Ten boys and 16 girls from two Head Start schools in Massachusetts were administered two projective measures of aggression. A third measure was obtained from teacher rankings of behavior based on classroom conduct. For the projective measures, each child was asked to respond to three social situations as depicted by dolls and drawings. The child was to comment upon what he would do if placed into each situation. The situations could elicit an aggressive or nonaggressive response. The three social situations were (1) block play and swinging for boys, (2) doll play and painting for girls, and (3) a book situation for both sexes. Each response by a child in one of the situations was coded as aggressive or nonaggressive. The results showed that the girls in one Head Start school manifested the most aggressive behavior, with little difference between the sexes in the second school. It was also found that children who express more aggression on projective tests are more verbal and more cooperative. The correlations between the ratings of aggression on the projective tests and the rankings by the classroom teacher were low. (WD)
THE EXPRESSION OF AGGRESSION IN PRE-SCHOOL CHILDREN

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ABSTRACT

One behavioral and two projective measures of aggression were given to pre-school children enrolled in two Head Start summer sessions in Quincy and Lynn, Massachusetts. The projective measures were designed to elicit the expression of aggression in social situations. The situations were swinging, painting, playing with blocks or dolls and holding a book.

The frequency of aggressive responses given by the children was computed. There was no difference in the amount of expression of aggression in the two schools, but the girls in Quincy gave more aggressive responses than any of the other children. Possible factors relating to this were discussed. These included verbalness of females, greater familiarity with the experimenter, racial and age differences.

The behavioral measure did not elicit any overt aggression and the responses were coded for verbal and cooperative responses between the two partners. The responses of those children ranking high and low in the expression of aggression were compared. Children who expressed the most aggression were more verbal and more cooperative than those who expressed little or no aggression. This finding was discussed in terms of the relation between learning ability and the controlled expression of aggression.

The relationship between expression of aggression and ability to learn is the subject of a study currently being planned by the author. If this relationship can be shown, it will have implications for the kinds of programs set up for those children who have learning difficulties. The freeing of appropriate aggressive responses might lead to increased freedom to deal appropriately with other aspects of the environment, such as the learning situation.

1"The research reported herein was performed pursuant to a contract with the Office of Economic Opportunity, Executive Office of the President, Washington, D.C., 20506. The opinions expressed herein are those of the author and should not be construed as representing the opinions or policy of any agency of the United States Government."
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In the pre-school years, the child's interaction with peers increases and his mode of interaction changes. As he proceeds from solitary to cooperative play (Parten, 1943), he develops patterns of responding to and in these social situations. These response patterns include the expression of cognitions and emotions appropriate to the situation. The development of these response patterns at this time form the basis for other more sophisticated patterns of responses at a later stage of development. The expression of aggression is only one of these response patterns, but is an important factor in the child's socialization and in his general development.

Aggression is a natural human emotion which needs appropriate outlets (Bettelheim, 1966). Aggression can be dichotomized into 1) instrumental aggression: actions such as manipulating the environment and asking questions, 2) non-instrumental aggression: actions such as striking out at someone and damaging property (Beller, 1957). The management of aggression through controlled appropriate expression may be viewed as one of the precursors to the more complex response of assertion which is necessary for social development in general and for learning in particular.

The purpose of this study was to develop an instrument for measuring the expression of aggression by pre-school children in social situations. Pictures, dolls and hypothetical situations were initially used as projective measures of aggression. A measure of overt aggression using a block game was added later in the study. It was hoped that such instruments could be later used in a study of the expression of aggression as related to learning in pre-school children.

The present study was exploratory. No working hypotheses were developed prior to the study, but the findings suggested a hypothesis for further study.

METHOD

Subjects: The subjects were children from two classes in each of two Head Start populations. The schools were in Quincy and Lynn, Massachusetts. The children in the Quincy school were all white and of pre-kindergarten age. The atmosphere of the two Quincy classrooms was one of general permissiveness during free play at which time observations were made. There were 9 boys and 4 girls in one room and 8 boys and 6 girls in the other. The Lynn, Massachusetts, population consisted of both negro and white children who were to enroll in the first grade in the fall. The

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2 A complete description of the materials used will be found in the appendix.
children were more restricted, working at their desks, and were often engaged in specific learning tasks. These children were taken on many school sponsored trips during the summer. The make-up of one room was 6 boys and 4 girls; the other had 6 boys and 9 girls. The general family background (income and number of children) was the same for both populations. Due to absences in Lynn and refusals in Quincy, complete data was collected on 6 boys and 8 girls in Quincy and 4 boys and 8 girls in Lynn. The children who refused to look at the pictures or dolls seemed to be those who were having trouble adjusting to school and were "quiet," "shy," and cried during the first few days of school.

Procedure: Due to the classroom differences, testing time in Quincy extended over a longer period of time than in Lynn. The experimenters were in Quincy the first day the class met so that they were more familiar to these children than they were to the Lynn children. The children were seen individually within the classroom, and ongoing activities and play were not interrupted. Each child was asked to respond to three social situations depicted by dolls and drawings. The hypothetical question involved the child placing himself into the three situations. The three social situations involved block play and swinging for boys, doll play and painting for girls, and a book situation for both sexes. These situations were chosen because they reflected popular sex appropriate activities for this age. Each situation portrayed two same-sexed children, except for the book which had one boy and one girl. The situations could elicit an aggressive or a non-aggressive response. An aggressive response was defined as one in which one of the figures did something to the other or to the other's possessions such as pushing off the swing, hitting, or knocking over the blocks. Any other response was considered a non-aggressive response. The child was first asked if he wanted to see some pictures or dolls. After the child sat down, the experimenter brought out the pictures or dolls and said to the child, "Tell me what is happening." An example of the hypothetical questions is "what if you were playing dolls and another girl came over, what do you do?"

One experimenter worked with the pictures and another with the dolls. Children were never asked to respond to more than three situations at a time and were not presented with the dolls and pictures on the same day.

After all, the children had been questioned about the social situations, they were asked to play a block game in pairs. Any two children who volunteered to come at the same time were allowed to play; no attempt was made to systematically pair the children. The instructions were: "If you two can put all the blocks on one building, you each win a balloon. You have to take turns though. (First pointing to one child and then to the other) You put one on; then you put one on. You get three chances, but if all three buildings fall down, no one gets a balloon." The experimenter watched and noted what was said and done in the game. (The game used was Blockhead.3) It is virtually impossible to put all the blocks on one building and since no child won a balloon, the experimenter gave all children in the classroom a balloon.

As another measure of overt aggression all teachers were asked to rank order the children in terms of their display of aggression in the classroom. The children were rated during the last week of the summer session.

3See appendix
Results:

All responses were coded for aggression or non-aggression as defined above. Examples of aggressive responses are: "he pushed him off the swing," "they are fighting over the book;" non-aggressive responses were: "they are playing dolls nicely," "the paint spilled accidentally." No one expressed aggression during the block game; and therefore, it was coded for verbal or non-verbal interaction and for cooperation or non-cooperation during the three turns. Cooperation was considered any attempt to influence the other player, i.e., suggesting how to build, planning ahead, pointing at a block the other should use.

The results to be reported here are preliminary. More extensive data analyses are in progress. Long range analyses will compare the child's responses from task to task and within situations to determine whether the type of task or the situation calls forth differences in the expression of aggression. The following analysis is based on the responses to the pictures and the dolls. The analyses were of six responses (3 responses to pictures and 3 responses to dolls) instead of the nine elicited. The hypothetical questions were not included because it was difficult to standardize the questioning. All the children were asked the original questions, but if they gave no answer, the experimenter would reword the question suggesting that the hypothetical person in the situation came over to aggress. There is a possibility that this may be a useful measure as it has the potential for eliciting "true-to-life" responses.

Table I shows the frequency distribution of aggressive responses for all children. The greatest number of responses each child could give was six (3 for the picture and 3 for the dolls).

TABLE I

<table>
<thead>
<tr>
<th>Number of Aggressive Responses</th>
<th>Quincy Male</th>
<th>Quincy Female</th>
<th>Lynn Male</th>
<th>Lynn Female</th>
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<td>3</td>
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<td>1</td>
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</table>

All children except two expressed aggression. The task does allow for the expression of aggression. A greater sex difference was found in the Quincy population; the girls expressing the most aggression. In order to ascertain if there are differences between those who scored high on expressed aggression and those who scored low, the block game responses were analyzed for those children who expressed less than two and more than five aggressive responses, 5 and 7 subjects respectively. For those who scored high on aggressive responses, 7 of the 15 possible responses in the block
game were verbal and 8 of the 15 were cooperative; whereas for those who scored low on aggressive responses, 4 of the 21 possible responses were verbal and 6 of the 21 responses were cooperative.

The correlations between our ratings of aggression and the rankings from the teachers' was approximately -.20 indicating little agreement between the teacher's ratings of overt aggression and our measure of expressed aggression.

DISCUSSION

Although one might have expected the differences in the environment to produce differences in the total amount of expressions of aggression, none were found.

In Quincy, the girls expressed more aggression than did the boys—a finding not in agreement with the literature. (Sears, 1951). Perhaps in a more permissive atmosphere, girls are able to express their aggression verbally and the boys express it motorically. In the more "formal" setting, the sex difference in expression is not as great. There are many other possible influences on this factor: age and racial differences, degree of familiarity with experimenters, and classroom atmosphere.

A comparison of the highest and lowest expressers of aggression indicates that children who express more aggression on projective tests are more verbal and more cooperative, at least in the game situation used here. It is possible that the highly verbal, cooperative child expresses more aggression because he is verbal, but this did not seem supported here, since low aggressive children were also verbal when telling stories.

It is felt that verbalization and cooperation are two important aspects of both social development and school learning. The child who can express aggression in controlled situations where it is likely to be appropriate is probably more able to socialize and learn. These children can relate cognitively to their environment. Those who could not see or express aggression could not verbalize or cooperate and may possibly have difficulty in social or learning situations.

CONCLUSION

The projective measures developed in this study appear to be indicative of the child's ability to express aggression although they were not related to the teacher's rating of overt aggression. Perhaps the projective expression of aggression is related to instrumental aggression, as discussed earlier. The children who were not able to express aggression in the projective situations were those who were less verbal and less cooperative on a task that involved some foresight.
REFERENCES


APPENDIX

The following is a description of the pictures used in this study:

1. A boy is kneeling by some blocks and a building is ready to topple. Another boy is standing nearby and looking at the situation.

2. A boy is lying on the ground in front of a swing while another boy is standing slightly to the rear of the swing.

3. A girl is playing with dolls. The play area is "messy" and an arm is broken off one doll. Another girl is standing nearby.

4. A girl is at an easel with a paint brush in her hand. One can of paint is tipped over and the paint is spilling. Another girl is standing near the easel with

5. A boy and a girl are standing and both are holding the edges of the same book.

The dolls used in the study are manufactured by Creative Playthings in Princeton, New Jersey. The dolls were put into the same situations as described above using a shoe box as a background.

The hypothetical questions dealt with these same situations and were generally worded: "What if you were (painting, playing with blocks) and another boy (girl) came over, what do you do?"

The block game is a commercial game called Blockhead, a Saalfield Artcraft product. The game consists of blocks of various shapes and colors.