of all scores at the lower end of the scale thus raises the question of whether the gradation in this scale were sufficiently sensitive to small expressions of the fatigued-sluggish mood. In fact, the upper portions of this scale (a score of 3 indicates feet dragging, plodding; 4 indicate eyes half-closed, heavy-lidded, yawning; and 5 represents head on table, head bobbing, sprawled out on chair or on floor) reflects behavior which would very rarely be evidenced in the school setting or more specifically in this particular experimental situation. Thus, all of the scores in the fatigued-sluggish mood category clustered at the lower two scale positions. It could be suggested that greater gradations be placed within these lower scale positions in order to trace more subtle evidences of this mood. However, it was attempted in a pilot study to devise a mood scale with a greater number of gradations (scores ranging from 1 to 9 instead of 1 to 5) and it was found that inter-rater reliability dropped to too low a degree to be acceptable. The question can thus be raised of whether it is experimentally possible to capture small but existing differences in mood between subjects in a reliable manner.

VII. Implications for Future Research

Pervasiveness of Mood

There has been a general concensus in the literature that mood or affect is of great functional significance, playing an essential role in all human experience (Jacobson, 1957; Tomkins, 1962; Wessman & Ricks, 1966). As Tomkins has proposed, affects play a critical part in initiating, maintaining and regulating man's environmental encounters; they instigate, accompany, facilitate and sustain active engagement by human beings. Wessman and Ricks maintain that the mood of an individual is reflected in "his work and his play, his talk and his grimaces, his appetites and his daydreams" (p. 13). Jacobson has also stressed the significance of mood stating that "moods are significant indicators of the ego state ... characterized by generalized discharge modifications which temporarily influence the qualities of all feelings, thoughts and actions ... they impart a special coloring to the whole world and hence also to the self" (p. 86).

While there is thus general agreement as to the significance of mood, there is dissent regarding mood duration; that is, the permanence of a particular mood state within the individual. Many definitions of mood indicate its shifting and temporal features, making moods appear rather transient and indefinite (English & English, 1958). However, Wessman and Ricks point to Ruckmick's portrayal

of mood as not sudden but usually drawn out, lasting sometimes for hours, occasionally for days (1966, pp. 9-10). Ruckmick sees mood as standing quietly in the corner of consciousness; as a silent junior partner to the mental life of the moment. Nowlis (1965) also views mood in its more persistent state. He suggests that emotion is the onset and mood the subsequent steady state, the frame of mind to say, do and feel a wide variety of loosely affiliated things, with the individual's mood at a particular moment affecting all of his actions and reactions and establishing the whole nature of his relationship with the world. Jacobson (1957) has made an important distinction between affect and mood, designating affects as specific in their cathexis or direction to particular objects. She claims, however, that these feeling states may become moods by spreading out and predominating over the whole field of the ego for a certain span of time. In Jacobson's terms, the "object-directed feeling states ... are characterized by libidinous or aggressive investment in specific objects. But the moods transfer the qualities of the provocative experience to all objects and experiences; thus they impart a special coloring to the whole world and hence also to the self" (p. 86).

In regard to the present study, the question can be raised as to whether the moods evoked in the High-Fantasy subjects following the fantasy experiences were persistent steady states or were more fleeting in duration. That is,

the data could have been examined to determine if the elation or guilt evidenced by these subjects was, in Jacobson's terms, evidence of specific and short-term feeling states or of more generalized and pervasive mood. Specifically, it would have been interesting to observe the children again in the classroom subsequent to the experiment in order to assess their mood state. It is suggested that the children could be rated on the Mood Check-List at three intervals; fifteen imuntes, one hour and two hours after return to their classes. Comparison of these mood scores with those obtained earlier (during the Play Period) would indicate the persistence of the subjects' moods. The scores for the affect of anger-rage could, in particular, be examined to determine if any anger resurfaced in the subjects subsequent to the experiment.

The fact that the High-Fantasy children were more open to mood change also raises the question of whether it is possible that these youngsters are generally more variable in their mood states. Wessman and Ricks (1966), in studying the mood level of college students for a six-week period, found that some subjects remained practically constant from day to day or within the day in mood level while others were markedly "up" or "down" on different days. That is, on a ten-point scale, some subjects generally spanned only one scale position a day while others spanned five. Wessman and Ricks advance

the position that such variability in mood level serves adaptive functions by providing the organism with a range of alternative responses, by developing resourcefulness and by leading the individual to avoid fixity and rigidity. Wessman and Ricks concluded on the basis of their experimental findings that "the stable people had the quality of closed systems, quiescent occupants of fixed social roles, no longer searching out the alternative ways of life possible in their social environments." The variable men and women, on the other hand, "had personality organizations that were ... still open to the disruptive and rewarding influences of both inner and outer stimulation" (p. 241). In accord with the view proposed in this study that possession of a high level of fantasy skills does provide the individual with just such openness, it might be expected that High-Fantasy people would prove to be generally more variable in their mood states.

It would thus be interesting to obtain and compare mood profiles of a group of High-Fantasy and a group of Low-Fantasy individuals. A procedure similar to that employed by Wessman and Ricks (1966) could be applied to a population of High- and Low-Fantasy children. Wessman and Ricks devised a set of sixteen "Personal Feeling Scales," each one devoted to one particular mood dimension such as elation-depression, energy-fatigue, tranquillity-anxiety, and harmony-anger. A wide range of feelings from highly

"positive" through more "neutral" to highly "negative" on each dimension was defined by a series of descriptive statements. For example, the elation-depression scale had as the most extreme elated phrase "Complete elation. Rapturous joy and soaring ecstasy" (score 10); the just slightly elated phrase was "Feeling pretty good, OK" (score 6): the just slightly depressed phrase was "Feeling a little bit low. Just so-so" (Score 5); and the extremely depressed phrase was "Utter depression and gloom. Completely down. All is black and leaden" (score 1). Subjects completed the sixteen scales each day by reporting for each scale the score representing the "highest," the "lowest," and the "average" of that specific mood which they had experienced that day. The data was then analyzed to determine each subject's average mood, the variability which he evidenced in mood from day to day, and the variability which he manifested within the day. If such a procedure were implemented with a population of High- and Low-Fantasy children, it would be possible to determine the stability or variability of mood pattern for each group. In addition, the data could be examined to assess if any general differences in the mood patterns, that is, in the specific moods which predominate and generally characterize the individual, would emerge between groups.

Enhancement of Fantasy Skills in the Low-Fantasy Child

The significance of fantasy in the control, modulation and expression of aggression is most vividly illustrated in regard to the impulsive child. The impulsive youngster has been described as markedly lacking in the ability to inhibit overt activity and to tolerate delay in the satisfaction of his needs. This motorically-oriented child tends to act upon his demands immediately and with little premeditation and his characteristic lack of reflection prevents him from meaningfully attending to a given activity for more than brief periods. In addition, the immediacy with which he expresses his demands leads to unmanageable, undisciplined and poorly controlled behavior (Group for the Advancement of Psychiatry, 1966).

This lack of an inhibitory capacity has been demonstrated in the literature to be directly related to the relative absence of imaginative or fantasy activity. Singer and Herman (1954), utilizing a population of male schizophrenic patients, found that High-M individuals manifested both greater motor delaying capacity (on a task in which they were required to write as slowly as possible) and higher TAT fantasy scores than did Low-M subjects. Singer (1961) reported that children rated as high in imagination were able to sit and stand quietly for more prolonged periods of time than were those subjects low in fantasy skills. Goldfarb (1945, 1949), on the

basis of observation of institutionalized children and adolescents, found that these youngsters were distinctly low in fantasy capacity and had, as well, defective control of motoric expression with the normal pattern of self-inhibition not developed. These youngsters evidenced a diffuse random discharge of body energy which manifested itself in hyperactivity, disorganized behavior and distractability. When strong external controls were introduced, these children proved unable to resort to fantasy but continued to rely solely upon motoric expression so that strange body movements and grimaces appeared. Finally, Townsend (1968) found that the lower the fantasy level of the child, the less able he was to inhibit his overt aggressive responses and thus the more apt he was to be in a high aggression behavior group. The impulsive child, then, with little fantasy recourse, cannot substitute imagery or planning for his direct, motoric relationship with the environment. He is less capable of turning to the realm of fantasy and is more likely to resort to direct responses. In specific regard to aggression, he lacks the adaptive ability to experience his hostile feelings vicariously and in fantasy rather than in real life and directly.

If recourse to imagination could be enhanced, the impulsive child would be provided with an alternative response pattern to the motoric one for the expression of his needs, i. e. more "inner channel" activity would be

evidenced. In fact, in centering upon the little internal fantasy characterizing the impulsive child, recent investigators (Singer, 1966; Talmadge*) have questioned whether imaginative capacities could be built into youngsters utilizing quasi-educative procedures. This approach is based upon Singer's position that fantasy is a learned skill which can be enhanced or minimized by a number of environmental and cultural factors. Singer has particularly stressed the importance of the parent-child relationship in fostering the growth of imaginal skills (1961, 1964). Since fantasy is thus viewed as a skill which can be acquired, it should be possible to "teach" fantasy skills to the impulsive child who is so markedly lacking in these abilities.

It is thus believed that the impulsive child must be helped to develop a recourse to internal channels and must be taught to extend his behavior so that he learns to delay gratification, to internalize fantasy play and to develop a more introspective attitude. If the child can thus gain the capacity to derive pleasure from internally-produced cognitive processes, it is hoped that he will not have to constantly and often destructively manipulate the environment to achieve satisfaction. These newly-acquired fantasy capacities could provide the impulsive child with a new cognitive style and with the learning of more appropriate expressions of aggression.

*Personal communication, 1967

The following specific methods aimed at enhancing imaginal living so that reflection and delay could be employed by the motorically-oriented child are briefly proposed: In techniques modeled after those presented by Wallach and Kogan (1965), the children would be encouraged to "develop new conceptions of familiar objects." For example, the children would be asked to name all of the different ways one could use a newspaper (or brick, automobile tire, metal hanger, etc.). Once the children had provided familiar usages, the experimenter could supply such suggestions as "a tire could be used to grow tomato plants in" or "a brick could be used as a doorstop." The youngsters could also be asked such questions as "Tell me all of the ways in which a cat and mouse are alike" with the experimenter providing such suggested responses as "they both make women scream."

Another possible method would involve the experimenter beginning a story with the children asked to verbally continue the tale. The situation would be made as unstructured as possible; no prearranged order in which the children are to respond would be established. Rather, the children would be continually encouraged to add story elements at any time. A possible example would be "Jimmy, the world's first space boy, has just landed on the moon. The space capsule slowly opens, Jimmy emerges and ..." The experimenter could also provide a story theme with the children required to create a written story.

It is also suggested that problem-solving tasks could be presented. As an example, the children could be told the following: "You are clothing designers and are entering a competition in your field to create a totally new type of jacket which must be closed by a new device. You can't use buttons, zippers, hooks, etc. What would you use to close the jacket?" The children could also be told that they were to pretend that they are on a desert island and want to keep a record of their stay but have no pencils, pens, crayons, etc. They are to think of ways in which it is possible to keep their record. Through such measures it is conceivable that the impulsive child could more fully develop his "inner channel" resources with consequent lessening of much self-defeating and destructive motility and of the inability to delay motoric responses.

CHAPTER V

SUMMARY

This research was concerned with the role of fantasy in the reduction of aggression. Originally, the specific method in which fantasy operates to reduce aggression was believed to be a cathartic one; that is, it was maintained that aggression is a drive and that fantasy quantitatively reduces or drains away aggressive energy (Dollard et al., 1939). A more recent theory (Singer, 1966) posits that the fantasy experience is adaptively utilized by the individual to change his prevailing aggressive mood with this position in accord with the belief that aggression is an affect and not a drive (Tomkins, 1966). It was thus hypothesized that the fantasy experience affords a chance for relief from the negative aggressive affect and leads to the substitution of a new and distinct prevailing affective state or mood, thus reducing the ultimate expression of aggression. It was expected, furthermore, that those individuals who have highly-developed imaginal capacities would more greatly utilize the fantasy opportunity to change their mood and would thus evidence a greater ultimate reduction in aggression following a fantasy experience than would low-fantasy individuals. It was further believed that, contrary to the cathartic notion of reduction in aggression occuring only through aggressive fantasy stimuli, the individual with highly-developed imag-

inal skills can utilize any fantasy experience effectively in order to change his mood away from an aggressive one. It was thus the purpose of this study to demonstrate that reduction in aggression occurs following fantasy activity through a change in mood for the individual skilled in imaginal usage. Specifically, the following hypotheses were postulated:

1. High-Fantasy subjects, aroused to anger and presented with either aggressive or nonaggressive fantasy material, will evidence (a) a reduction in behavioral aggression and (b) a change in their aggressive mood.
2. High-Fantasy subjects, aroused to anger and presented with a task period in which no fantasy opportunity is allowed, will evidence (a) no reduction in behavioral aggression and (b) no change in their aggressive mood.
3. Low-Fantasy subjects, aroused to anger and presented with either an aggressive or nonaggressive fantasy stimulus or with a period in which no fantasy opportunity is allowed, will evidence (a) no reduction in behavioral aggression and (b) no reduction in their aggressive mood.

Subjects consisted of 60 fifth-grade children whose I. Q. fell within the 90-120 range. They were designated as High- or Low-Fantasy upon the basis of two measures of fantasy, the number of movement responses given on the

Holtzman Inkblot Test and the fluency, flexibility and originality of thought evidenced on the "Just Suppose" task. The subjects were divided into groups of four with a High-Fantasy male, a High-Fantasy female, a Low-Fantasy male and a Low-Fantasy female in each group. During the frustration phase of the study, the group was required to complete a construction activity while two older frustrators interefered with their attempts and prevented completion of the task. During the last two and a-half minutes of this frustration phase, the subjects' aggression level and mood state were assessed. Immediately following the frustration situation, the subjects were shown either an aggressive or a nonaggressive film or were given a series of three tasks which precluded the opportunity to engage in fantasy. Upon completion of the film or tasks the subjects were immediately placed in a play situation where aggressive and nonaggressive toys were available. During the play period, ratings were again made of the subjects' level of aggression and mood.

A trend analysis of variance was applied to the data consisting of the initial behavioral aggression scores achieved by subjects during the Frustration Period and the final aggression scores as measured during the Play Period. In order to determine the precise nature of the differences between the experimental groups, a Duncan's New Multiple Range Test was applied to this data. Similarly, eight separate trend analyses of variance were applied to the data consisting of the initial and final

mood scores for each of the eight mood dimensions that were included on the mood rating list. Following each analysis of variance, a Duncan's New Multiple Range Test was applied to the data consisting of the scores for that specific mood. In order to determine if sex differences were present, two analyses of variance were applied to the data consisting respectively of the initial aggression scores and the final aggression scores, with Sex one of the factors under consideration.

The first hypothesis was supported with the data indicating that High-Fantasy subjects exposed to either the aggressive or nonaggressive film evidenced significant decreases in behavioral aggression mean scores following the fantasy opportunity. A t-test further indicated that the decrease in aggression achieved by the High-Fantasy-Aggressive-Film subjects was not significantly different from the reduction manifested by subjects in the High-Fantasy-Nonaggressive-Film group. The results thus supported the contention that High-Fantasy subjects were able to utilize either an aggressive or nonaggressive fantasy opportunity to lower their overt aggression level. Analysis of the mood scores indicated that the High-Fantasy subjects presented with the aggressive film evidenced a significant decrease in angry-annoyed mood scores and a concomitant significant increase in the sad-downhearted and ashamed-contrite moods. High-Fantasy subjects who viewed the nonaggressive film manifested significant reduction in the

angry-annoyed, ashamed-contrite and contemptuous-disgusted moods and a significant increase in the elated-pleased mood dimension.

The second hypothesis was also supported with results demonstrating that the subjects in the High-Fantasy-No-Film group evidenced no significant changes in either overt aggression scores or in mood states. Finally, the third hypothesis was also supported. The data indicated that Low-Fantasy subjects presented with the aggressive film manifested an actual although nonsignificant increase in overt aggression and an increase which fell just short of significance in the angry-annoyed and lively-excited mood dimensions. Low-Fantasy subjects in the nonaggressive film situation manifested no significant change in overt aggression with an increase approaching significance in lively-excited mood and a decrease approaching significance in the contemptuous-disgusted dimension. Those Low-Fantasy subjects who were allowed no fantasy opportunity manifested no significant change in overt aggression and an increase which fell just short of significance in fearful-tense mood scores. The data also indicated that there were no significant differences between males and females in overt aggression expressed either during the Frustration or Play Periods.

The results of this study offer strong refutation of the cathartic position that aggressive fantasy is used by all individuals to hydraulically purge or drain

away aggression. It was found that not all subjects manifested a decrease in aggression following a film-mediated fantasy experience but that only subjects skilled in fantasy utilization were able to make use of the film to reduce their aggression while Low-Fantasy subjects evidenced an actual increase in aggressive behavior following the aggressive film. Furthermore, it was found that it is not only the aggressive elements within the fantasy material which are utilized to reduce aggressive expression; rather, the High-Fantasy subjects were able to utilize either the aggressive or nonaggressive fantasy experience to achieve similar significant reductions in aggression.

Refutation of a cathartic position is in accord with the theoretical belief that aggression is not a drive but rather may be viewed as the mood or affect of anger. In accord with Tomkins' position that the affect of anger requires a high, constant level of neural stimulation to be sustained, it is maintained that fantasy provides another stimulus situation for the individual that is less negative and intense and thus relieves some of the prolonged quality of the incoming stimulation. This relief from negative affect brought about by the fantasy situation leads to a change in mood, thus reducing the final expression of aggression. This mood theory was given support by the results of the present study which indicated that the High-Fantasy children evidenced an increase in the

mood of elation following the nonaggressive film and an increase in the moods of contrition and sadness following the aggressive fantasy experience.

The experimental findings that it was only the High-Fantasy subject who was able to undergo a mood change away from an aggressive affective state revealed the significance of skill in fantasy usage for the individual. The affective state of the Low-Fantasy child remained largely unchanged as a result of the fantasy experience while the High-Fantasy subject evidenced alteration both in behavioral expression of aggression and in mood. The differences between the High- and Low-Fantasy youngsters were clearly evidenced as well in their initial response to frustration with the High-Fantasy child appearing to be more hesitant in expressing the anger he felt toward the frustrator. During the play period, the children with low imaginal development presented themselves as more motorically oriented, revealing much action and little thought in their play activities. In contrast, the High-Fantasy child was more highly structured and creative in his play and more subdued and less vehement in his expression of aggression. It would thus seem that, in general, the High-Fantasy child has an alternative response pattern to the motoric one for the expression of his needs; that is, he has developed the capacity to derive pleasure from internally-produced cognitive processes.

APPENDIX A

RESPONSE SHEET FOR THE HOLTZMAN INKBLOT TECHNIQUE

Name_____ Class_____

WRITE DOWN ONLY THE FIRST THING THAT COMES TO MIND WHEN YOU SEE EACH INKBLOT

A. A big, black bat

B. Two faces rubbing noses

1.

2.

3.

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APPENDIX A

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APPENDIX B

INSTRUCTIONS AND RESPONSE SHEET FOR THE "JUST SUPPOSE" TASK

I think you will have a lot of fun doing this activity. This will give you a chance to think up new ideas. It calls for all of the imagination and thinking ability you have. So I hope you will put on your thinking caps and that you will enjoy yourselves.

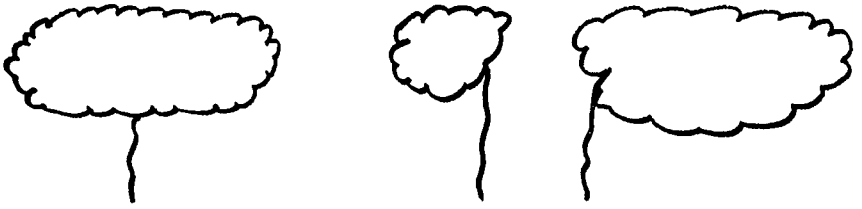
You are going to be presented with a very strange situation, something that will probably never happen. You will have to JUST SUPPOSE that it has happened. This will give you a chance to use your imagination to think out all of the other exciting things that would happen IF this situation were to come true. Write down all of the things that would happen IF this strange thing took place.

Let's look at the first strange situation. JUST SUPPOSE CLOUDS HAD STRINGS ATTACHED TO THEM WHICH WOULD HANG DOWN TO EARTH. What would happen? Just write down all of your ideas and guesses of all the things that could happen.

When you finish the first page, go on to the second and continue until you complete each JUST SUPPOSE.

APPENDIX B

I. JUST SUPPOSE CLOUDS HAD STRINGS ATTACHED TO THEM WHICH WOULD HANG DOWN TO EARTH. What would happen? Write down all of your ideas and guesses below.



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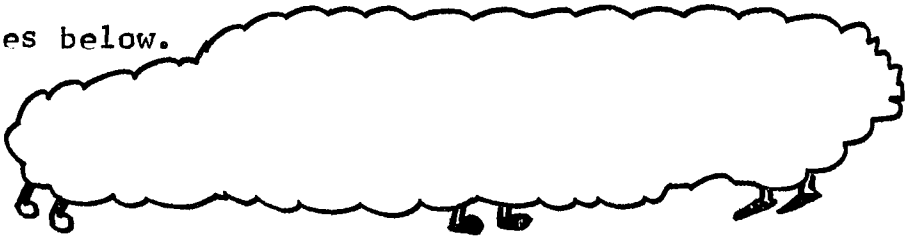
APPENDIX B

II. JUST SUPPOSE A GREAT CLOUD FELL OVER THE EARTH AND PEOPLE WERE INVISIBLE EXCEPT FOR THEIR FEET. What would happen? Write down all of your ideas and guesses below.



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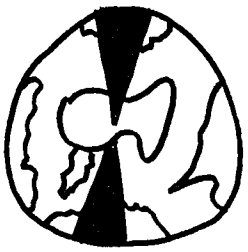
APPENDIX B

III. JUST SUPPOSE A HOLE COULD BE DUG RIGHT THROUGH THE EARTH. What would happen? Write down all of your ideas and guesses below.



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APPENDIX B

IV. JUST SUPPOSE THE LANGUAGE OF BIRDS AND ANIMALS COULD BE UNDERSTOOD BY MAN. What would happen? Write down all of your ideas and guesses below.

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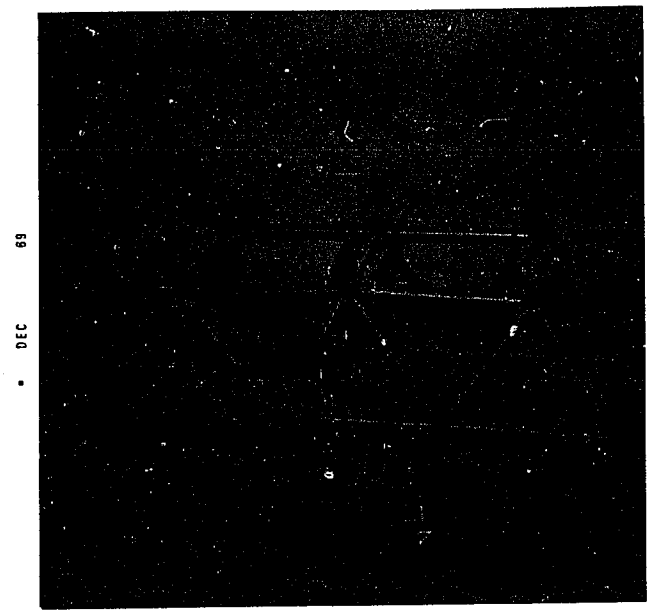
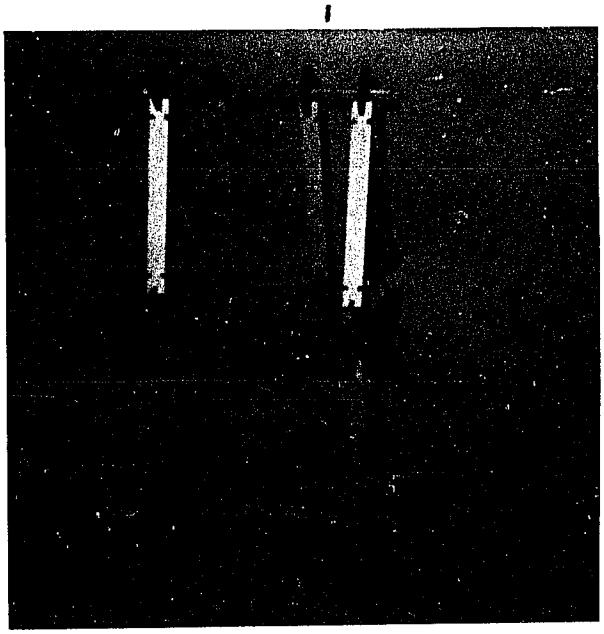
APPENDIX C

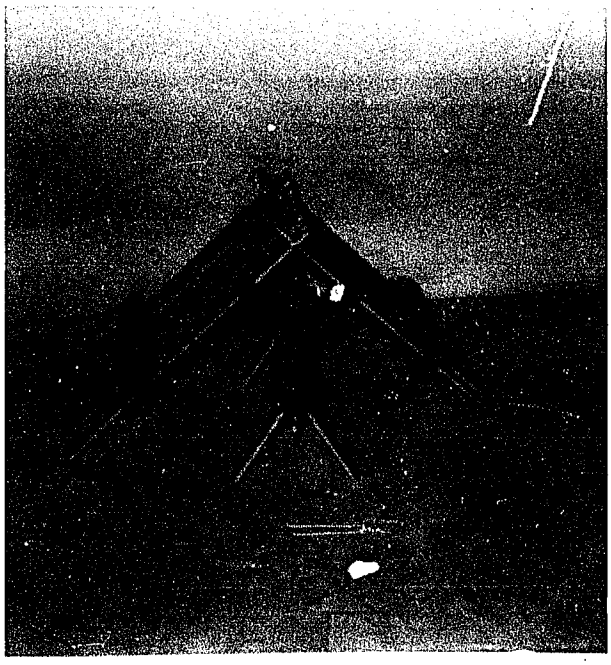
PHOTOGRAPHS OF CONSTRUCTION MODELS



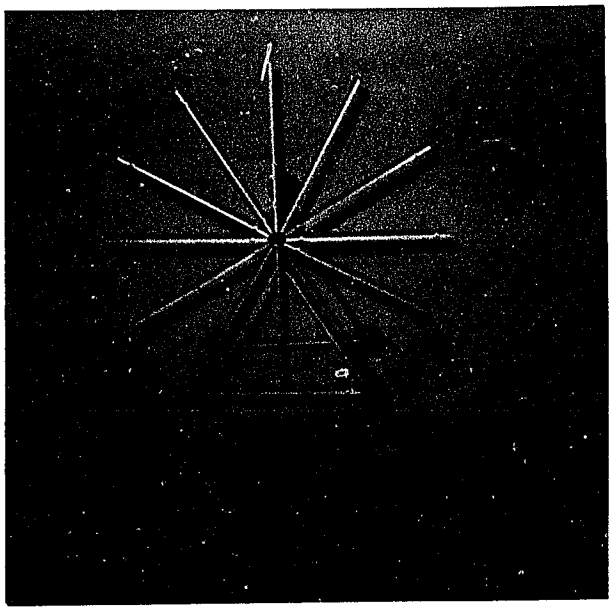
BRIDGE



SWING



ANIMAL AND TENT



WINDMILL

APPENDIX D

INSULTING REMARKS USED BY FRUSTRATORS

1. Ha, you'll never finish. You'll never get that prize.
2. Boy, are you slow. Third-graders did it faster.
3. Here, put this piece this way (disrupting a just-completed portion).
4. What a baby. You can't even do a simple thing.
5. What a group. You're the worst group I saw all day.
6. Those sticks don't go together (pulling apart a finished section). Can't you do anything right?
7. You really ought to be put back in the fourth grade.

APPENDIX E

INITIAL AGGRESSION SCALE

Activity	Score
Nonaggressive activity; child just works on his own project	0
Child makes mild comments reflecting annoyance such as "Oh darn it"; child mutters under his breath; child makes tsk-like sounds of annoyance	1
Child makes faces or sticks tongue out at frustrator; child makes disparaging remarks such as "Get away, stupid," or aggressive remarks such as "I'll really smack you if you don't leave me alone" toward frustrator; child slams game pieces down	2
Child menaces or threatens the frustrator; child pushes the frustrator away, actively thwarting the frustrator's interference	3
Child hits the frustrator; child throws game pieces at the frustrator or at another child; child kicks, punches, etc.	4

ENTER A SCORE OF 0, 1, 2, 3, or 4 FOR EACH 15-SECOND INTERVAL:

Interval	Score
1.	_____
2.	_____
3.	_____
4.	_____
5.	_____
6.	_____
7.	_____
8.	_____

APPENDIX F

MOOD CHECK-LIST

Mood	Score			
	1	2	3	4	5
	not at all	slightly	moderately	very	extremely
angry-annoyed		shrug,tsk-like comment	frowns	stamps feet, bangs table, shrill voice	clenched jaw, clenched fist, red face,menacing posture, glaring,yelling
fearful-tense		pacing up and down, tapping feet or fingers	biting nails, wringing hands,pale, eyes wide	cold,sweaty, squirming	facial trembling, body trembling,body rigid, hair erect, tremulous quavering voice
lively-excited		whistling, humming	high color,flushed face,eyes sparkling	jabbering, giggling, wriggling	skipping, jumping, dancing,bounding about
elated-pleased		smiling	broad grin	joking,jesting,clapping hands	laughing, hugging
sad-downhearted		looking down at floor	frowning, pouting, droopy mouth	lips quivering, voice quivering, drooped shoulders, hunched position	crying, sobbing
ashamed-contrite		looking quickly away, eyes averted	head down	shrinking posture, blushing,lowered voice,begging pleading voice	hiding one's face
contempuous - disgusted		looking askance	turn up nose,turn back on, point at	sneering, smirking, lips curled, shuddering	booing, hissing, hooting, snarling
fatigued-sluggish		leaning, slouched, whining voice	feet dragging, plodding	eyes half-closed,heavy-lidded,yawning	head on table, head bobbing, sprawled out in chair or on floor

APPENDIX G

SCRIPT OF "THE ENEMIES"

Picture #1*

Narrator: This is the story of two boys who can't ever seem to get along with each other.

Picture #2

Narrator: Chuck is a quiet boy who studies hard and prefers checkers and chess to football.

Picture #3

Narrator: Steve, on the other hand, spends most of his time at sports and feels that studying is a waste of time.

Picture #4

Narrator: As we meet them, their teacher is returning arithmetic test papers.

Teacher: (Background noise) O.K. O.K. Everyone take their seats please. All right. I'm going to give back your arithmetic test papers. Come up and get them when I call your name.

Picture #5

Teacher: Chuck ... Very good. I see you really studied for this one. Next, Hilda ... Frank ...

Picture #6

Teacher: Al ... Nice work, Al. It's a good improvement. Jody ... Alice ...

*Indicates accompanying picture to each portion of script (See Appendix H).

APPENDIX G

Picture #7

Al: What did you get, Chuck?

Chuck: 100. Boy, I really studied for that one. What did you get?

Al: 96. I only missed one.

Chuck: You would have got 100 if you studied with me last night like you said.

Picture #8

Steve: What did you get, Chuckie boy?

Chuck: None of your business, Steve.

Al: If you're so interested, what did you get?

Steve: 60, and I didn't even study.

Chuck: Well, if you did study, you'd do better.

Picture #9

Steve: Do better than what, big brain. If you played football or basketball, you wouldn't have to study, you sissy.

Chuck: Get out of here, Steve.

Steve: Make me.

Al: All right, break it up, guys.

Picture #10

Teacher: That's enough, boys. Break it up. Steve, get back to your seat. Come on, let's go.

Narrator: The teacher broke up that fight before it really got started. Chuck and Steve meet again at recreation. Let's see what happens.

APPENDIX G

Picture #11

Al: (Background noise) It's your move.

Chuck: I know, wait a minute.

Al: Come on, Chuck. Recess is almost over.

Chuck: O.K. O.K. King me.

Girl 1: Hey, Chuck, Steve is coming over.

Picture #12

Steve: O.K., sissy. Your game's over.

Al: Hey, what did you do that for?

Chuck: Why did you break up the game?

Steve: Aw, I'm so sorry. I bothered the big brain when he was getting his exercise, lifting all those heavy checkers.

Picture #13

Chuck: Shut up, Steve.

Steve: (Mockingly) Shut up, Steve. Shut up, Steve. Why don't you make me, big brain, double-jump expert.

Chuck: I've had it with you, always picking on me, bully.

Steve: Calling me names, huh. I'll get you.

Picture #14

Chuck: Ow, ow, get off me.

Al: Get off him. You're really hurting him.

Girl 1: That Steve's such a bully. He's so much bigger and stronger.

Girl 2: Oh, no. Chuck's got a bloody nose.

APPENDIX G

Picture #15

Al: O.K., guys, break it up. Mr. Kahn is coming over.

Teacher: Break it up, boys. Enough of this.

Steve: I'll get you later, you sissy.

Chuck: We'll see, you big jerk. Just leave me alone.

Picture #16

Narrator: Later, Chuck and his friend Al walk home from school.

Chuck: Come on Al, walk me home..

Al: O.K., Chuck. You feel better?

Chuck: Ah, I'm all right. That big jerk. I just wish he'd get his lumps.

Picture #17

Al: Why don't you let me help you, Chuck. Steve's coming over now.

Chuck: I don't need any help with him. Forget it, huh.

Al: Well, he's gonna keep it up until somebody stops him.

Picture #18

Steve: Hi, Chuckie boy ... Oh, oh, you dropped your books.

Chuck: What did you do that for? I'll get you, you jerk.

Steve: Come on and get me, Chuckie boy.

Picture #19

Chuck: I'll get you, you rat.

Steve: No you won't. You can't ever beat me.

APPENDIX G

Picture #19 (continued)

Chuck: I'll beat you, you bully, you dirty rat, you rat. Ow, ouch, ow.

Picture #20

Steve: Talk to me like that and I'll bloody the rest of your face. Admit it, I beat you up.

Chuck: O.K. O.K. I give up ... this time.

Picture #21

Al: Take it easy, Chuck. You're O.K.

Chuck: Al, will you help me? I want to get him.

Al: Sure I'll help you, Chuck.

Chuck: Together we can fix him.

Al: When, Chuck?

Chuck: This afternoon. I know where he plays. We'll get him on his way home. He won't bother me any more.

Picture #22

Narrator: Later that afternoon, Chuck and Al wait for Steve.

Al: Are you sure you want to do this, Chuck?

Chuck: I wanna get him. I wanna hurt him good.

Al: All right, let's stay here. The game's breaking up.

Chuck: Good, he's gotta come by here.

Picture #23

Steve: What are you two doing here? Why aren't you home studying. You wouldn't know what to do with a football if you saw one.

APPENDIX G

Picture #23 (continued)

Chuck: Oh, yeah. You just watch what I do with that football.

Steve: Sure, sure, why don't you come and get it.

Picture #24

Chuck: Thanks, I will, you big dummy.

Steve: Hey, what's going on here, get your hands off my ball or I'll kill you again.

Chuck: You get your hands off it, bully.

Picture #25

Steve: Why do you think you are, throwing me down, you sissy. I'll push your face into the sidewalk.

Chuck: No you won't. I've got you now, you big rat.

Steve: I'm gonna get up and walk all over you...

Picture #26

Steve: What's going on? Hey, don't trip me.

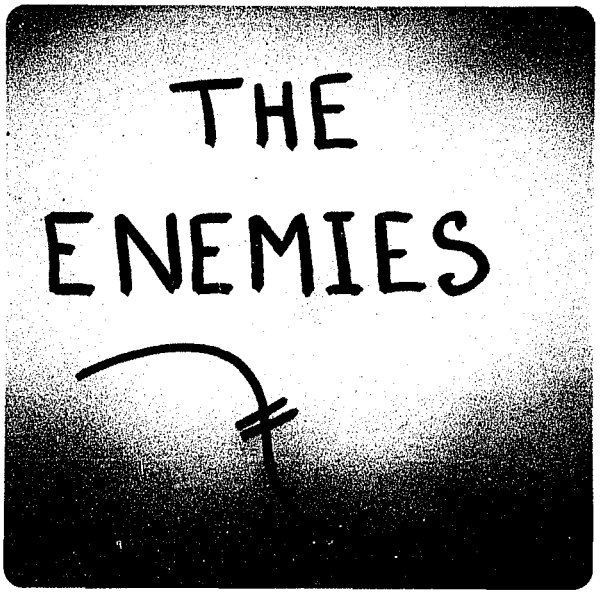
Chuck: Hey, Al, I got him to fall. Quick, let's get him. Let's beat him but good.

Steve: Ow, ow, stop it you guys, stop it, stop it, get off me.

Narrator: Chuck and Al really gave it to Steve that afternoon. But, knowing Steve, he'll find a way to get even.

APPENDIX H

PHOTOGRAPHS ACCOMPANYING "THE ENEMIES"



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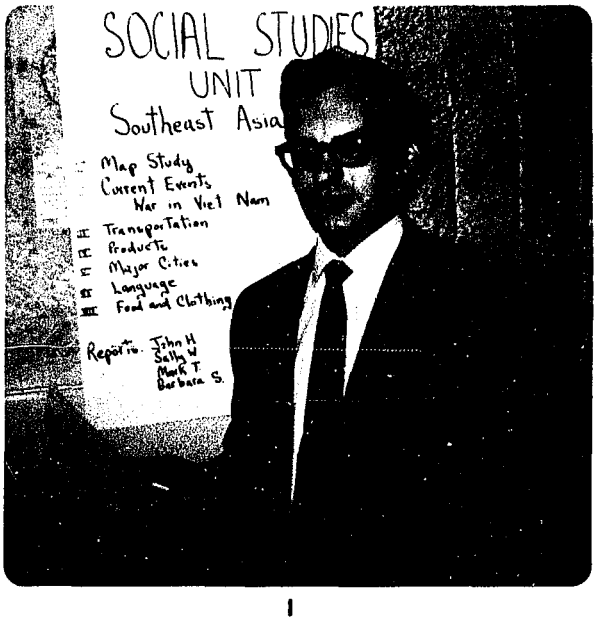

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APPENDIX H

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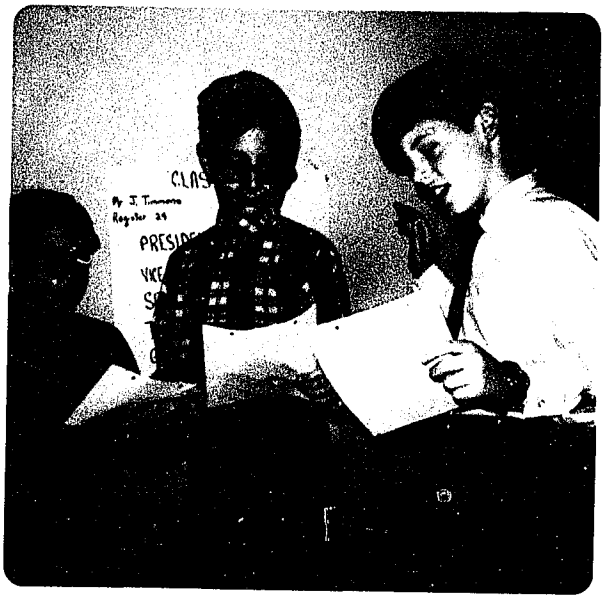

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APPENDIX H

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APPENDIX H

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APPENDIX H

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#19

#20

APPENDIX H

#21

#22

#23

#24

APPENDIX H

#25

#26

APPENDIX I

SCRIPT OF "CHITTY CHITTY BANG BANG"

Picture #1*

Narrator: This is the story of the Potts family; Jemima and Jeremy, the twins, and Caractacus, their father.

Picture #2

Narrator: We find Jemima and Jeremy in Coggins' Garage, playing in their favorite rusting wreck.

Jeremy: Did you hear what Mr. Coggins just said? He's going to sell this car to the junkman.

Jemima: I know. And it's our favorite car too. Let's get Daddy to buy it for us. After all, it's a very special car.

Narrator: Mr. Coggins promised he'd sell the old wreck to Mr. Potts as long as he would be paid thirty shillings before the week was out.

Picture #3

Narrator: On the way home the children saw a beautiful lady in a shiny automobile. They waved to her and she offered them a ride home.

Truly: My name is Truly Scrumptious. Just tell me where you live and we'll be off.

Picture #4

Jemima: I'm Jemima Potts.

*Indicates accompanying picture to each portion of script (See Appendix J).

APPENDIX I

Picture #4 (continued)

Jeremy: And I'm Jeremy Potts. And we're almost home now.

Jemima: In fact, look, there's Daddy! He's an inventor.

Jeremy: He's always trying out new devices. That's his latest invention.

Picture #5

Narrator: And there at the foot of a wooden ramp was Mr. Potts, igniting two rockets that were strapped to his back. He rose several feet in the air and then the rockets fizzed out and he landed with a thump in front of Truly.

Picture #6

Truly: Oh, well, better luck next time.

Mr. Potts: Who are you?

Jeremy: She's Truly Scrumptious.

Jemima: And she gave us a ride home in her auto.

Picture #7

Truly: Yes, and I hear from the children that you're an inventor. Is that all you do? Invent things?

Mr. Potts: Is that all? Mydear young woman, where would the world be without inventors? I dare say, you shouldn't talk to me that way.

Truly: Well, if that's your attitude, I do think I had better go home.

Picture #8

Narrator: Later, the children told Mr. Potts about Mr. Coggins wanting to sell their favorite auto to

APPENDIX I

Picture #4 (continued)

Jeremy: And I'm Jeremy Potts. And we're almost home now.

Jemima: In fact, look, there's Daddy! He's an inventor.

Jeremy: He's always trying out new devices. That's his latest invention.

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Truly: Well, if that's your attitude, I do think I had better go home.

Picture #8

Narrator: Later, the children told Mr. Potts about Mr. Coggins wanting to sell their favorite auto to

Picture #8 (continued)

the junkman.

Jemima: And he's going to skwush it all up 'til there's nothing left of it.

Mr. Potts: That's terrible. We can't allow that.

Jeremy: Of course not. That's why we made Mr. Coggins promise he'd sell it to you for thirty shillings.

Mr. Potts: Hm ... well ... we ought to be able to manage that somehow. O.K., children, upstairs, time for bed.

Picture #9

Narrator: Mr. Potts then went upstairs to tuck the twins into bed.

Mr. Potts: About that car. I - I just don't have thirty shillings. But go to sleep now and don't worry. Everything will come right somehow.

Jeremy: We know it will. We can always count on you.

Jemima: Sure we can. Good night, Daddy.

Picture #10

Mr. Potts: Maybe Grandpa will have some ideas about how I can get that money.

Grandpa: Well, what about the village fair?

Mr. Potts: I'd forgotten it's tonight. Yes, maybe I could earn some of that money at the fair. ...Oh, now I've got it ... That's it.

Picture #11

Narrator: An hour later, Mr. Potts was at the fair with

APPENDIX I

Picture #11 (continued)

his latest invention.

Mr. Potts: Here you are. Come and get your amazing automatic haircut. Works by machinery. My own secret invention. World's greatest experience. Come one, come all.

Narrator: And although the machine cut hair in a very unusual and highly original way, Mr. Potts left the fair with thirty shillings tucked in his pocket.

Picture #12

Narrator: And the next day ...

Jemima: We told you, Mr. Coggins.

Jeremy: We knew Daddy would get us the car.

Mr. Potts: It does need a little work. But if I can just push it home, I'm sure I can fix it up.

Jeremy: Yes, it will work.

Jemima: Daddy can do anything.

Twins: Push, Daddy, push.

Picture #13

Narrator: Mr. Potts hammered and banged on that car for two weeks. And finally ...

Mr. Potts: Well, what do you think of it. Isn't it fantastic?

Jeremy: It's the greatest car in the whole world.

Jemima: Come on, Daddy. Let's go for a ride.

Picture #14

Jeremy: This is really fun.

APPENDIX I

Picture #14 (continued)

Jemima: But what's that funny noise it's making.

Mr. Potts: It's talking to us. All engines talk.

Jeremy: But what's it saying?

Narrator: The car itself gave the answer with a deafening "Chitty Chitty Bang Bang." And that's how Chitty got its name.

Picture #15

Narrator: The next day ...

Mr. Potts: Well, we're off to the seashore.

Jemima: Look, isn't that Truly?

Jeremy: Truly, come with us. We're going to the seashore for a picnic.

Picture #16

Narrator: Very soon, all four were at the seaside. The children swam and splashed and they took Truly for a walk along the water's edge.

Picture #17

Jemima: Can you hear the sound of the sea inside the shell?

Truly: Yes. It sounds lovely.

Jeremy: But not as nice as Chitty. She makes the nicest sound in the world.

Picture #18

Narrator: Late in the afternoon,as Mr. Potts dozed, Jeremy scanned the ocean through a rolled-up magazine.

Picture #18 (continued)

Jemima: What on earth are you doing, Jeremy?

Jeremy: Keeping a lookout for pirates through my spy-glass.

Jemima: Pirates? There aren't any pirates around here. Wake up and tell us a story about pirates, Daddy.

Picture #19

Mr. Potts: (Sleepily) Hm. Story about pirates ... Hey, look out there. Can you see that priate boat out there.

Jemima: That isn't a pirate boat. It's nothing but an old tugboat.

Mr. Potts: Good heavens. That's not just an old tugboat.

Twins: No?

Picture #20

Mr. Potts: No, by thunder. That is the private yacht of the notorious Baron Bomburst.

Jeremy: Baron Bomburst? Who's he?

Mr. Potts: You mean you never heard of Baron Bomburst?

Twins: No.

Mr. Potts; Ruler of Vulgaria?

Jemima: No, Daddy. Golly.

Jeremy: But what's he doing here?

Picture #21

Mr. Potts: I hate to tell you this, my boy, but the Baron has steamed all the way to England because he heard news of a fantastic motorcar built by that

APPENDIX I

Picture #21 (continued)

brilliant inventor, Caractacus Potts. And he has sworn to steal the car and take it back with him to Vulgaria.

Jeremy: Oh, no. You won't let him, will you Daddy?

Mr. Potts: Naturally not, my boy.

Picture #22

Narrator: Then he whispered to Truly ...

Mr. Potts: You've got to help me with this story.

Truly: Oh, good gracious, look. The Baron's yacht is heading toward us.

Jemima: We'd better get out of here. Start the car, Daddy.

Picture #23

Mr. Potts: Easier said than done. While we've been sitting here the tide has been coming in and now we're completely cut off from the land.

Jeremy: But do something, Daddy. Baron Bomburst's yacht is getting closer.

Narrator: The suddenly there came a violent bang bang from Chitty's exhaust pipes.

Jemima: The engine's started.

Jeremy: Look, we're floating. And fins are coming out of Chitty's sides.

Picture #24

Mr. Potts: We are floating.

Jemima: It's a magic car. You built a magic car.

APPENDIX I

Picture #24 (continued)

Mr. Potts: Well, wave good-bye to the Baron. That will be the last we'll see of him.

Jeremy: I knew Chitty would save us.

Narrator: And that was just the beginning of Chitty's exciting adventures. There were many more to come, but that's another story.

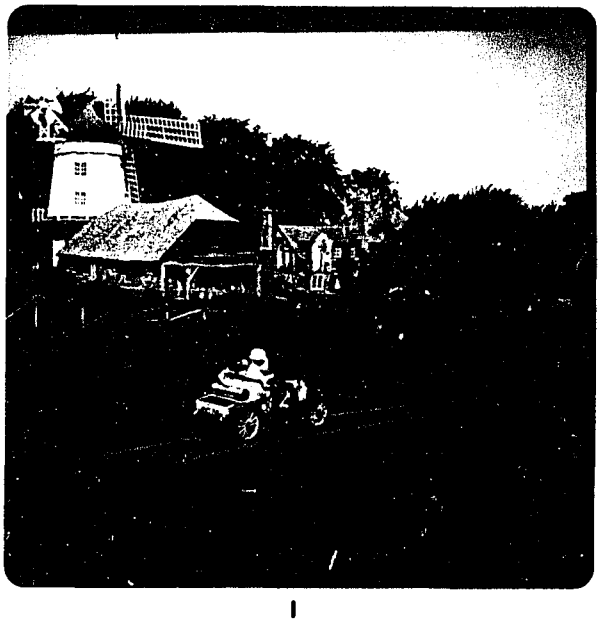
APPENDIX J

PHOTOGRAPHS ACCOMPANYING "CHITTY CHITTY BANG BANG"

#1

#2

#3



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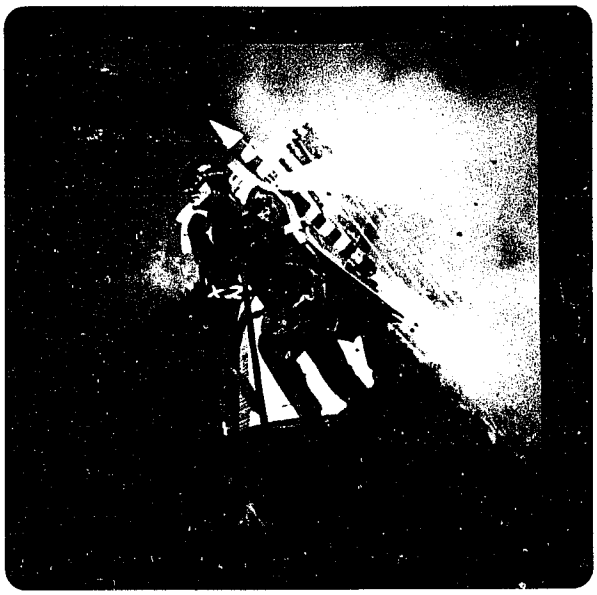
APPENDIX J



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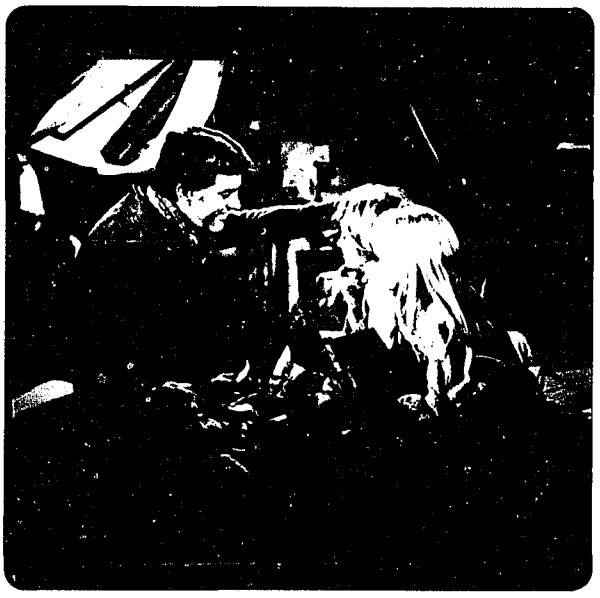
APPENDIX J



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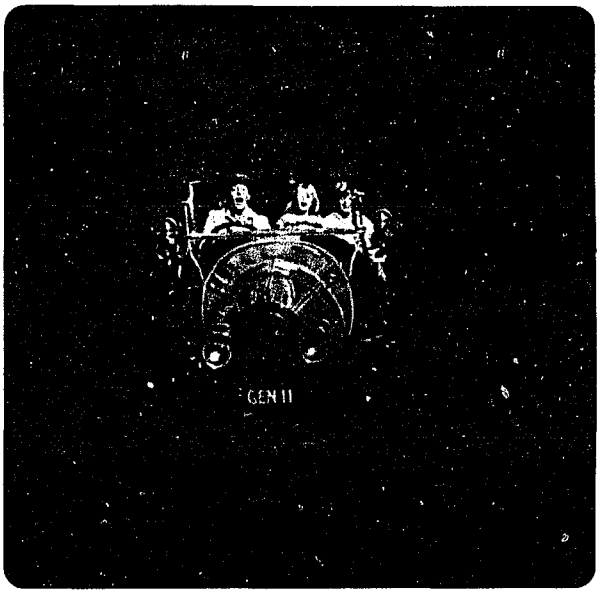
APPENDIX J

#13



#14

#15

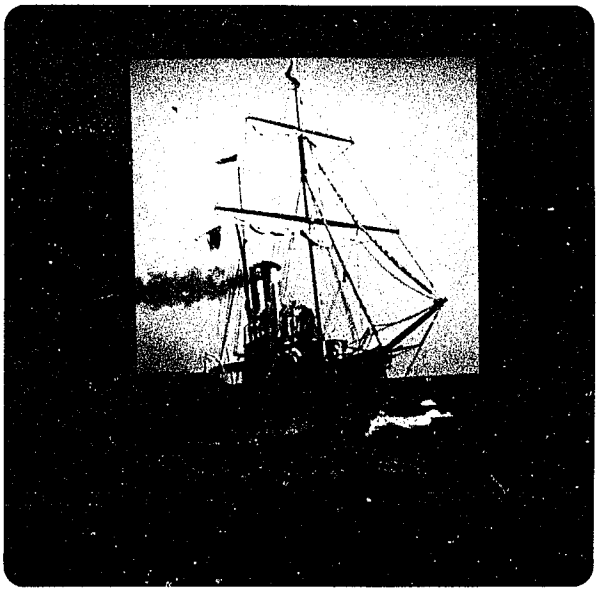
#16

APPENDIX J

#17

#18

#19



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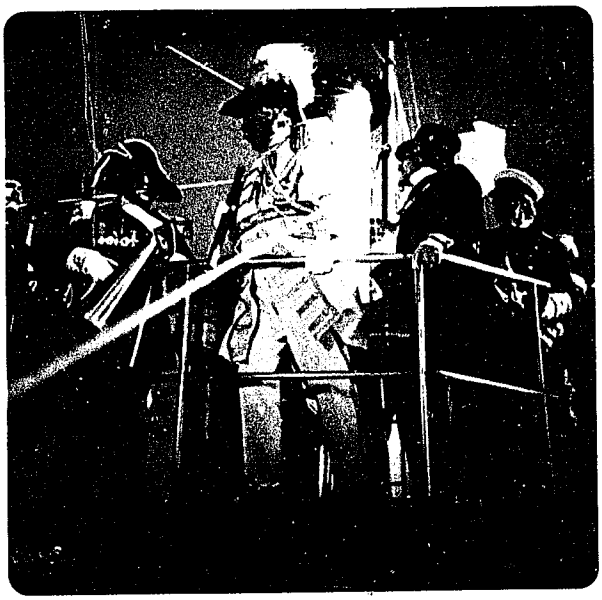
APPENDIX J



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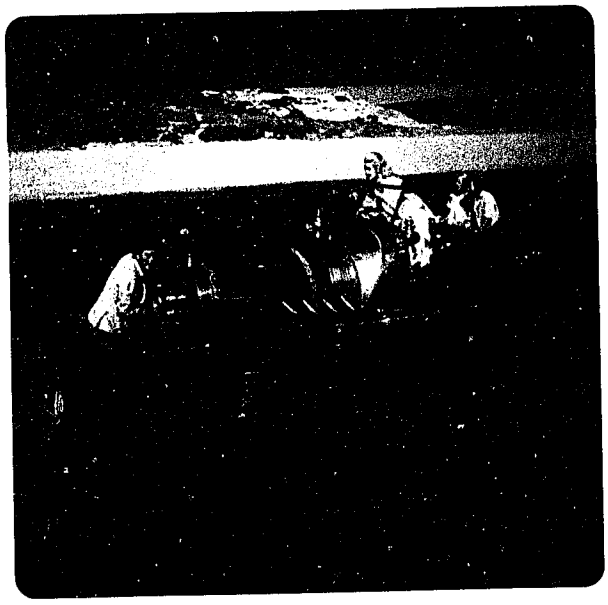
#22

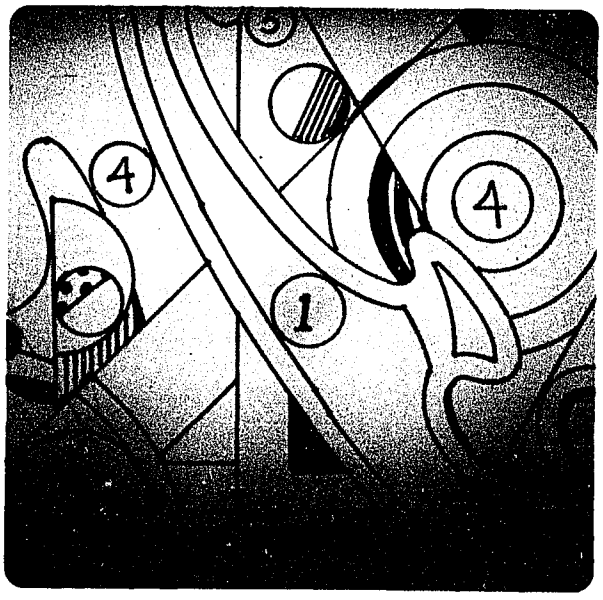


#23

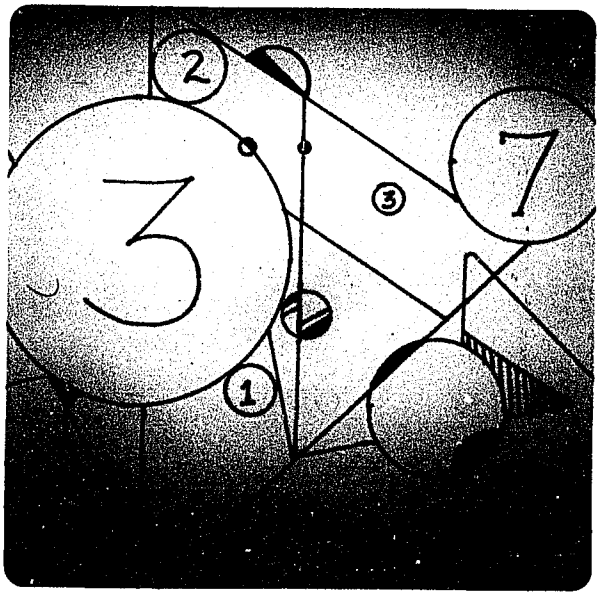
#24

APPENDIX K

PHOTOGRAPHS OF NONFANTASY TASKS



I. Practice



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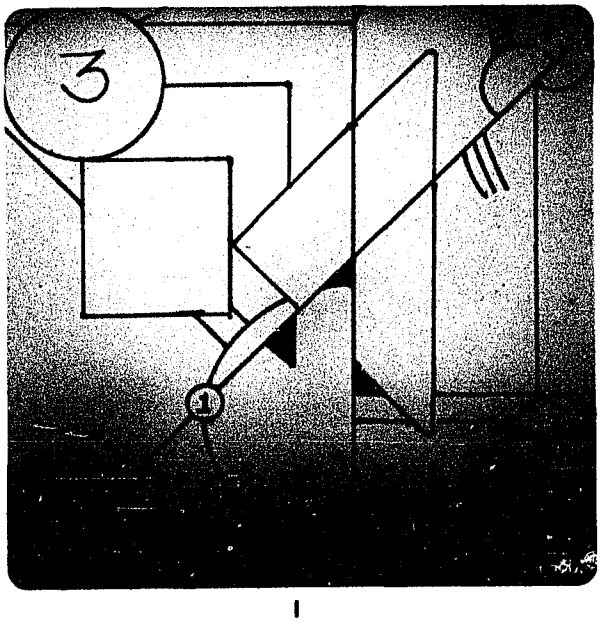

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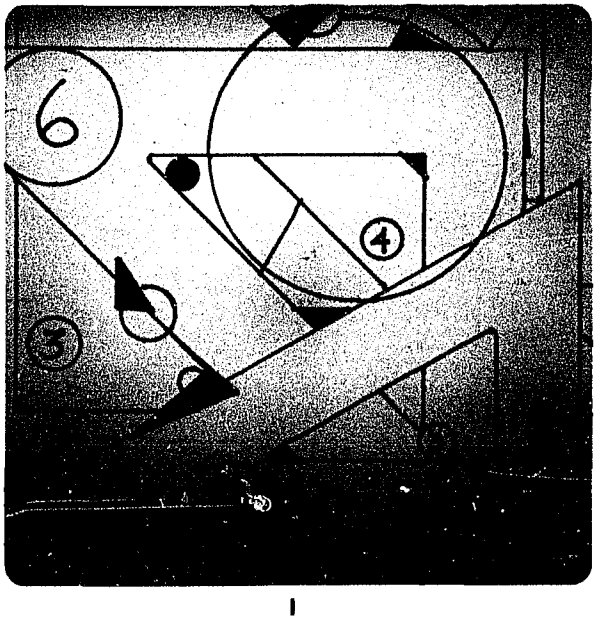
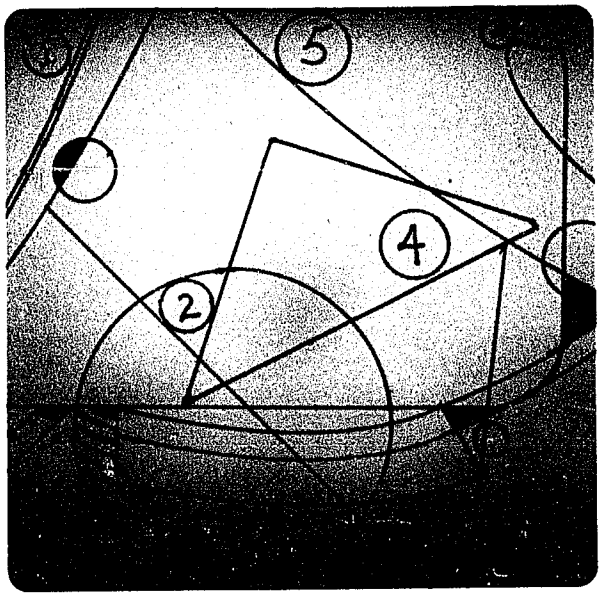


I. 3.

APPENDIX K



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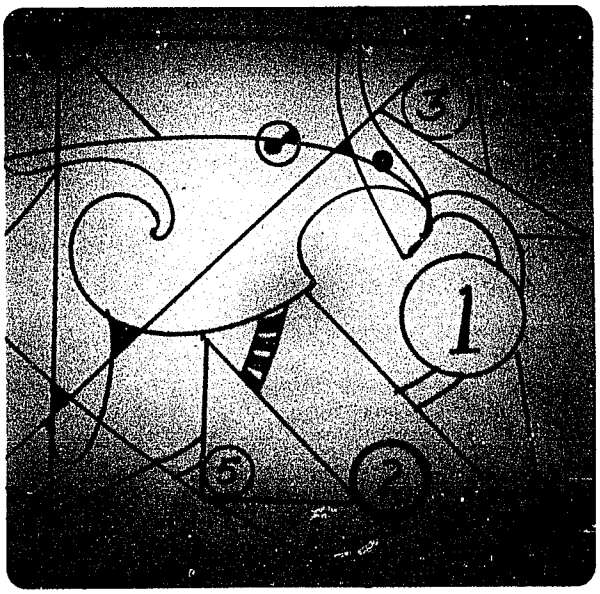

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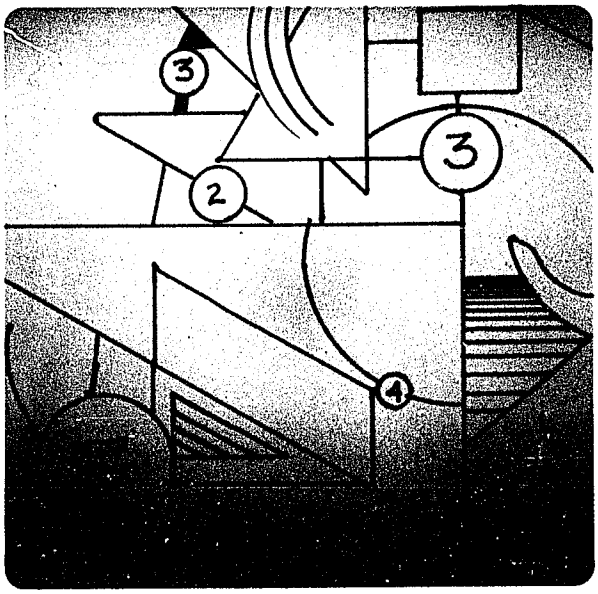


I. 6.

II. Practice

APPENDIX K

II. 1.

II. 2.

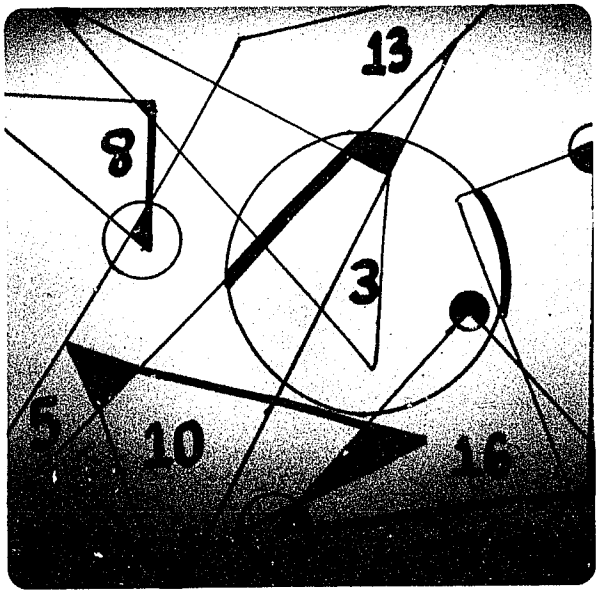
II. 3.

II. 4.

APPENDIX K

II. 5.

II. 6.



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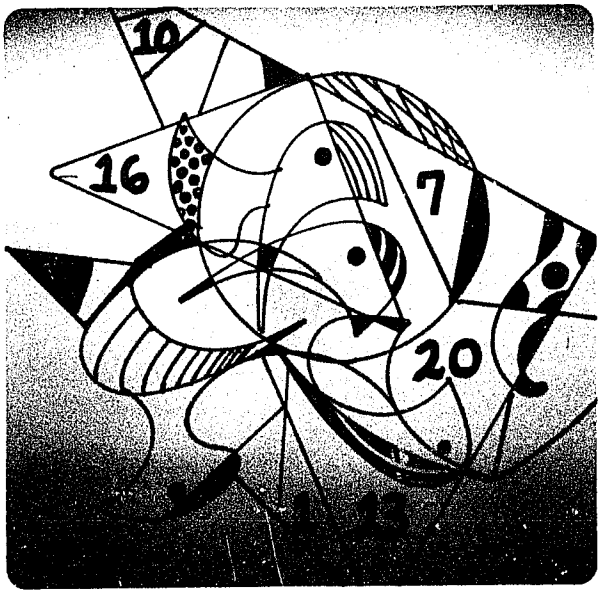
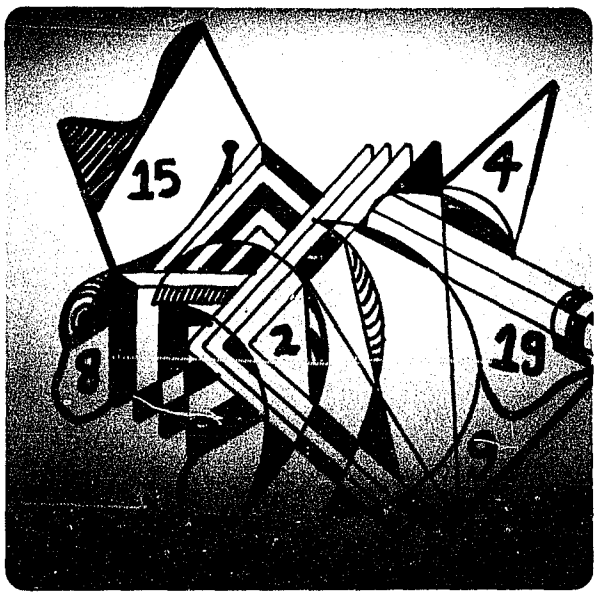


III. 1.

APPENDIX K



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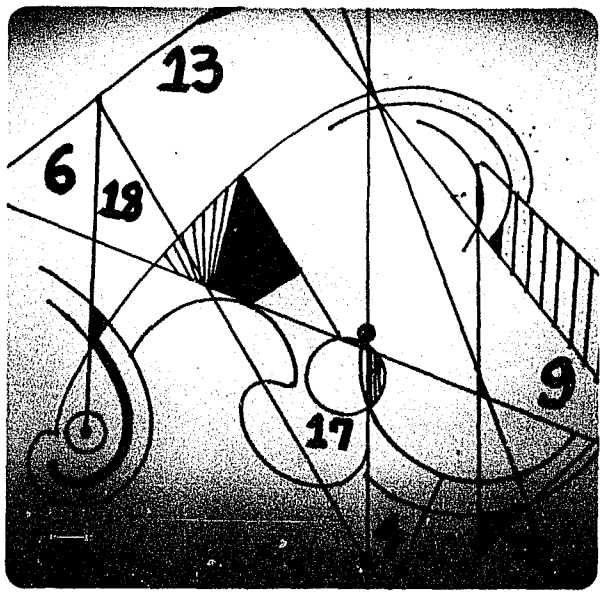

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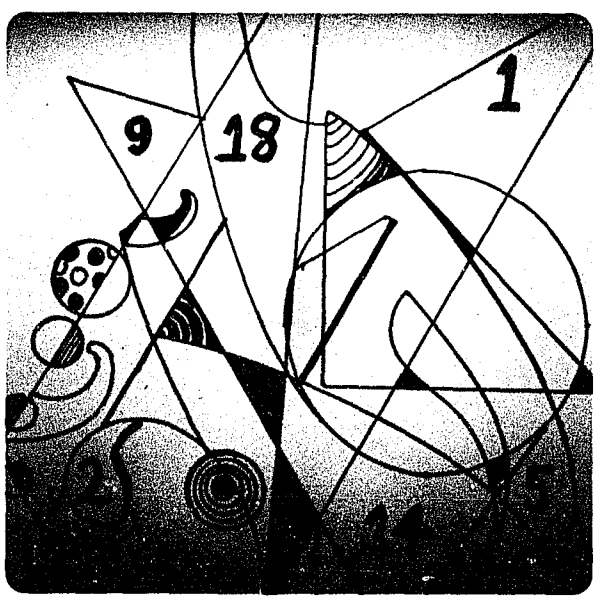

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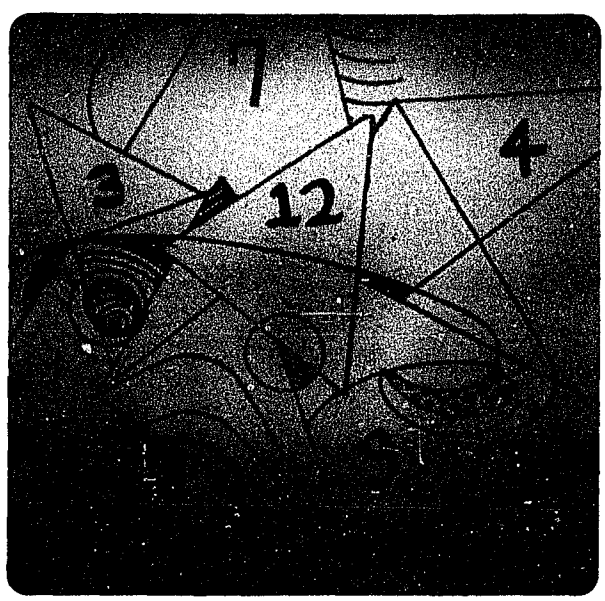
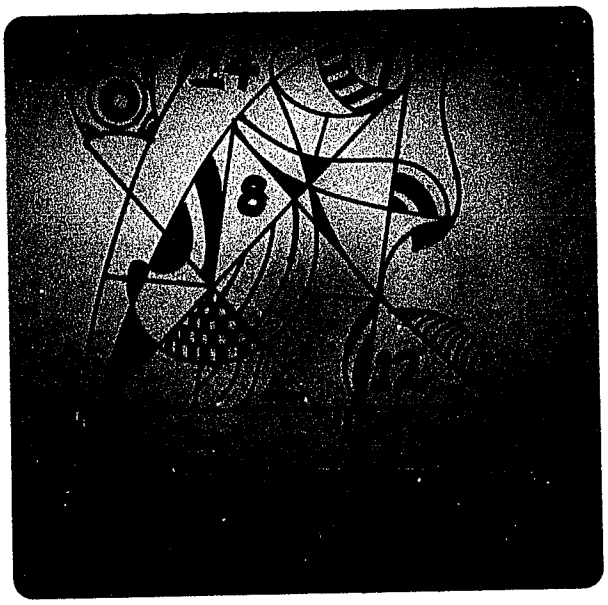


III. 5.

APPENDIX K



III. 6.

APPENDIX L

ANSWER SHEET FOR NONFANTASY TASKS

I. ADD UP THE FIVE NUMBERS AND WRITE DOWN THE TOTAL.

Practice _____

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

II. WRITE DOWN THE TOTAL AMOUNT OF MONEY THAT YOU GET WHEN YOU ADD UP THE SEVEN COINS

Practice _____

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

(TURN THE PAGE)

APPENDIX L

III. WRITE DOWN THE SIX NUMBERS IN ORDER GOING FROM THE SMALLEST TO THE LARGEST.

Practice _____

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

APPENDIX M

FINAL AGGRESSION SCALE

Targetland	Score
Nonaggressive; examines blow-gun or target; watches others shoot	0
Child blows darts at target in ordinary manner	1
Child blows darts not at target but not involving another child or another child's toy	2
Child blows darts at another child's toy	3
Child blows darts at another child	4
Punching Doll	
Nonaggressive; walks or dances with doll, rests on it, embraces it, watches another child punch it	0
Child punches doll in ordinary manner	1
Child punches doll viciously	2
Child interferes with another child playing with the doll	3
Child hits another child with the doll	4
Fort Apache	
Nonaggressive; child watches another child playing, examines pieces of equipment	0
Child manipulates pieces in ordinary war manoeuvers	1
Child physically knocks over or dismantles his own soldiers or equipment	2
Child knocks over playmate's soldiers or equipment	3
Child hits, pushes, strikes, etc. his playmate as part of the game	4
Clay	
Nonaggressive; child watches others play or makes objects with clay	0
Child pounds clay on table	1
Child sticks clay on objects in the room not involving another child	2
Child sticks clay on another child's toy	3
Child hits another child with clay, throws clay at another child	4

APPENDIX M

Silly Faces	Score
Nonaggressive; child watches another child play; child disguises himself, looks in mirror	0
Child makes "monster face"	2
Child makes "monster face," advancing upon another child	3
Child pulls disguise off another child's face or forcibly places disguise on another child	4

Doll Play	
Nonaggressive; child watches or plays nonaggressively	0
Child scolds his own doll	1
Child hits his own doll	2
Child hits another child's doll	3
Child hits another child with doll	4

Summary (Including Verbal Aggression)	
Nonaggressive activity	0
Child plays with aggressive toy in normal manner not involving another child; child makes mild comments reflecting annoyance not directed at another child	1
Child directs aggression at his own toy or at inanimate objects in the room; child directs disparaging remarks at another child or another child's toy with no accompanying physical aggression	2
Child directs physical aggression at another child's toy; child menaces or threatens another child; child annoys another child	3
Child directs physical aggression at another child	4

SCORE 0, 1, 2, 3, or 4 FOR EACH 30-SECOND INTERVAL

	Toy*		Toy		Toy
1. _____	_____	6. _____	_____	11. _____	_____
2. _____	_____	7. _____	_____	12. _____	_____
3. _____	_____	8. _____	_____	13. _____	_____
4. _____	_____	9. _____	_____	14. _____	_____
5. _____	_____	10. _____	_____	15. _____	_____
				16. _____	_____

*Indicate toy with which child played for each interval as follows:

T - Targetland
P - Punching Doll
F - Fort Apache
C - Clay
S - Silly Faces
D - Dolls

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AUTOBIOGRAPHICAL STATEMENT

I obtained my Bachelor of Arts degree from Brooklyn College in June, 1962, having majored in Elementary Education and minored in Psychology. During the period from 1962 to 1964 I was employed as a fifth-grade teacher in the New York City Public School System. At this time I was also engaged in a part-time position working with adolescents in an evening recreational center. After two years of teaching, I enrolled in the School Psychology Program at City College and received a Master of Science degree in June, 1966. My master's thesis on the conceptual impairment of the schizophrenic was granted the Max Gerwitz Award for Outstanding Research.

After receipt of the M. S. degree, I continued my graduate studies at City College in the Clinical Psychology Doctoral Program. During the course of my doctoral studies, I was intermittently employed as a School Psychologist in the Nanuet Public School System after having received New York State Certification as a School Psychologist. In 1968 I was granted a National Institute of Mental Health Predoctoral Fellowship to aid in the preparation of the current dissertation.

I am currently serving my internship at Meadowbrook Hospital with special emphasis on work with children and adolescents. Specifically, as part of the internship training, I have been associated with the Woodward School

for Emotionally Disturbed Children and with the Child Development Center in Plainview, New York. I have been involved in diagnostic assessment and individual and group psychotherapy with children, adolescents, and young adults.