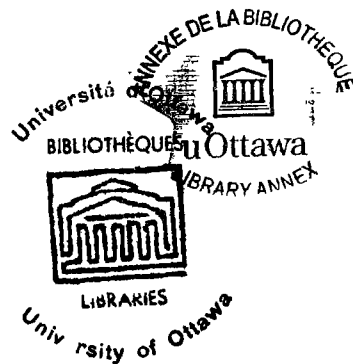


THE RELATIONSHIP BETWEEN AGGRESSION, ACHIEVEMENT
MOTIVATION AND SCHOLASTIC PERFORMANCE IN EIGHTH
GRADE BOYS: A COMPARISON OF ACHIEVEMENT VARIABLES
IN TWO AGGRESSIVE GROUPS

by Frances Smyth

Thesis presented to the School of Graduate Studies
of the University of Ottawa, as partial fulfillment
of the requirements for the Master of Arts degree
in Psychology.



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CURRICULUM STUDIORUM

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TABLE OF CONTENTS

Chapter	page
INTRODUCTION.....	vii
I.- REVIEW OF THE LITERATURE	1
1. Identifying Two Types of Aggression.....	1
2. The Developmental Dynamics of Two Manifestations of Aggression.....	3
3. The Relationship Between Aggression and Achieve- ment.....	8
4. The Relationship of Aggression to Achievement Motivation.....	15
5. Conclusions and Statement of Hypotheses	22
II.- RESEARCH DESIGN.....	26
1. The Sample.....	26
2. The Variables and Measurements.....	28
3. Testing Procedures.....	36
4. Treatment of Data.....	39
5. Statistical Analyses.....	43
III.- PRESENTATION OF RESULTS.....	45
1. The Relationship Between Aggression and Control Variables.....	46
2. The results for the Six Hypotheses.....	52
IV.- DISCUSSION OF RESULTS.....	79
1. Evaluation of Two Theories of Aggression and Achievement.....	79
2. Aggression and Achievement Variables at Two Levels of Ability.....	82
SUMMARY AND CONCLUSIONS.....	88
REFERENCES.....	93
 Appendix	
A.- Data on socio-economic status of subjects classified according to dictionary of occupational titles.....	98
B.- Peer Rating Form.....	100
C.- Standardized instructions given to subjects before Hostile Press pictures.....	106
D.- Pictures used to elicit Hostile Press stories.....	108
E.- Example Hostile Press scoring system.....	112
F.- Data on mean scores and standard deviation in twenty classes on a peer rating scale for aggression.....	115
G.- Abstract.....	117

LIST OF TABLES

Table		page
1	Mean scores and standard deviations on socio-economic status scores of three aggression levels.....	47
2	Analysis of variance results for testing socio-economic status for three aggression levels.....	48
3	Mean scores and standard deviations on scholastic ability scores of three aggression levels.....	49
4	Analysis of variance results for testing scholastic ability for three aggression levels.....	50
5	Mean scores and standard deviations on V achievement scores of three aggression levels.....	54
6	Analysis of covariance results for testing V achievement for three aggression levels.....	55
7	Mean scores and standard deviations on V achievement scores of groups classified by aggression and scholastic ability.....	56
8	Analysis of variance results for testing V achievement by aggression and scholastic ability.....	57
9	Results of Scheffé test to determine location of significantly different mean scores on V achievement between high and low scholastic ability groups within three levels of aggression.....	59
10	Results of Scheffé test to determine location of significantly different mean scores on achievement among high, moderate and low aggression groups at high level of scholastic ability.....	61
11	Results of Scheffé test to determine locations of significantly different mean scores on V achievement among high, moderate and low aggression groups at low level of scholastic ability.....	62
12	Mean scores and standard deviations on Hostile Press fear of failure scores of three aggression levels..	64

LIST OF TABLES

Table	page
13 Analysis of covariance results for testing Hostile Press fear of failure for three aggression levels.	65
14 Mean scores and standard deviations on Hostile Press fear of failure scores of groups classified by aggression and scholastic ability.....	67
15 Analysis of variance results for testing Hostile Press fear of failure motivation by aggression and scholastic ability.....	68
16 Mean scores and standard deviations on achievement scores of three aggression levels.....	70
17 Analysis of covariance results for testing achievement for three aggression levels.....	71
18 Results of Scheffé test to determine location of significantly different mean scores on achievement among high, moderate and low aggression groups	72
19 Mean scores and standard deviations on achievement scores of groups classified by aggression and scholastic ability.....	74
20 Analysis of covariance results for testing achievement for three levels of aggression at the low level of scholastic ability.....	75
21 Analysis of covariance results for testing achievement for three levels of aggression at the high level of scholastic ability.....	76
22 Results of Scheffé Test to determine location of significantly different mean scores for achievement among high, moderate and low aggression groups at high scholastic ability level.....	77

INTRODUCTION

In the modern Western world, the advent of technology has increased the importance of academic achievement. As a result, psychologists and educators have spent considerable time in recent years attempting to account for the variance in achievement among individuals which is not explained by intelligence. Of particular concern are those whose achievement is below the level predicted by their intelligence.* Hoping to find and influence the characteristics which facilitate or inhibit achievement, researchers have turned their attention to the field of personality.

It is the purpose of this study to examine the influence of one particular personality dimension, that of aggression, on achievement. Although the literature suggests that aggression and underachievement are related, it does not explain how aggression acts to inhibit achievement. The present study is an attempt to examine variables of achievement motivation that might clarify the relationship between the personality factor of aggression and achievement performance. This study examines the incidence of two different types of achievement motivation in eighth grade boys who

* The failure to achieve up to the level predicted by ability is generally referred to in the literature as underachievement and this is the definition used in this thesis whenever reference is made to the term "underachievement".

express aggression in two different forms. More specifically, it tries to investigate whether the conscious extrinsic value for achievement and fear of failure are relatively more characteristic of the individual who expresses aggression overtly as opposed to the individual who expresses aggression in the form of hostility.

A review of the literature suggests that individuals manifest aggression in different ways. Aggression seems to stem from the frustration of dependency needs. The parental reaction to the aggression of the child seems to be related to the manner in which the child learns to express aggression. There is some evidence to suggest that those who are encouraged to express aggression learn to express aggression overtly. On the other hand, those who are discouraged from displaying aggression seem to inhibit overt aggression while expressing aggression in the form of hostile attitudes.

The literature has related both forms of aggression to underachievement. The studies of aggression and achievement motivation indicate that these two forms of aggression may be related to different types of achievement motivation. There is some evidence to suggest that a low internalization of societal values is characteristic of the overtly aggressive person while a strong conformity to social values is

characteristic of hostile individuals. The literature suggests that overtly aggressive individuals may express a low conscious value for achievement while hostile individuals express a high value for achievement. The literature suggests that a high fear of failure is characteristic of the hostile individual while this characteristic is not present in overtly aggressive individuals. There is some evidence to suggest that both the low value for achievement and a high fear of failure inhibit academic performance.

In summary, it may be said that the literature suggests that the two dominant forms in which aggression is expressed may bear different relationships to motivational variables which are related to achievement. It was hoped that the examination of these two motivational variables and scholastic performance in the two aggressive groups might establish empirically two different motivational patterns thus clarifying the relationship between these forms of aggression and academic-achievement.

The first chapter of this study presents the theoretical background of the problem including a review of the literature on the development of aggressive behaviours, the relationship of aggression to achievement, and achievement motivation. After a brief summary the hypotheses of the study are stated.

The second chapter describes the research design of the study. The sample, instruments used, procedures and statistical methods are fully described.

The results of the analysis of the data are presented in chapter three. The concluding chapter of the study attempts to evaluate the results presented in chapter three, in the light of the theories presented in chapter one. Some implications for future research are also suggested.

CHAPTER I

REVIEW OF THE LITERATURE

The review of literature and research hypotheses of the study are formulated in this chapter. The chapter is subdivided into five topical subsections. It begins by defining two forms of aggressive behaviour. The second subsection deals with the antecedents of aggression and its various manifestations. The third subsection reviews those studies which have found a relationship between the two forms of aggression and scholastic performance. The fourth subsection attempts to relate these ways of expressing aggression to the literature on achievement motivation. A summary of the manner in which aggression is related to achievement motivation and scholastic performance is presented in the fifth subsection. The subsection ends with the statement of research hypotheses which attempt to examine the relationships between the two forms of aggression, achievement motivation and scholastic performance.

I. Identifying Two Types of Aggression

A review of the literature on aggression indicates that the expression of aggression in humans is complex, as it may be discussed on the emotional, cognitive and behavioural

REVIEW OF THE LITERATURE

level. Therefore, it is necessary to define these aspects of aggression before exploring the process or processes by which aggression is related to achievement. The operational definitions used in this study are those given by Buss (1961).

According to Buss, anger, hostility, and aggression are the terms applied to the emotional, cognitive, and behavioural aspects of aggression respectively. Anger is conceptualized as being an emotional response which is diffuse, energizing and leading to physiological tension. Anger is a non-cognitive response which is only experienced on the physiological level. While anger may lead to an overt response, an overt response does not automatically follow from anger.

Hostility is seen as a cognitive event as opposed to a physiological event. Buss defines it as "an implicit verbal response involving negative feelings (ill will) and negative evaluations of people and events (p. 12)". Unlike anger, hostility is an enduring response and therefore, is a type of attitude. Hostility takes the form of ruminations over past attacks on oneself, rejections and frustrations.

Buss reserves the term aggression for acts that are observable. In contrast to anger and hostility, aggression demands an interpersonal context. Aggression is seen as the delivery of a noxious stimulus to another organism.

REVIEW OF THE LITERATURE

A review of the developmental studies of aggression indicates that there are two dominant ways in which aggression is expressed in humans. In the first pattern, the individual manifests aggression in the form of overt, directly observable behaviour. Those expressing aggression in this form might be described as overtly aggressive individuals as their type of aggression is in keeping with Buss' conception of aggression as overt behaviour. In the second pattern, aggression is expressed in a manner which is not directly observable. This form of aggression is observed principally through the negative attitudes expressed in inventories or projective techniques. This expression of aggression seems to be similar to Buss' definition of hostility as the cognitive form of aggression. Those expressing aggression in this less overt form might be described as hostile individuals.

II. The Development of Two Manifestations of Aggression

The research on the development of aggressive personalities suggests that anger, which may lead to aggressive behaviour, develops in a child when his dependency needs are frustrated. The work of Bandura and Walters (1959) is particularly important in developing this theory. In 1959,

REVIEW OF THE LITERATURE

they published an extensive study on a group of 52 boys. Twenty-six delinquent adolescents, chosen for their history of extremely aggressive behaviour rather than for their legal label as delinquent, were compared with 26 boys who were judged as neither overly aggressive nor overly inhibited. The subjects were matched on the variables of age, I.Q. and fathers' occupation. Structured interviews revealed that the parents of the aggressive boys were inclined to frustrate the dependency needs of their sons more than the other parents although they has stimulated these needs in their children during early childhood. As a result, these boys appeared to be afraid of dependency, and unable to accept a dependent relationship with others.

Berkowitz (1962), who has reviewed the literature on the development of aggressive personalities, has found other studies supporting the theory of Bandura and Walters on the relationship between dependency frustration and aggression, (i.e., Redl and Wineman, 1957; McCord, McCord and Howard, 1961).

While it appears that the anger produced by the frustration of dependency needs is related to aggression, there is some evidence to suggest that the manner in which aggression is manifested is related to other parental variables. Bandura (1960) compared the parental behaviours of a

REVIEW OF THE LITERATURE

group of very inhibited boys with those of a group of boys who were overtly aggressive. He found that both groups had been deprived of affection and both were fearful of dependency. However, the author found that the parents differed in the manner in which they treated the appearance of aggressive behaviours in their children. The parents of the boys who expressed aggression were found to give intermittent reinforcement for aggression outside the home. Similarly, in their extended study of aggressive and normal boys, previously discussed, Bandura and Walters (1959) found the parents of the aggressive group to encourage aggression outside the home. In addition, the mothers occasionally permitted aggression to be directed against themselves.

Bandura and Walters (1959) also provided some suggestions, based on their review of the literature, as to why the withdrawn, inhibited boys developed this pattern of behaviour despite the cold, rejecting behaviour of their parents. Their review of the literature suggests that if parents are rejecting, and intolerant of aggression, but still give the child some affection if the child conforms to severe socialization demands, the child tends to develop an anxious conformity and inhibition of aggression.

In spite of the inhibition of overt aggression in children who are angered by parental frustration, but are not permitted to retaliate, there is some evidence to suggest

REVIEW OF THE LITERATURE

that they express aggression in the form of hostility. The 1960 study of inhibited and aggressive boys (Bandura, 1960) suggested that there might be a relationship between a strong inhibition of overt aggression and hostility. The inhibited boys produced fewer Thematic Apperception Test Story themes of physical aggression and verbal aggression than the overtly aggressive group. However, the inhibited group produced more themes exhibiting hostile feelings.

Lesser (1957) studied 10 to 13 year old boys and their mothers using a parent questionnaire, the Thematic Apperception Test (for fantasy aggression) and peer rating (for overt aggression). He found a negative relationship between overt aggression and fantasy aggression in subjects whose mothers discouraged aggression. His results showed a positive relationship between overt and fantasy aggression in boys whose mothers encouraged aggression. His study gives positive support to the theory of Bandura (1960) on the role of parents in shaping aggressive behaviours. In addition, it indicates that the inhibition of overt aggression does not also stifle hostility, but may increase it.

Eron (1971) has reviewed the literature on aggression anxiety. His review provides some indirect support for the suggestion that individuals who are inhibited in the overt expression of aggression have learned to express aggres-

REVIEW OF THE LITERATURE

sion in another form. Several studies of children and young adults indicate that those who are rated as very low in the overt expression of aggression will display as much overt aggression as those rated high in the overt expression of aggression under certain circumstances. These studies indicate that low aggressive subjects will display a great deal of aggression overtly if they are certain that there is no possibility of retaliation.

In summary, it may be said that the literature provides some evidence that the frustration of dependency needs seems to be a precondition for aggression in children, but is not sufficient in itself to produce it. The actual expression of overt aggression seems to be related to parental encouragement for aggressive behaviour. Those who are encouraged to express aggression, develop a pattern of overtly aggressive behaviour. Those who are discouraged from behaving aggressively by cold parents, yet are rewarded with some affection for conformity, inhibit overt expressions of aggression, but display their aggression in the form of hostility. Thus the review on developmental studies supports the proposed identification of the ways in which aggression may be manifested.

The next subsection of the chapter reviews those studies which relate aggression to achievement.

REVIEW OF THE LITERATURE

III. The Relationship Between Aggression
and Achievement

The literature on underachievement indicates that underachievers tend to show both the patterns of handling anger discussed in the previous subsections of this review. This subsection will deal first with those studies which deal with the overtly aggressive personality.

There is some evidence in the literature to suggest that overt aggression is related to low school achievement as early as grade three. A recent study, (Semler, Eron, Meyer-son and Williams, 1967) showed a significant negative relationship between aggression, assessed by means of a peer rating instrument, and achievement on standardized tests when I.Q. was controlled. Semler and Eron (1967) replicated the study later in 1967, using the same experimental design, and obtained the same results.

Two other studies present evidence to suggest that this negative relationship between aggression and achievement persists beyond the early school years. Barksy (1966), who employed teacher ratings, inventory scores and the Thematic Apperception Test aggression measures, found lower achievement in reading in overtly aggressive male subjects, although females did not show this pattern in that study.

REVIEW OF THE LITERATURE

A five-year follow-up study, (Feldhusen, Thurston and Benning, 1970) indicated that overt aggression is related to low achievement to the end of high school. Subjects who had been rated by teachers as outstandingly aggressive in grades 3, 6, and 9, had proved to be achieving below others of similar ability. When these subjects had reached grades 8, 11, and the work force respectively, they were assessed again. Information on achievement was collected by means of standardized achievement tests and grades for those in grades 8 and 11. Class standing upon graduation was the only available means of assessing those who had graduated.

Once again, the overtly aggressive student appeared to be achieving poorly in comparison to others of similar ability. This study is particularly commendable for its assessment of achievement by two methods. Peterson (1963), has stated that the literature indicates that grades and standardized tests may identify different underachieving populations. As this study employed the two methods it adds further support to the idea that overt aggression is related to low achievement.

There is also some indirect evidence to support the relationship between overt aggression and low achievement. The California Psychological Inventory has a scale which was

REVIEW OF THE LITERATURE

developed to predict the possibility of delinquent or criminal behaviour. Although not all delinquents and criminals are aggressive, many anti-social acts may be defined as tending towards aggression. The original criterion groups were divided by legal definition (history of conviction) but Gough (1960), has since found the scale to be useful in making quantitative distinctions along a continuum. It has also been found that teachers' ratings correlate significantly with socialization scale scores when teachers are asked to rate delinquency proness in studies by Dinitz, Kay and Reckless (1958), and Crisswell (1970). Crisswell (1970), found that teachers based their predictions mainly on negative classroom behavior. These studies seem to provide some evidence for the relationship of the socialization scores of the California Personality Inventory to the expression of aggression in every day life.

When the California Personality Inventory has been used to study underachievers, they have been compared to average achievers in some studies and to overachievers in others. While other scales such as responsibility, self-control, good impression and achievement via conformity fluctuate in favouring the achiever (possibly because of the different experimental designs) the socialization scale

REVIEW OF THE LITERATURE

consistently shows achievers to have significantly higher socialization scores, indicating less aggression. Studies by Pierce (1961), Snider and Linton (1961), Davids (1966), and Gawranski and Mathis (1966), show this pattern.

The studies which focus on the achievement of the hostile personality tend to employ a different methodological approach. Since hostility is a cognitive state, it is not visible to the observer unless the individual combines hostility and aggression in a verbal statement. Therefore, those interacting with this type of personality may be unaware of the hidden hostility. Therefore, the relationship between aggression in the form of hostility and underachievement was first discovered through the case study method. Counselors and psychologists noted that students referred to them as underachievers seemed to puzzle educators as they appeared passive and conforming to school norms, yet they failed to actualize their academic potential. However, these counselors began to notice a pattern of outward conformity and inner hostility.

Kornrich (1965), published a book which brings together the important early studies on the hostile underachiever. Several of these studies will be reported here.

Kirk (1952), provided a description of the personality dynamics of the underachiever, based on the University MMPI records of 1,500 students. She found that most underachievers in this group had strong feelings of hostility

REVIEW OF THE LITERATURE

of which the subject himself seemed to be unaware. It was felt that the hostility was directed at the demands of parental figures. Sarnoff and Raphael (1955), found the same pattern of behaviour in five male college students who received intensive counselling for academic difficulties.

There seems to be some evidence in the literature to suggest that these dynamics are already operating during the adolescent years. Sutherland (1953), found that under-achieving high school boys displayed more hostility on projective tests and interviews than did over- and par-achievers. She found these boys to have an unsatisfactory relationship with a distant authoritarian father. Although parental reports indicated an early pattern of fighting, tantrums and other aggressive behaviours, these adolescents were very passive when compared to the over- and par-achievers. They were also significantly less able to express aggression without experiencing guilt and anxiety than the other students. On the basis of his clinical experience, Weiner (1971), agrees with these findings.

While the case study method is subject to bias, the conclusions of these case studies have received support from researchers who have used more objective measurement techniques. Shaw and Brown (1957), first noticed the hidden

REVIEW OF THE LITERATURE

hostility in underachievers in a study of bright college students. While they found no differences between the achievers and underachievers on social data and values, they found a significant difference between the two groups on the Bell Preference Inventory. The social scale of this inventory indicated an attitude of hostility or hypercriticalness towards other people on the part of the underachievers. The authors observations of these students in counseling are in agreement with the case studies mentioned previously. These authors also found that the underachievers were hostile, yet rarely expressed aggression overtly.

Shaw and Grubb (1958), studied hostility in achievers and underachievers in high school. Four different hostility inventories were used in this study of males and females. The results indicated that male underachievers were significantly more hostile than achievers according to three of the four inventories employed. However, no significant differences were found between the two groups of females.

Two studies using a hostility inventory developed for college subjects have shown a negative relationship to exist between hostility and achievement. In his first study Costin (1970), tested 50 men and 51 woman registered in an elementary psychology course in university. The hostility inventory was given as a pre- and post-test. In the addition pre- and post-tests were given to determine the possible

REVIEW OF THE LITERATURE

effects of pre-course knowledge. The results indicated that when pre-course knowledge and I.Q. effects were controlled, hostility was still negatively related to course achievement for the entire sample. When each sex was evaluated separately, the significant relationship between hostility and achievement appeared only for men. Wishing to test these findings in a different academic environment, Costin (1971), tested 60 enlisted airforce personnel registered in a 16 week technical course and found similar results.

Dudik and Lestor (1968), studied adolescent under-achievers and achievers of comparable ability and socioeconomic status. The Rorschach test was administered and scored using a uniform scoring system by raters who were unaware of the hypothesis of the study. Analysis of results indicated that the 80 underachieving children were significantly more inhibited in the expression of aggression, and more passive and compliant than the 23 controls.

The studies on underachievement indicated that students who express aggression overtly or in the form of hostility are underachievers. It appears that these relationships appear early in a child's achievement, and persist to the college level. Harris (1961), who studied the clinical records of 100 boys of average intelligence referred for

REVIEW OF THE LITERATURE

learning problems, noted the relationship of both extremes to underachievement. He summarizes the literature on this subject well in saying: "It would seem from this finding that learning difficulties are not associated with too much open aggression, but rather with the extremes of aggressiveness and submissiveness. Furthermore, it would seem that cooperativeness--a proper blending of aggressiveness and submissiveness--is a distinct aid in the learning process (81-82)".

The presence of these two very different manifestations of aggression in underachievers leads to the question of how the overt expression of aggression and the expression of aggression in the form of hostility act to produce the same external result of underachievement. It seems possible that there may be differences in the manner in which these two forms of aggression influence the motive to achieve. The next subsection of this chapter will review the studies indicating a possible relationship between these two forms of aggression and achievement motivation.

IV. The Relationship of Aggression to Achievement Motivation

A review of the literature on achievement motivation provides some evidence to suggest that there are two

REVIEW OF THE LITERATURE

different types of motivation (DeCharms, Morrison, Reitman and McClelland, 1955). The conscious need to achieve, which is verbally expressed has been called V achievement (value achievement), while the drive for achievement found with projective techniques has been called N achievement (need achievement). DeCharms et al. (1955) have suggested that V achievement is an extrinsic type of motivation which has been developed as a response to parental pressures for success. In other words, those who express a high conscious value for achievement have been taught to value achievement. N achievement is seen as a more intrinsic motivation which is developed early in life and which is imperfectly verbalized in consciousness.

There is some evidence which suggests that there may be a relationship between aggression and V achievement. The research of DeCharms et al. (1955) suggests that certain personality characteristics and socialization experiences are related to the development of a high value for achievement. As has been mentioned, a high value for achievement seems to be related to parental pressures for success. There is some evidence to suggest that high V achievement individuals are conforming, authoritarian, and dependent on authority to dictate standards for success. Parental pressures for conformity to social values and a tendency to

REVIEW OF THE LITERATURE

conformity and deference to authority have also been found to be related to the expression of aggression in the form of hostility (Bandura and Walters, 1958). These studies suggest that certain socialization experiences and personality characteristics are common to both high V achievement and hostility. On the basis of this evidence, it seems reasonable to suggest that a high conscious value for achievement may be expressed by hostile individuals.

There is also some evidence to suggest that there may be a negative relationship between the overt expression of aggression and V achievement. Bandura and Walters (1959) found that the aggressive adolescents studied showed a weaker internalization of social values when compared to normal adolescents. Douvan and Adelson (1958) have found some evidence to suggest that those expressing aggression overtly extend their general lack of internalization of social values to the conscious value for achievement. They studied a group of adolescent boys of middle class background. They found that the overtly aggressive boys had lower educational and occupational aspirations than their parents. These results suggest that a low conscious value for achievement may be associated with the overt expression of aggression.

The relationship between V achievement and scholastic achievement has not been studied extensively. However,

REVIEW OF THE LITERATURE

Douvan and Adelson (1958) provided some evidence to suggest that a low value for achievement may inhibit academic performance. The overtly aggressive boys studied were found to be less verbally skilled in the interview situation when compared with boys of comparable socio-economic status. The overtly aggressive boys were also found to read fewer books, and to prefer books at a lower level of difficulty than the other boys interviewed.

These studies seem to imply that the rejection and acting out against parental and societal goals may be the motivational inhibitor of academic achievement in overtly aggressive individuals. It may be that overtly aggressive individuals are unconcerned with achievement and do not exert their maximum effort in academic situations.

While a low conscious value for achievement may be the inhibitor of achievement in overtly aggressive students, it does not explain the relationship which ^{has} ~~has~~ been found between hostility and underachievement in some studies. While it has been found that high N achievement individuals will surpass high V achievement individuals, there is no evidence to suggest that a high conscious value for achievement in itself hinders achievement. Recent research (Birney, Burdick and Teevan, 1969) has indicated that the inhibitor of achievement in the hostile personality may be found in the

REVIEW OF THE LITERATURE

intrinsic motivation of the individual. Birney et al. (1969) have reported the discovery of a motivational variable known as Hostile Press fear of failure. Like N achievement, Hostile Press fear of failure is not expressed verbally, but is observed through projective techniques (i.e. stories written from TAT pictures). Those scoring high on this type of motivation have been found to be extremely fearful of social devaluation through a failure. Consequently, they tend to avoid competitive achievement situations, and to prefer co-operative efforts. If forced to compete, they set low cautious levels of aspiration to protect themselves from the appearance of public failure.

There is some evidence to suggest that there may be a relationship between Hostile Press fear of failure and the expression of aggression in the form of hostility. Research into the personality characteristics of the high Hostile Press individual has individual that those scoring high on this measure tend to be conforming and authoritarian according to psychometric tests, (Birney et al., 1969). They seem to have "The tendency to see the world as a hostile, powerful, disorderly place, that produces depression, and requires authority, (97)". The personality characteristics of conformity and authoritarianism are also common to the

REVIEW OF THE LITERATURE

hostile personality (Bandura and Walters, 1958). This commonality of personality characteristics found in the High Hostile Press individual and in the individual who expresses aggression in the form of hostility leads to the suggestion that those expressing hostility would also express a high fear of failure.

In the case of the hostile personality, the link between achievement motivation and this form of aggression is suggested by certain personality characteristics. Authoritarianism and conformity seem to be common to high V achievement motivation and high fear of failure motivation. These same characteristics are typical of those who express aggression in the form of hostility. This commonality of personality characteristics in the person expressing hostility and these two achievement motivational variables seem to suggest a possible relationship between hostility, V achievement and fear of failure. It is important to note that DeCharms (DeCharms et al., 1955) found that high V achievement personalities were significantly more concerned with failure in that they were more inclined to notice failure in others than those low on V achievement.

There have been some studies to suggest that a pattern of high value for achievement and high fear of

REVIEW OF THE LITERATURE

failure is found in underachievers who express aggression in the form of hostility. Weiner (1971) noticed that the underachievers he studied (who did not express aggression overtly) expressed high goals, but seemed to protect themselves from the appearance of failure by exerting little effort. Wellington and Wellington (1965) and Bricklin and Bricklin (1967) also found this pattern in the underachievers they studied.

These studies seem to suggest that the fear of social rejection caused by failure (particularly by parental figures) may be the motivational inhibitor of achievement in hostile individuals. It seems possible to suggest that hostile individuals idealize the parental and societal value for achievement as part of a general strong conformity to social values. However, there is also some evidence to suggest that they may inhibit their achievement because they are so fearful of rejection resulting from a failure to meet these high goals.

Although this review indicates possible motivational causes for underachievement in students who express aggression overtly or who express aggression in the form of hostility, the effects of the interaction of intelligence with aggression is unknown. The literature indicates that

REVIEW OF THE LITERATURE

different factors influence achievement at different levels of ability (Lavin, 1965). It is one of the purpose of this investigation, to examine the relationship of aggression and achievement motivation at different levels of ability.

The final subsection of this chapter summarizes and draws conclusions from the review of the literature concerning the processes by which aggression affects achievement. The research hypotheses of this study will be set forth at the conclusion of the following subsection.

V. Conclusions and Statement of Research Hypotheses*

The review of the literature on aggression, its relationship to achievement and to achievement motivation leads to the following conclusions:

- 1) Two possible patterns of manifesting aggression have been identified in the literature. Both forms of aggression seem to stem from the frustration of dependency needs. Those who are encouraged to express aggression learn to express aggression in the form of overt behaviour. Those who are discouraged from

* The statistical hypotheses are stated as null hypotheses in the experimental design section following operational definition of groups on the variables of aggression and ability.

REVIEW OF THE LITERATURE

expressing aggression develop an inhibition of overt aggression, but express aggression in the form of hostility.

- 2) There is a relationship between aggression and achievement. Both forms of expressing aggression have been found to be related to the failure to achieve up to the level of one's ability, (underachievement).
- 3) There is a relationship between the type of aggression expressed and two types of achievement motivation. Those who express aggression in its overt form, also tend to show a low internalization of social values, including the conscious value for achievement. On the other hand, those who express aggression in the form of hostility tend towards conformity to social values, including the conscious value for achievement. The literature suggests that the expression of aggression in the form of hostility is related to an intrinsic motivation known as fear of failure. The overt expression of aggression has not been found to be related to this type of motivation.

REVIEW OF THE LITERATURE

- 4) There may be interaction effects of ability and aggression on the different variables of achievement.

These conclusions lead to the following research hypotheses which are examined in this study.

Research Hypotheses

- 1) Students expressing aggression overtly will show a relatively lower value for achievement than students who express aggression in the form of hostility.
- 2) The relationship between the two forms of aggression and the value for achievement will differ at two levels of ability.
- 3) Students expressing aggression in the form of hostility will express a relatively higher fear of failure than students who express aggression overtly.
- 4) The relationship between the two forms of aggression and fear of failure will differ at two levels of ability.
- 5) Students expressing either form of aggression (overt aggression or hostility) will show low achievement when compared to other students of comparable ability.

REVIEW OF THE LITERATURE

- 6) The relationship between the two forms of aggression and achievement will differ at two levels of ability.

CHAPTER II

RESEARCH DESIGN

The first chapter of this study has reviewed the literature and presented the research hypotheses. It will be the purpose of this chapter to describe the sample, tools, classification of groups on the independent variables, statistical hypotheses and the method of statistical analysis employed to test these hypotheses.

This chapter will be divided into six subsections. The first three will describe the population sample, measurement instruments and testing procedure. The fourth subsection describes the scoring and method of operationally defining the experimental groups. The fifth subsection states the statistical hypotheses investigated. The concluding section describes the statistical method for treating the data.

I. The Sample

The subjects of this study were grade eight students attending two of the English schools of the Ottawa Roman Catholic Separate School System. Twenty classrooms, numbering 300 students were tested. The final sample consisted of 260 subjects, the remainder having been absent or having failed to complete all tests adequately.

RESEARCH DESIGN

The sample was restricted to male students. Wellington and Wellington, (1965) found that three quarters of the underachievers they studied were male. They commented that these results were consistent with the results of other studies. As sex may be a variable related to achievement, it was decided to restrict the sample to males in order to avoid the possible confounding influences of sex differences.

This particular age group was chosen for several reasons. By selecting subjects in elementary school, the researcher was sure that the curriculum of the subjects was generally equivalent in difficulty. Secondly, this age group permits study of a wide range of achievement. Since most eighth grade students are below working age, those who may leave school owing to unsuccessful performance upon reaching age sixteen, are still present for study. Nevertheless, there is some evidence from the literature to suggest that underachievement patterns will be well established in males by this age, (Shaw and McCuen, 1960). Lastly, age 13 is the downward extension of the instrument used to test V achievement.

The selection of students was not limited to any one socio-economic status. Nevertheless, some data on the occupational status of the fathers was obtained, since a

RESEARCH DESIGN

review of the literature indicates that socio-economic status is related to achievement, (Graham, 1969), and perhaps also to aggression, (Eron, Walder and Lefkowitz, 1971). This data is taken as a rough indication of socio-economic status since the school records did not list mothers' occupations, or the educational level of the parents. The distribution of the subjects according to the criterion provided by the Dictionary of Occupational Titles is given in Appendix A of this research. Since socio-economic data has been found to be related to both the independent and dependent variables of this study, it was felt that socio-economic data would be a useful addition in the analysis and interpretation of the data.

The following subsection will describe the instruments used to test these subjects.

II. The Variables and Measurements

The measurement instruments used in this study are the "Guess Who" peer rating scale, the Hostile Press scoring system for fear of failure, the Otis Self-Administering Test of Mental Ability and the Sentence Completion Test. Each test will be described.

RESEARCH DESIGN

1. Independent Variable: Aggression

A peer rating scale developed by Lesser (1957), was employed to obtain a rating for each subject on the independent variable of aggression. This test yields a general aggression score plus five subscores for the categories provoked physical aggression, outburst aggression, unprovoked physical aggression, verbal aggression, and indirect aggression. Each aggression category has two or three items contributing to a total of thirteen items. The subscores of the tests are derived by simple addition of the number of nominations received by the boy from his peers on the items in that category. The total score is obtained by addition of the subscores.

Lesser (1959), has provided some information on the inter-rater reliability of this test. In this study, 74 lower-class boys of average intelligence were rated on this test by both male and female classmates and teachers. Correlations between teachers' and boys' ratings and between boys' and girls' ratings correlated positively to the .01 level of statistical significance over the five scales.

Two types of validity have been established for this study. Lesser (1959), found that scores in the categories unprovoked physical aggression and verbal aggression correlated significantly with questions on general physical and

RESEARCH DESIGN

verbal aggression respectively when a tetrachoric correlation was employed. According to Coleman's study, (Coleman, 1967), scores on Lesser's scale showed high positive correlation with Rorschach aggression scores, which have been found to be good predictors of overt aggression.

This scale was chosen for this study because of the similarity of its definition of aggression to that adopted for this study and because of its appropriateness for use with grade eight boys. All items in Lesser's scale are concerned with overt, observable behaviours thus fitting the definition of aggression as the delivery of noxious stimuli to another person or object. Both Lesser (1959), and Coleman (1967) have used this scale successfully with ten to thirteen year old boys.

The scale was modified slightly to suit the purposes of this study. Lesser's scale was developed to identify overtly aggressive individuals. As a result, the scale is composed of items which describe overtly aggressive behaviours. The scale does not provide any items which suggest a suppression of overtly aggressive behaviours. The present study attempts to identify those who are suppressive of overt aggression as well as those who express a great deal of overt aggression. Therefore, the scale was modified to a bipolar measure in the hope of defining those students

RESEARCH DESIGN

who suppress overt aggression. The subjects were presented with the Lesser items describing overtly aggressive behaviours. They were asked to identify those who were most and least like these descriptions. It was felt that this modification would identify those who suppress overt aggression (See Appendix B).

2. Independent Variable: Ability

The Otis Self-Administering Test of Mental Ability, Intermediate Form A, was chosen to measure the ability of the subjects since it is simple and quick to administer and is appropriate for the age level examined in this study.

This test is designed as a group test. It consists of seventy-five multiple choice questions of various types (vocabulary, arithmetic, etc.) which are arranged in successively increasing levels of difficulty. The test is timed for either twenty or thirty minutes.

The manual provides evidence of both reliability and validity for this test. The coefficient of correlation between the two forms A and B of this test average .948 in two studies which have used 215 and 212 cases respectively.

The validity of this test has been estimated by correlating scores on the higher examination and school scholarship in high school. As mental ability places limits on achievement it was expected that correlation between scholarship and test results could be taken as indications

RESEARCH DESIGN

of validity. In three cases the coefficient of correlation ranged from .55 to .59 in groups of 240, 204 and 157. Although the Intermediate test has not been validated in this manner, a correlation of .88 was found between the Intermediate and higher level test scores for 180 subjects. As the higher exam appears to be related to scholastic success, the correlation between the Intermediate and higher levels of this test would seem to suggest that the Intermediate test would also be related to scholarship scores.

3. Dependent Variable: V Achievement

The Sentence Completion Test, developed by Mukherjee(1969), was used to measure V achievement. This test was chosen for this project since its definition of V achievement is congruent with that employed in this study. The manual defines the quality measured by the SCT as "the degree of importance that an individual attaches to competence in an achievement area (1)". This definition corresponds to the definition of V achievement as a conscious extrinsic value that has been adopted for this study.

A second reason for employing the SCT is its previous use with the age group examined in this research, (Mukherjee, 1969). A previous study demonstrated that this test could be administered to Canadian males as young as fourteen years of age.

RESEARCH DESIGN

The SCT consists of fifty forced choice triads in which one item reflects achievement related needs while the other two reflect other needs. These triads have been constructed to minimize the social desirability factor. The test is self-administering and is appropriate for group testing. No time limit is given, but it has been found that it usually takes approximately twenty-five minutes to complete the test.

The manual reports on the reliability and validity studies of the SCT. Since the latter are quite extensive, this review will focus only on those of particular relevance to this study.

The author reports three test-retest reliability studies using American college students in the manual (Mukherjee, 1969). The first study used 51 males and 36 female subjects. The test-retest reliability over an interval of two months was .71. A group of 58 male and female students retested after forty-five days showed a .83 correlation between the first and second test scores. The final study extended the period between testing to three months for 71 students. The resultant test-retest reliability coefficient for this group was .75.

Of greatest interest to this study is Mukherjee's report (Mukherjee, 1969), in the manual of the concurrent validity of his test as demonstrated by its correlation with Murray's Personality Inventory. Using 58 male and female

RESEARCH DESIGN

subjects, Mukherjee found a significant correlation of SCT scores with the V achievement, Ego Ideal and Need Counteraction scales. The latter two findings indicate that high V achievement is associated with a high standard of excellence, effort to maintain self-respect and pride, and an urge to make up for failures. Another study of 100 college students indicated that high V achievement subjects preferred achievement related traits in a list of adjectives. These findings correspond to previously reviewed descriptions of high V achievement subjects.

4. Dependent Variable: Fear of Failure

The fear of failure motivation score was derived from the analysis of stories which were written after exposure to Thematic Apperception Test Pictures. These stories were scored using the Hostile Press scoring system developed to measure fear of failure (Birney, et al., 1969).

Both the reliability and validity of the Hostile Press scoring system as a measure of fear of failure motivation have been demonstrated (Birney et al., 1969). Interrater reliability correlations of .75 and .90 can be obtained after one and two weeks of study. Hostile Press scores for individuals have been studied over time. Test-retest reliability has been demonstrated using two different groups of college students. The coefficient of stability over a two week interval for scores was .40 for a group of 60 male college students. Another group of 85 male college students was tested twice over an interval of six months. In this case the coefficient of stability was .55.

RESEARCH DESIGN

The validity of the Hostile Press score has been demonstrated in two different ways. In the first experiment, Hostile Press scores were correlated with need affiliation scores and level of aspiration scores. Need affiliation scores have previously been positively related to cautious levels of aspiration while N achievement scores show the opposite relationship. In this case Hostile Press scores proved to be related to both N affiliation and cautious levels of aspiration, thus demonstrating concurrent validity.

A second study demonstrated validity through arousal of the motive, as McClelland had previously tested N achievement scores. A test of 120 grade eight students demonstrated that those who had just experienced failure on a math test wrote significantly more Hostile Press stories than those subjects who wrote the stories under neutral conditions.

This particular method of assessing fear of failure motivation was felt to be appropriate for this study because of its projective nature and previous use with this age level. Since this study is concerned with the presence and effects of covert motivational forces, the projective method was considered appropriate. Relatively little research has been done on the relationship

RESEARCH DESIGN

of Hostile Press and school achievement. Birney reports a positive relationship between Hostile Press and school achievement. However, other variables related to school achievement such as ability and socio-economic status were not controlled.

5. Dependent Variable: Scholastic Achievement

The achievement of the subjects of this study was measured by means of their school grades. A grade point average was computed for each subject using the grades obtained by the students on the June report card. It was felt that year end results which are an average of the achievement obtained over several terms should provide the most accurate measurement of achievement as illness or transfer might present a false picture during one term's assessment. The student grades in this school system can range from 1 (excellent) to 5 (very unsatisfactory).

III. Testing Procedures

All subjects in these schools were tested during the week of May 28 to June 1, 1973. The subjects marks and the socio-economic data were obtained from the school files during the last week of June 1973.

The subjects were tested in groups of two classes per testing session. This meant that groups of approximately 25 to 30 subjects were tested as one group. Ten groups were tested.

RESEARCH DESIGN

The same testing procedures were employed with each group to maintain as much standardization of administration as possible. The peer rating scale measuring aggression and the Thematic Apperception Test were administered first, as they required the most co-operation from the subjects. After a short break, the testing session concluded with the administration of the Otis test and the Sentence Completion Test.

Each session began with a brief introduction by the administrator. The subjects were told that the testing was not related to their school work, and that only the administrator would see their test results.

Although the subjects were tested in a group consisting of two classes, the peer rating scale for testing aggression utilized class group. Each subject was given a list upon which his classmates were listed and identified by code numbers. Before beginning the test, the boys were told to stroke out the names of those absent, and to use only the names on their lists. This procedure ensured that every student rated only those who were present and with whom he was well acquainted. The administrator read the test instructions to the subjects, answered questions and told the subjects that approximately 20 minutes would be given to complete the test.

RESEARCH DESIGN

The TAT was administered using a slide projector. The procedure used was that adopted by Birney from McClelland (1953). Each subject was given three sheets of 8½ x 14 inch paper to be used for writing one story for each picture. On each sheet four sets of questions were printed such that one quarter of the page was allowed for writing about each of them. The four questions are meant to facilitate complete coverage of a plot. They are as follows:

- 1) What is happening? Who are the persons?
- 2) What has led up to this situation? That is, what has happened in the past?
- 3) What is being thought? What is wanted?
By whom?
- 4) What will happen? What will be done?

The administrator read the standardized instructions developed by McClelland (see Appendix B). The room was then darkened for 20 seconds while the picture was removed, the lights turned on and the subjects began writing. The McClelland format of one minute per question was followed with the experimenter informing the subjects when the time given for each question had elapsed. Fifteen seconds were given after the final question to complete the story.

The standardized instructions were read to the subjects for both the Otis test and the Sentence Completion Test. The standard 20 minute version of the Otis was employed

RESEARCH DESIGN

to shorten the testing period. No time limit was given for the Sentence Completion Test but the subjects were told that they should be able to finish the test in approximately 30 minutes.

The following subsection will describe the preliminary treatment of the data.

IV. Treatment of Data

The treatment of the data prior to the statistical analysis involved two steps: the scoring of the tests, and the operational definition of the experimental groups through classification on the independent variables of aggression and ability.

A rating for each boy on aggression was obtained using a modification of Lesser's method. Since the scale had been modified to become bipolar, the scores involved both positive (total of nominations as one of three boys in class most like item) and negative (nominations as one of three boys in class least like item) scores. The final score for each subject was obtained by subtracting the negative score from the positive score.

The fear of failure score was obtained by totaling the scores obtained by a subject on the three stories using the Hostile Press scoring system (see Appendix D). Scores of 0 and above were obtained since the scoring system either

RESEARCH DESIGN

rejects the story as thematically unsuitable for scoring, in which case a 0 is scored, or as scorable, in which case scores ranging from 1 to 11 may be obtained for the story.

Two raters independently rated the stories. An inter-rater reliability correlation, using the Pearson Product Moment Correlation method, was estimated after each rater had scored ten subjects. This process was repeated after 30 subjects had been scored. Students were assigned numbers, so that the raters would not be biased in scoring by associating a name with an aggression score. Correlations of .75 and .83 were obtained after ten and 30 subjects had been independently rated. This level of inter-rater reliability was considered acceptable.

The ability scores were obtained in the standard fashion. The marker totaled the correct answers on the test, converted the total to the 30 minute test equivalent, and computed the score using the chronological age of the subject according to the manual.

The scores for V achievement were obtained by the method described in the manual, (Mukherjee, 1969). The individuals' score is obtained by adding one point for each achievement related item that is encircled. There is no partial credit or penalty. Therefore, a score of 50 is possible.

RESEARCH DESIGN

The achievement scores were computed by averaging the subjects marks. Scores were taken to two decimal points as the range of marks (1 - 5) is restricted.

The research hypotheses of this study required the operational definition of two aggressive groups. The literature has suggested that some individuals express aggression in the form of overt behaviour. Others express aggression in the form of hostility. A strong suppression of overt aggression has been found to be related to hostility. Since both aggressive groups show a distinctive pattern in the expression of overt aggression, it was felt that the observation of overt behaviour could lead to the identification of these two groups. Those who obtained high scores on the scale identifying overtly aggressive behaviours might be taken as representative of overtly aggressive individuals. Those who obtained low scores on this scale might be taken as representative of passive individuals, who have repressed their hostilities. In other words these are individuals who are perceived at the opposite polarity of aggressive individuals. Those subjects falling between the two extremes on the scale might be considered as showing a normative aggressive pattern. The hypotheses of this study are examined by comparing the scores of these three groups on the three achievement variables of interest. The moderate group is included in the study as a normative group, against which the two other groups are differentiated.

RESEARCH DESIGN

The classification of the subjects into the three aggression groups was statistically based. Stanine scores were used as the cut-off point to operationally define high, moderate, and low aggression groups in this study. It was felt that this method was suitable as no precedent exists in the literature for defining high, moderate and low aggression groups.

Since Lesser (1959), has reported different average scores for groups tested, some preliminary statistical calculations were performed to assess whether the groups should be selected from extreme and moderate scores of the entire group or from extreme and moderate scores in each class. As the number in the groups varied, scores were prorated as if taken from ten raters. After the scores had been converted in this manner the mean score, standard deviation and variance were calculated for each of the 20 classes. The scores are reported in Appendix E.

Since the means varied considerably, the three aggression groups were defined by class, using a table developed by Bartlett and Edgerton (1966), for classes of differing sizes. In each class, subjects in stanines 1 to 3 were placed in the high aggression group, while those in stanines 4 to 6 were placed in the moderate aggression group. Those in stanines 7 to 9 were placed in the low aggression group.

RESEARCH DESIGN

The research hypotheses also required the operational definition of high and low ability groups. The median score for the entire sample was calculated and used as the cut off point. Subjects were placed in the high or low ability group according to their scores. Each subject was placed into either the high or low ability group of his previously defined aggression group.

V. Statement of Null Hypothesis

The following null hypotheses are made for groups divided on the basis of overt aggression into high, moderate and low aggressive groups and on the basis of ability into high and low ability groups.

- 1) There are no significant differences among the three levels of aggression on V achievement when controlled for ability.
- 2) There is no significant interaction of two levels of ability with three levels of aggression on V achievement scores.
- 3) There are no significant differences among the three levels of aggression on Hostile Press fear of failure when controlled for ability.
- 4) There is no significant interaction of two levels of ability with three levels of aggression on Hostile Press scores.

RESEARCH DESIGN

- 5) There are no significant differences among the three levels of aggression on achievement scores when controlled for ability.
- 6) There is no significant interaction of two levels of ability with three levels of aggression on achievement scores.

VI. Statistical Analyses

Two statistical methods were employed to test the hypotheses of this study. A one-way analysis of co-variance was employed to test those hypotheses in which intelligence was controlled (Glass and Stanley, 1970). A two-way analysis of variance (fixed effects) for unequal N was utilized to test those hypotheses in which the interaction of aggression and levels of ability was considered, (Glass and Stanley, 1970). Separate analyses were carried out to test the hypotheses concerning V achievement, fear of failure and achievement. The Scheffé test, also described in the Glass and Stanley text was employed for post hoc procedures when necessary.

CHAPTER III

PRESENTATION OF RESULTS

This chapter presents the results of the statistical analysis for the six major hypotheses of this study.

The review of the literature presents some evidence to suggest that socio-economic status and aggression are related, (Eron et al., 1971). It seems possible that differences on the dependent variables among the three aggression levels might be confounded by the socio-economic strata of the sample. Therefore, a one-way analysis of variance was used to examine the equivalence of the three aggression groups on this variable before testing the hypotheses.

Observation of the raw data indicated that there might be significant differences in mean scores for scholastic ability among the three aggression levels. Differences among the three aggression levels on the dependent variables might also be influenced by significant differences in ability. A one-way analysis of variance was employed to test for significant differences in ability among the three aggression groups.

The first subsection of this chapter presents the results of the examination of socio-economic and ability

PRESENTATION OF RESULTS

differences among the high, moderate and low aggression groups. The second subsection of the chapter presents the results of the testing of hypotheses.

I. The Relationship Between Aggression and Control Variables

1. Control Variable: Socio-Economic Status

The results of the one-way analysis of variance (see tables 1 and 2) indicated that there were no significant differences among the three aggression groups on mean socio-economic status scores (F ratio = .54, ns). These results suggested that differences among the three aggression groups on the dependent variables would not be confounded by the effects of socio-economic status.

2. Control Variable: Scholastic Ability

The results of the one-way analysis of variance (see tables 3 and 4) indicated that there were significant differences on mean scholastic ability scores among the three levels of aggression, (F ratio = 7.05, $p < .05$). The results suggested a negative relationship between aggression and ability. The low aggression group obtained a higher mean ability score than the high aggression group when the ability mean scores for three levels of aggression were compared.

PRESENTATION OF RESULTS

Table 1

MEAN SCORES AND STANDARD DEVIATIONS ON
SOCIO-ECONOMIC STATUS SCORES FOR
THREE AGGRESSION LEVELS

Group	N	M	S.D.
High Aggression	62	4.40	3.18
Moderate Aggression	136	4.07	3.19
Low Aggression	62	3.81	3.17

PRESENTATION OF RESULTS

Table 2

ANALYSIS OF VARIANCE RESULTS FOR TESTING
SOCIO-ECONOMIC STATUS FOR THREE AGGRESSION LEVELS

Source	d. f.	MS	F
Between Groups	2	5.57	.54
Error	257	10.25	

PRESENTATION OF RESULTS

Table 3
MEAN SCORES AND STANDARD DEVIATIONS ON
SCHOLASTIC ABILITY SCORES FOR THREE AGGRESSION LEVELS

Group	N	M	S.D.
High Aggression	62	102.18	14.21
Moderate Aggression	136	107.98	13.40
Low Aggression	62	111.35	13.78

PRESENTATION OF RESULTS

Table 4

ANALYSIS OF VARIANCE RESULTS FOR TESTING
SCHOLASTIC ABILITY FOR THREE AGGRESSION LEVELS

Source	d.f.	MS	F
Between Groups	2	1336.19	7.05*
Error	257	189.65	

* $p < .05$

PRESENTATION OF RESULTS

These results suggested that differences found among the three aggression groups on the dependent variables might be confounded by the differences in ability. Therefore, it was felt that a two step analysis would be desirable. The first analysis would study the mean differences on the dependent variables among the three levels of aggression controlling for the co-variate (scholastic ability). The second analysis would study the mean differences on the dependent variables with the co-variate included as a second-factor in a two way analysis of variance (fixed effects). This second analysis would permit a study of differences on the dependent variables due to two levels of ability. In addition, it would indicate the interaction effects of ability and aggression on the dependent variables. As previous studies have not examined these effects, it was felt that an examination of such effects could become a part of this study.

Since achievement and ability are known to be related, two, one-way analyses of co-variance were used to study differences on achievement mean scores among the three aggression groups at two levels of ability. It was felt that analyses of co-variance, done separately for each of the levels of ability, would provide the most precise indication of achievement differences among the

PRESENTATION OF RESULTS

aggression levels. A one-way analysis of co-variance, using the ability measure as the co-variate, was used to test for significant differences on mean achievement scores among the aggression groups for those students of exclusively high ability. The process was repeated at the low level of ability.

The following subsection presents the results for each of the three major hypotheses of the study, tested by the above mentioned analyses. The Scheffé test was used for post hoc procedures where necessary.

II. The Results for the Six Hypotheses

The first hypothesis of this study, stated in null form is as follows:

Hypothesis I

There are no significant differences among the three levels of aggression on V achievement when controlled for ability.

The analysis of co-variance followed testing for homogeneity of regression. The results indicated that homogeneity of regression exists among the three groups, (F ratio = 1.23, ns.). Therefore, it was considered appropriate to continue with the analysis.

PRESENTATION OF RESULTS

The results of the analysis of co-variance (see tables 5 and 6) showed no significant differences on mean scores for V achievement among the high moderate and low aggression groups, (F ratio = 1.63, ns.). This analysis resulted in the failure to reject the first null hypothesis.

The second hypothesis, stated in null form is as follows:

Hypothesis II

There is no significant interaction of two levels of ability with three levels of aggression on V achievement scores.

The results of the two-way analysis of variance (fixed effects) indicated the existence of a significant difference on the mean scores for V achievement between the high and low ability groups, (F ratio = 5.42, $p < .05$). The high ability group scored significantly higher than the low ability group on V achievement, (see tables 7 and 8). These results suggest that subjects of high ability express a greater conscious value for achievement than subjects of low ability.

The results also revealed the existence of a significant interaction effect of aggression and ability on V achievement scores (F ratio = 3.87, $p < .05$). The Scheffé test was used to locate the significant interaction. Two types of comparisons were used. The first type tested for

PRESENTATION OF RESULTS

Table 5

MEAN SCORES AND STANDARD DEVIATIONS ON V
ACHIEVEMENT SCORES FOR THREE AGGRESSION LEVELS

Group	N	M	S.D.
High Aggression	62	18.41	4.24
Moderate Aggression	136	19.55	5.61
Low Aggression	62	20.29	4.77

PRESENTATION OF RESULTS

Table 6

ANALYSIS FOR COVARIANCE RESULTS FOR TESTING
V ACHIEVEMENT FOR THREE AGGRESSION LEVELS

Source	d.f.	MS	F
Between Groups	2	40.20	1.63
Error	256	24.55	

PRESENTATION OF RESULTS

Table 7

MEAN SCORES AND STANDARD DEVIATIONS FOR GROUPS
CLASSIFIED BY AGGRESSION AND SCHOLASTIC
ABILITY ON V ACHIEVEMENT

Groups	N	M	S.D.
High Aggression			
High Ability	24	19.71	5.27
Low Ability	38	17.60	3.28
Moderate Aggression			
High Ability	70	21.18	6.39
Low Ability	66	17.98	4.00
Low Aggression			
High Ability	35	19.88	4.93
Low Ability	27	20.81	4.67

PRESENTATION OF RESULTS

Table 8

ANALYSIS OF VARIANCE RESULTS FOR TESTING V
ACHIEVEMENT BY AGGRESSION AND SCHOLASTIC ABILITY

Source	d.f.	MS	F
Aggression (A)	2	1.43	2.43
Ability (B)	1	3.2	5.42*
A x B	2	2.28	3.87*
Error	254	.59	

* $p < .05$

PRESENTATION OF RESULTS

significant differences in mean scores on V achievement between the high and low ability groups with each level of the aggression factor. The second type of comparison tested for significant differences in mean scores on V achievement among the high, moderate and low aggression groups within each level of the ability factor. Each Scheffé test compared the means of two groups only.

The three comparisons testing for significant differences on mean scores for V achievement between the high and low ability groups within each aggression level proved significant, (see table 9). The high ability groups within the high and moderate levels of the aggression factor obtained higher mean scores on the V achievement variable than the low ability groups, (T ratio = 10.54, $p < .05$ and T ratio = 24.28, $p < .05$). However, this trend was reversed when the low level of aggression was examined. The low ability group within the low level of aggression gained a higher mean score on V achievement than the high ability group of low aggression, (T ratio = 4.73, $p < .05$). These results suggest that high ability students who are classified as high or moderate on the aggression dimension reveal a greater value for achievement than students classified as high or moderate on the aggression dimension but having

PRESENTATION OF RESULTS

Table 9

RESULTS OF SCHEFFE TEST TO DETERMINE LOCATION
OF SIGNIFICANTLY DIFFERENT MEAN SCORES ON V
ACHIEVEMENT BETWEEN HIGH AND LOW SCHOLASTIC ABILITY
GROUPS WITHIN THREE AGGRESSION LEVELS

Contrast	Group with Higher Mean	Estimate of Contrast	Estimate of Variance of Contrast	F
High Aggression High-Low Ability	High Ability	2.11	.04	10.54*
Moderate Aggression High-Low Ability	High Ability	3.1	.02	24.28*
Low Aggression High-Low Ability	Low Ability	.97	.04	4.73*

* $p < .05$

PRESENTATION OF RESULTS

low ability. In the case of the low aggression group, students of low ability express a greater conscious value for achievement than the students of high ability.

When the high level of ability was examined (see table 10), the results of the three comparisons among the aggression levels indicated two significant differences. A significant difference was found between the mean scores of the moderate and high aggression groups on V achievement ($T = 8.09, p < .05$). The mean scores of the moderate and low aggression groups ($T = 8.17, p < .05$) also differed significantly. The moderate aggression group obtained the high mean score in each of these significant comparisons. These results suggest that the moderately aggressive students of high ability express a greater conscious value for achievement than both the high and low aggression groups of comparable ability.

The comparisons at the low level of ability (see table 11) showed a significant difference on mean V achievement scores between the low and moderate aggression groups ($T = 16.13, p < .05$) and also between the low and high aggression group ($T = 16.60, p < .05$). In each comparison, the low aggression group obtained the highest mean score. This latter finding suggest that the low aggression students

PRESENTATION OF RESULTS

Table 10

RESULTS OF SCHEFFE TEST TO DETERMINE LOCATION OF
SIGNIFICANTLY DIFFERENT MEAN SCORES ON V
ACHIEVEMENT AMONG THREE AGGRESSION LEVELS
AT HIGH LEVEL OF SCHOLASTIC ABILITY

Contrast	Group with Higher Mean	Estimate of Contrast	Estimate of Variance of Contrast	F
High-Moderate Aggression	Moderate	1.47	.03	8.09*
High - Low Aggression	Low	.17	.04	.83
Moderate-Low Aggression	Moderate	1.3	.03	8.17*

* $p < .05$

PRESENTATION OF RESULTS

Table 11

RESULTS OF SCHEFFE TEST TO DETERMINE LOCATION OF
SIGNIFICANTLY DIFFERENT MEAN SCORES ON V
ACHIEVEMENT AMONG THREE AGGRESSION LEVELS
AT LOW LEVEL OF SCHOLASTIC ABILITY

Contrast	Group with Higher Mean	Estimate of Contrast	Estimate of Variance of Contrast	F
High-Moderate Aggression	Moderate	.38	.02	2.4
High - Low Aggression	Low	3.21	.04	16.6*
Moderate-Low Aggression	Low	2.83	.03	16.13*

* $p < .05$

PRESENTATION OF RESULTS

at the low level of ability hold a greater value for achievement than the moderate and high aggression groups of comparable ability. These results led to the rejection of the second null hypothesis.

The third hypothesis, stated in null form is as follows:

Hypothesis III

There are no significant differences among the three levels of aggression on Hostile Press fear of failure when controlled for ability.

The analysis of co-variance followed testing for homogeneity of regression among the three aggression levels. The results (F ratio = 1.34, ns.) indicated that homogeneity of regression exists among the three levels of aggression. Therefore it was considered appropriate to continue the analysis of co-variance.

The analysis of co-variance (see tables 12 and 13) indicated that no significant differences on mean Hostile Press scores existed among the three aggression groups (F ratio = .15, ns.). These results led to the failure to reject the third null hypothesis.

The fourth hypothesis, stated in null form is as follows:

PRESENTATION OF RESULTS

Table 12

MEAN SCORES AND STANDARD DEVIATIONS ON
HOSTILE PRESS FEAR OF FAILURE SCORES
FOR THREE AGGRESSION LEVELS

Group	N	M	S.D.
High Aggression	62	4.04	3.71
Moderate Aggression	136	4.35	3.47
Low Aggression	62	4.70	3.87

PRESENTATION OF RESULTS

Table 13

ANALYSIS OF COVARIANCE RESULTS FOR TESTING
HOSTILE PRESS FEAR OF FAILURE MOTIVATION
FOR THREE AGGRESSION LEVELS

Source	d.f.	MS	F
Between Groups	2	1.92	.15
Error	256	12.52	

PRESENTATION OF RESULTS

Hypothesis IV

There is no significant interaction of two levels of ability with three levels of aggression on Hostile Press scores.

The two-way analysis of variance (fixed effects) produced only one significant result (see tables 14 and 15). According to the results a significant difference on mean Hostile Press scores exists between the high and low ability groups (F ratio = 9.34, $p < .05$). The high ability group received the higher mean score, suggesting that students of high ability express a greater fear of failure than students of low ability. These results led to the rejection of the fourth hypothesis.

The fifth hypothesis, stated in null form is as follows:

Hypothesis V

There are no significant differences among the three levels of aggression on achievement scores when controlled for ability.

A test for homogeneity of regression was used to determine if homogeneity of regression exists among the three levels of aggression. The results (F ratio = 1.87, ns.) indicate that homogeneity of regression exists among the three groups. Therefore, the analysis continued.

PRESENTATION OF RESULTS

Table 14

MEAN SCORES AND STANDARD DEVIATIONS OF
 GROUPS CLASSIFIED BY AGGRESSION AND SCHOLASTIC
 ABILITY ON HOSTILE PRESS FEAR OF FAILURE MOTIVATION

Group	N	M	S.D.
High Aggression			
High Ability	24	4.58	3.74
Low Ability	38	3.71	3.71
Moderate Aggression			
High Ability	70	5.08	3.35
Low Ability	66	3.64	3.43
Low Aggression			
High Ability	35	5.94	3.66
Low Ability	27	3.11	3.60

PRESENTATION OF RESULTS

Table 15

ANALYSIS OF VARIANCE RESULTS FOR TESTING
 HOSTILE PRESS FEAR OF FAILURE MOTIVATION
 BY AGGRESSION AND SCHOLASTIC ABILITY

Source	d.f.	MS	F
Aggression (A)	2	.07	.14
Ability (B)	1	4.39	9.34*
A x B	2	.375	.79
Error	254	.47	

* $p < .05$

PRESENTATION OF RESULTS

The results of the analysis of co-variance (see tables 16 and 17) showed that a significant difference on mean achievement scores existed among the three aggression groups (F ratio = 12.01, $p < .05$). These results led to the rejection of the fifth null hypothesis.

Testing for differences between means for two groups by the Scheffé method, it was found that two significant differences existed among the three aggression groups on mean achievement scores (see table 18). The comparison between the low and moderate aggression groups proved to be significant ($T = 4.94$, $p < .05$). The comparison between the low and high aggression groups also proved significant ($T = 6.08$, $p < .05$). In each case, the low aggression group obtained the higher mean score on the achievement variable, indicating that the low aggressive students achieve at a significantly higher level than the moderately and highly aggressive students when ability is controlled. These results led to the rejection of the fifth null hypothesis.

The sixth hypothesis, stated in null form is as follows:

Hypothesis VI

There is no significant interaction of two levels of ability with three levels of aggression on achievement scores.

PRESENTATION OF RESULTS

Table 16

MEAN SCORES AND STANDARD DEVIATIONS ON
ACHIEVEMENT SCORES FOR THREE AGGRESSION LEVELS

Group	N	M	S.D.
High	62	3.02	.60
Moderate	136	2.84	.56
Low	62	2.43	.62

PRESENTATION OF RESULTS

Table 17

ANALYSIS OF COVARIANCE RESULTS FOR TESTING
ACHIEVEMENT SCORES FOR THREE AGGRESSION LEVELS

Source	d.f.	MS	F
Between Groups	2	3.45	12.01*
Error	256	.29	

* $p < .05$

PRESENTATION OF RESULTS

Table 18

RESULTS OF SCHEFFE TEST TO DETERMINE LOCATION OF
SIGNIFICANTLY DIFFERENT MEAN SCORES ON
ACHIEVEMENT AMONG THREE AGGRESSION LEVELS

Contrast	Group with Higher Mean	Estimate of Contrast	Estimate of Variance of Contrast	F
High-Moderate Aggression	High	.41	.007	4.94*
High - Low Aggression	Low	.59	.009	6.08*
Moderate-Low Aggression	Moderate	.18	.007	2.19

* $p < .05$

PRESENTATION OF RESULTS

The two one-way analyses of co-variance, used at the high and low ability levels, followed testing for homogeneity of regression among the three aggression levels. The results (F ratio = 1.55, ns., and F ratio = .28, ns.), at high and low levels of ability, indicated that homogeneity of regression existed among the three aggression groups at both the high and low levels of ability. Therefore, the two analyses continued.

The results of the two analyses of co-variance indicated that aggression and ability level did interact to influence achievement scores. The results of the analysis of co-variance at the low level of ability showed no significant differences on mean achievement scores among the three aggression groups (F ratio = 1.45, ns.). The results of the analysis of co-variance performed at the high level of ability, however, did produce significant differences on mean achievement scores among the three levels of the aggression factor (F ratio = 11.35, $p < .05$). These results led to the rejection of the sixth hypothesis, more specifically for students of high ability, (see tables 19, 20 and 21).

The results of the Scheffé test indicated that significant differences on mean achievement scores existed between the low and moderate aggression groups ($T = 4.56$, $p < .05$) and ($T = 5.08$, $p < .05$). In each comparison the low aggression group obtained the higher mean score for achievement, (see table 22).

PRESENTATION OF RESULTS

Table 19

MEAN SCORES AND STANDARD DEVIATIONS FOR
 GROUPS CLASSIFIED BY AGGRESSION AND
 SCHOLASTIC ABILITY ON ACHIEVEMENT SCORES

Groups	N	M	S.D.
High Aggression			
High Ability	24	2.95	.626
Low Ability	38	3.06	.597
Moderate Aggression			
High Ability	70	2.65	.500
Low Ability	66	3.03	.576
Low Aggression			
High Ability	35	2.13	.582
Low Ability	27	2.81	.452

PRESENTATION OF RESULTS

Table 20

ANALYSIS OF COVARIANCE RESULTS FOR TESTING
ACHIEVEMENT SCORES FOR THREE AGGRESSION LEVELS
AT LOW LEVEL OF SCHOLASTIC ABILITY

Source	d.f.	MS	F
Between Groups	2	.409	1.45
Error	127	.28	

PRESENTATION OF RESULTS

Table 21

ANALYSIS OF COVARIANCE RESULTS FOR TESTING
ACHIEVEMENT SCORES FOR THREE AGGRESSION LEVELS
AT HIGH LEVEL OF SCHOLASTIC ABILITY

Source	d.f.	MS	F
Between Groups	2	3.31	11.35*
Error	125	.29	

* $p < .05$

PRESENTATION OF RESULTS

Table 22

RESULTS OF SCHEFFÉ TEST TO DETERMINE LOCATION OF
SIGNIFICANTLY DIFFERENT MEAN SCORES ON
ACHIEVEMENT AMONG THREE AGGRESSION LEVELS AT
THE HIGH LEVEL OF SCHOLASTIC ABILITY

Contrast	Group with Higher Mean	Estimate of Contrast	Estimate of Variance of Contrast	F
High-Moderate Aggression	High	.22	.02	1.7
High - Low Aggression	High	.74	.02	5.08*
Moderate-Low Aggression	Moderate	.52	.01	4.56*

* $p < .05$

PRESENTATION OF RESULTS

The following chapter discusses the results that have been presented for the testing of the six hypotheses in terms of the theories presented in chapter one.

CHAPTER IV

DISCUSSION OF RESULTS

This chapter discusses the results presented for the testing of the six hypotheses proposed by the study. This discussion will focus on two main areas. The review of the literature indicated that different patterns of achievement motivation might be found in underachieving students who express aggression overtly as opposed to those who express little overt aggression. The first subsection of this chapter will discuss the results of this study in terms of the proposed predictions. The scores on the achievement measures administered in this study indicate a somewhat different relationship between aggression, achievement motivations and achievement, at two levels of ability. This represents a major finding in this study, which will be discussed in terms of recent findings related to this area in the second subsection of this chapter.

I. Evaluation of Two Theories on Aggression and Achievement

The literature provided some evidence to suggest that overt aggression and scholastic under achievement are related. Theories of the developmental dynamics of aggression as reviewed suggested that low internalization of

DISCUSSION OF RESULTS

societal values is related to overt aggression. Therefore it was proposed that the students rated as expressing a high degree of overt aggression would show a pattern of low conscious value for achievement and low performance on academic achievement when compared to other student of equal ability.

The results of this study provide some support for the suggestion that students expressing a high degree of overt aggression place less conscious value on achievement than other students. Although no significant differences appeared when the three aggression levels were compared, the highly aggressive students showed the least conscious value for achievement among the three aggression groups. When the three aggression groups were compared within the high and low levels of ability, the highly aggressive students again revealed the least conscious value for achievement of the three groups. At both the high and low ability levels, the high overt aggression group showed significantly less value for achievement than one other group.

The expected relationship between low value for achievement and actual achievement did not appear in this study. Although the highly aggressive students of high ability appeared to place significantly less value on achie-

DISCUSSION OF RESULTS

vement than the moderately aggressive students of high ability, no differences in actual achievement appeared between the two groups. Similarly, a significant difference in value for achievement appeared between the high and low overt aggression groups of low ability without a corresponding difference in actual achievement.

In summary, it may be said that this study provides some support for the idea that boys who are found to express their aggression overtly show a low value for achievement. However, they do not show lower performance on academic achievement as compared to those who are rated as moderate in expressing overt aggression and who have the same level of ability.

The literature also suggested that the suppression of overt aggression and low scholastic achievement are also related. The literature on the developmental dynamics of aggression suggested that low overt aggression is related to a strong internalization of societal values and an attitude of hostility, which is another way of expressing aggression. Therefore, it was expected that students rated as low on the overt expression of aggression would show a pattern of high value for achievement, a hostile fear of failure motivation, and low achievement when compared to students of equal ability.

DISCUSSION OF RESULTS

The results indicated partial support for the hypothesis that students rated as low in the overt expression of aggression would place a high conscious value on achievement. Although no significant differences appeared on value for achievement when the three aggression levels were compared, the low overt aggression group did express the greatest conscious value for achievement. At the low level of ability, the low overt aggression group expressed a significantly greater value for achievement than their peers of comparable ability.

In summary, it may be said that this study provides some support for the suggestion that boys who do not express aggression overtly have a high conscious value for achievement. However, it does not suggest any relationships between low aggression and fear of failure or low achievement.

II. Aggression and Achievement Variables at Two Levels of Ability

The results of this study suggested that aggression is related to achievement at the high level of ability. Nevertheless, the motivational variables behind this relationship are still unclear. The higher achievement of the low overt aggression subjects at the high level of ability

DISCUSSION OF RESULTS

appears unrelated to the two motivational variables examined in this study. The low overt aggression students of high ability do not show a significantly greater value for achievement than the other high ability aggression groups. In addition, they do not express significantly less of the fear of failure motivation thought to inhibit achievement.

Recent research by McClelland (1973), provides a possible explanation for the higher achievement of the low aggressive students. According to this research, the need for power and an overt expression of aggression are positively related. While aggressive thoughts or impulses showed a low positive correlation with the need for power, the maximum expression of aggression in action showed a much higher positive correlation with the need for power. It seems possible to suggest that the high and moderate overt aggression groups experience a greater need for "making a big splash in action (12)" through aggression. Consequently, their energies are not directed towards achievement. As the person manifesting little aggression overtly is not distracted in this way, more of his energies may be directed towards achievement. The fact that the higher ability students have a greater potential for academic success may explain why the achievement differences appear only at the high level of ability.

DISCUSSION OF RESULTS

The results of this study suggest that ability is a variable affecting the motivation to achieve. It appears that students of high ability express a high value for achievement and a high fear of failure while the opposite effect is found at the low level of ability. These results indicate that value for achievement may be related to self-image. It may be that students of high ability have received feedback indicating that they are capable of high achievement. Therefore, they develop a high value for achievement. Since they are concerned with achievement, they also develop a concern with failure. On the other hand, it seems possible that students of low ability have realized their limitations, and have therefore renounced achievement as a reasonable goal. Since they are no longer concerned with achievement, their corresponding lack of fear of failure seems reasonable.

The results suggest that there are exceptions to this general pattern, thus implying that aggression may be related to the formation of a realistic self-concept in terms of achievement. In the case of the low overt aggression group, those of low ability express a higher value for achievement than those of high ability.

Recent research by Findlayson (1972), indicates the possible dynamics behind the relationship between aggres-

DISCUSSION OF RESULTS

sion and value for achievement. His research suggests that past feedback on achievement produces varying effects on the conscious desire to achieve according to other motivational characteristics of the individual. His research examined the expressed and unconscious desire to achieve in high school age boys who were classified as successful and unsuccessful academically and who were also rated as high or low on neuroticism. The unconscious desire to achieve was measured by the traditional format developed by McClelland, while expressed achievement motivation was measured by a questionnaire. Neuroticism was measured using the appropriate items from Eysenck's personality inventory. Students were classified as successful or unsuccessful according to the relationship between the grades expected from ability tests and actual school grades.

Findlayson's results provided some evidence that those who are high in N achievement and neuroticism (which is seen in this study as a state of high drive) express a strong desire to achieve if they have been successful. The expressed motivation was found to be positively related to the level of N achievement and drive in the successful group. The opposite effect was found among the unsuccessful boys. Those who were high in N achievement and neuroticism had lowered their expressed desire to achieve if they had not

DISCUSSION OF RESULTS

been successful. However, those who were low on neuroticism and N achievement, expressed a strong desire to achieve when they had not been successful which was interpreted as unrealistic wish-fulfilling tendencies. His study implies that the conscious desire to achieve is related to self-concept. It appears that motivational characteristics of the individual may be related to the formation of a realistic self-concept concerning achievement.

Although this study did not examine N achievement or neuroticism, there is reason to suspect that aggression and N achievement are related. Future research might profitably investigate this relationship. Since nurturance and encouragement of independence on the part of a child's parents are related to high N achievement, it is unlikely that low aggressive subjects would develop high N achievement. (Winterbottom, 1958). The frustration of dependency needs, combined with the demand for conformity found to be related to low aggression, is probably not conducive to the development of high N achievement.

The results of this study are consistent with the idea that aggression and N achievement are related. Like Findlayson's low N achievement group, the low overt aggression group, at both levels of ability, seem to hold unrealistic goals for themselves in the achievement area. Those of high ability and low overt aggression show the highest achie-

DISCUSSION OF RESULTS

vement of the three aggression groups of high ability. Nevertheless, their goals for achievement are more conservative than those of the moderate aggression group, and they show an equal concern with failure. The goals expressed by the low aggression group of low ability are equally unrealistic. In spite of the fact that they do not achieve at a higher level than the other aggression groups of low ability, they express very high achievement goals. The unrealistic nature of these goals is further emphasized by their lack of concern with failure. The results for the moderate and high overt aggression groups are consistent with the idea that they have higher N achievement. Both groups show the general pattern of a high value for achievement and high fear of failure at the high level of ability and the opposite pattern at the low level of ability. Thus it appears that aggression may be related to N achievement and the formation of a realistic self-concept concerning achievement.

SUMMARY AND CONCLUSIONS

This study was initiated by the observation that different ways of expressing aggression have been related to underachievement in the literature. Although the literature has established these relationships, no explanations as to how the extremes of this personality dimension influence achievement have been offered. This study has attempted to provide an explanation of the dynamic processes behind these relationships.

The research on the developmental dynamics of aggression provides some evidence that the socialization of aggression may influence two different types of achievement motivation which can inhibit achievement. Research indicates that there is a relationship between parental frustration and overt aggression where parents tolerate and encourage the expression of aggression. There is also a relationship between overt aggression and low internalization of societal values. Therefore, it was expected that students rated as high in the overt expression of aggression would show a low conscious value for achievement and low achievement.

On the other hand, research provides some evidence to suggest that frustration of dependency needs and intolerance of aggression by the parents are related to the

SUMMARY AND CONCLUSIONS

suppression of overt aggression. There is also evidence to suggest that the suppression of overt aggression is related to high internalization of societal values and high hostility. Therefore, it was expected that students rated as low in the overt expression of aggression would show high value for achievement, high fear of failure (a motivation with hostile components) and low achievement.

On the basis of this evidence, six experimental hypotheses were formulated to test the existence of these two dynamic processes. Students rated as high, moderate and low on the overt expression of aggression were tested for differences among them on the variables V achievement, fear of failure and achievement. The relationships between aggression and level of ability on these three variables were also examined.

A sample of two hundred and sixty grade eight boys, registered in twenty classrooms were tested. Tests used were a peer rating scale for aggression, the Sentence Completion Test for measuring value for achievement, the Hostile Press scoring system for measuring fear of failure motivation, the Otis Self Administering Test of Mental Ability and grade point average for measuring achievement.

The results of this study lead to several conclusions and also to new problems for research.

SUMMARY AND CONCLUSIONS

This study suggests that adolescent boys who possess the characteristics of low overt aggression and high ability achieve at a higher level scholastically than their moderately and highly aggressive peers of comparable ability. These results suggest that there is a relationship between overt aggression and scholastic achievement in adolescent boys of high ability.

The relationships predicted between overt aggression and the two achievement motivational variables did not appear in this study. Fear of failure did not appear to be related to either aggression or scholastic achievement. Although differences were found among the three aggression groups on the conscious value for achievement at both levels of ability, no corresponding differences in scholastic achievement appeared. These results lead to the conclusion that further research will be required to find the relationships among aggression, motivational processes and scholastic achievement, that suggest that motivational patterns behind the relationship between aggression and achievement.

This study indicated that a high value for achievement and high fear of failure might be more characteristic of students of high ability. These findings suggest that achievement motivation may be related to level of ability.

SUMMARY AND CONCLUSIONS

Recent research has indicated that the feedback an individual receives concerning his achievement influences his self-concept as manifested in his expressed desire to achieve (Findlayson, 1972). This research suggests that the differences found between the high and low ability groups on expressed achievement motivation may be related to the self-concept concerning achievement.

This study suggests that students who express little overt aggression may not lower their conscious value for achievement when limited by ability. This finding suggests that aggression may be related to the formation of a realistic self-concept concerning achievement.

Research by McClelland (1973), suggests a relationship between aggression and N power. He has suggested that aggression is an expression of N power or the desire to have impact. It seems possible to suggest that, if aggression is serving this purpose, it distracts the student from achievement. Therefore, a study of the relationships among aggression, N power and scholastic achievement might prove useful to the understanding of the relationship between aggression and achievement.

Findlayson's (1972) research has indicated that N achievement is related to the formation of realistic goals based on the feedback on achievement. Since the parental

SUMMARY AND CONCLUSIONS

characteristics which seem to be related to the development of aggression (i.e., nurturance and independence) also seem to be related to the development of N achievement. (Winterbottom, 1958) an exploration of the relationships among aggression, ability, N achievement, and conscious value for achievement should be explored. Such research might prove useful to the understanding of the relationship between aggression, feedback and conscious value for achievement.

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APPENDIX A

APPENDIX A

Data on Socio-Economic Status of Subjects Classified
According to Dictionary of Occupational Titles

Occupational Group	N
& 1 Professional, Technical and	30
Managerial	39
Clerical and Sales	58
Service Occupation	29
Farming, Fishery, Forestry	1
Processing	8
Machine Trades	8
Bench Work	1
Structural Work	76
Miscellaneous	10

APPENDIX B

APPENDIX B

PEER RATING FORM

Date: _____

Name: _____
(Surname) (First) (Middle)

Group Identification No. _____

This is a peer or "buddy" rating operation, a procedure that is commonly used in group assessment. Attached also is a copy of the roster for your group. This roster sheet contains the names of all individuals in your group with whom you are familiar. You will use this roster in making your ratings. Here is how you proceed:

- a. First, print your name, and group identification number at the top of the page. Then look at the roster. You will see a group identification number printed on the left side of each name. Find your name and print your number in the upper right hand corner of this sheet.
- b. You are to nominate in order, the three individuals in your group whom you consider "highest" on "Here is a boy..." or "This boy..." and the three individuals whom you consider "lowest" on this variable. The group identification number only of the individual you select is to be recorded in the boxes below.

1. Here is a boy who will fight but only if someone picks on him first.

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

2. Here is someone who will always fight back if you hit him first

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

APPENDIX B

3. Here is a boy who gets so mad sometimes that he doesn't know what he is doing

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

4. Here is someone who flies off the handle right away and is very hot headed

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

5. This boy gets very mad at times.

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

6. This boy starts a fight over nothing

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

APPENDIX B

7. Here is someone who is always looking for a fight

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

8. Here is a boy who gets mad while he is playing and ends up in a fight

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Highest	_____

9. This boy often threatens other boys.

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Highest	_____

10. This boy is always scolding when he is playing a game with other boys.

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Highest	_____

APPENDIX B

11. This boy makes up stories and lies about other children in the class

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

12. This boy tattles to the teacher about what other boys do

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

13. Here is a boy who breaks things that belong to others

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

14. List the three boys in your class who fight most and least with other boys

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

APPENDIX B

15. List the three boys in your class who say mean things and threaten other boys most and least.

FOR HIGH GROUP	Group Identification Number	FOR LOW GROUP	Group Identification Number
Highest	_____	Lowest	_____
2nd Highest	_____	2nd Lowest	_____
3rd Highest	_____	3rd Lowest	_____

APPENDIX C

APPENDIX C

Standardized Instructions Given to Subjects
Before Hostile Press Pictures

This is a test of your creative imagination. A number of pictures will be projected on the screen before you. You will have twenty seconds to look at the picture and then about four minutes to make up a story about it. Notice that there is one page for each picture. The same four questions are asked. They will guide your thinking and enable you to cover all the elements of a plot in the time allotted. Plan to spend about a minute on each question. I will keep time and tell you when it is about time to go on to the next question for each story. You will have a little time to finish your story before the next picture is shown.

Obviously there are no right or wrong answers, so you may feel free to make up any kind of a story about the pictures that you choose. Try to make them vivid and dramatic, for this is a test of creative imagination. Do not merely describe the picture you see. Tell a story about it. Work as fast as you can in order to finish in time. Make them interesting. Are there any questions? If you need more space for any question, use the reverse side.

APPENDIX D

APPENDIX D

Pictures Used to Elicite Hostile Press Stories

A. Father-Son Picture



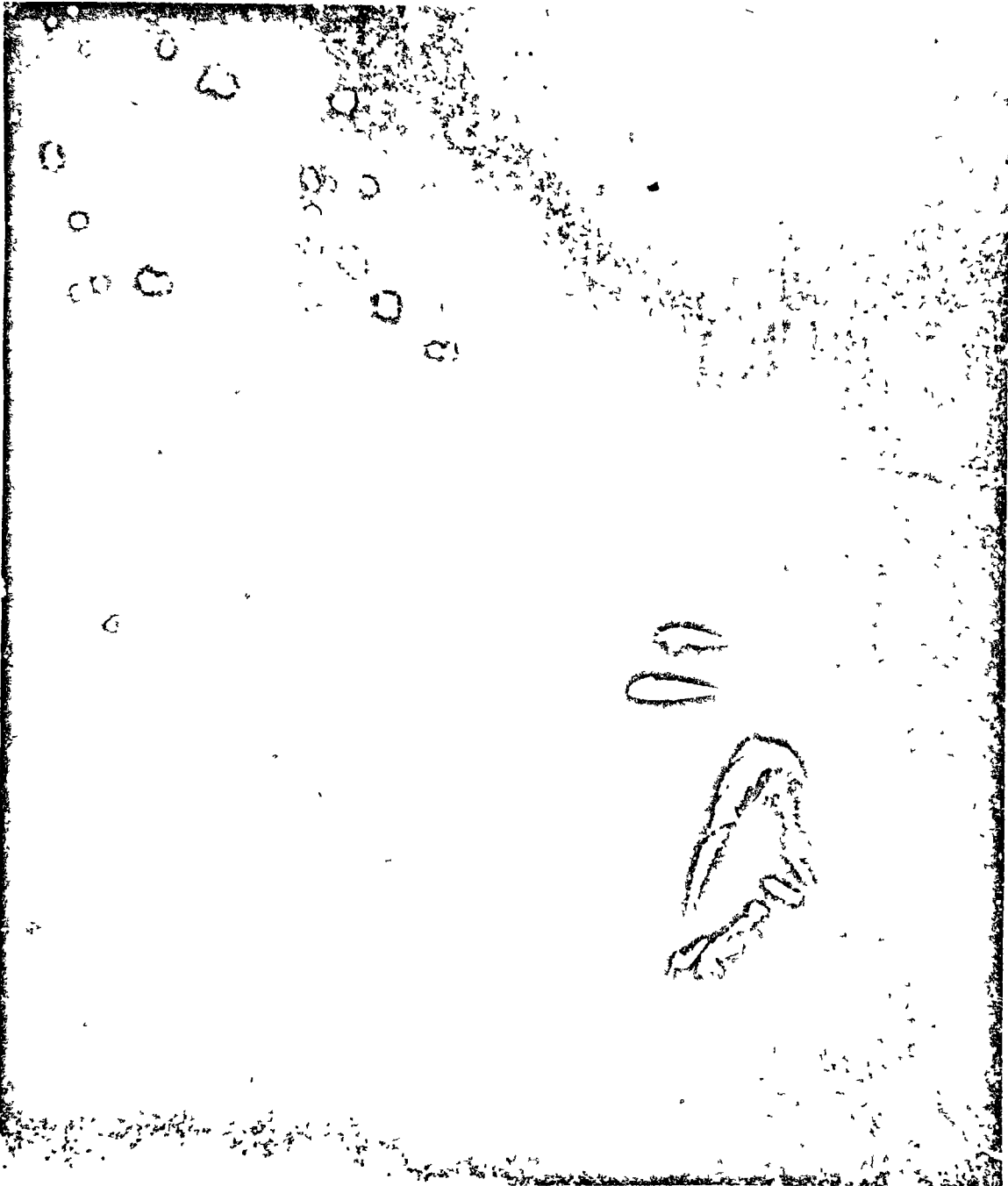
APPENDIX D

B. Boy in School



APPENDIX D

C. Man at Streetlamp



APPENDIX E

APPENDIX E

Example of Hostile Press Scoring System

The abbreviations in the right-hand column denote category and specific cases of imagery which are scored in the Hostile Press scoring system. The standard abbreviations follow:

None	Unrelated, not scorable
Rep.	Reprimand for personal actions
JRet.	Legal or judicial retaliation for action or alleged action
Dep.	Deprivation of affiliative relationships
HVEF	Hostile, vague environmental forces
VoP	Violation of privacy
ItC	Inducement to crime
DoB	Destruction of beliefs
MAslt.	Major assault on well-being
Fired	Character is fired from a job
Flunk	He is thrown out of or flunks out of school
F.S.A.	Failure with strong affect
Suicide	Suicide (G-is always infered in this case)
PwAff.	Pain with affect
Div	Divorce

Description of the Story
Scoring Categories

Imagery	Im	Content validated as sensitive to arousal operations and showing thematic quality around which a narrative can be organized.
Need	N	Statements of need, want, wish, or in some contexts, hope for need attainment or press removal.
Instrumental Activity	I+, -	Action (successful or unsuccessful) by someone in the story toward the thematic goal.
Goal anticipation	Ga+, -	Anticipation of goal attainment or loss.

APPENDIX E

Goal affect	G+, -	Statements of emotional involvement, positive or negative, with the goal or action leading to it.
Blocks	Bp	Obstacles to goal related action of a personal or environmental nature.
Personal		
Impersonal	Bw	
Thema	Th	A point is scored if the story is free from achievement Imagery.

APPENDIX F

APPENDIX F

Data on Mean Scores and Standard Deviation in
Twenty Classes on a Peer Rating Scale for
Aggression

Class	N	M	S.D.
1	12	5	53.1
2	13	.1	34.6
3	13	-2.15	36.5
4	10	-7.2	36.0
5	11	-2.4	53.3
6	16	-1.2	45.8
7	15	-9.4	40.2
8	16	-2.6	35.1
9	14	-.1	31.8
10	16	8.8	30.5
11	12	0	46.2
12	11	2.45	52.5
13	11	6.5	46.8
14	14	10.3	55.4
15	13	7	41.1
16	13	.4	42.1
17	17	7.0	41.1
18	11	-.4	40.1
19	11	-8.6	50.2
20	10	-8.4	44.0

APPENDIX G

APPENDIX G

ABSTRACT

Research concerned with the personality characteristics related to achievement has identified aggression as an important variable. Nevertheless, the nature of relationship between aggressions and achievement has not been fully understood as more than one type of aggression appears to be related to achievement. Students who manifest aggression overtly have been found to achieve at a lower level than those of comparable ability who do not show this characteristic. On the other hand students who manifest little aggression overtly yet manifest aggression in the form of hostility, have also been found to show low achievement when compared to students of comparable ability who do not show hostility. The relationships between these two different manifestations of aggression and achievement indicated that these two types of aggression might have different influences on achievement motivation.

This study was designed to examine and clarify the interrelationships among the two manifestations of aggressions, achievement motivation and achievement. The literature indicated that the overtly aggressive students might be inhibited by a low conscious value for achievement while the students who show little overt aggression might be inhibited by a more intrinsic type of motivation known as fear of failure.

APPENDIX G

Two hundred and sixty grade eight boys were tested using a battery of tests to evaluate aggression ability, value for achievement, fear of failure and scholastic achievement. The students were placed into high, moderate and low overt aggression groups and high and low ability groups. The three aggression groups were compared on value for achievement, fear of failure and achievement, when controlled for ability

The results of this study suggested that aggression, may be related to achievement at the high level of ability. However, the proposed relationships among aggression, achievement motivation and achievement were not found in this study. The results suggested that level of ability may be related to the two types of achievement motivation examined in this study. The achievement dynamics founds at the two levels of ability suggest that conscious value for achievement may be a manifestation of self-concept regarding achievement. It also appears that aggression may be related to the formation of a realistic academic self-concept