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THE RELATIONSHIP BETWEEN GENERALIZED ANXIETY IN  
"MOTHERS AND SOCIAL ACTIVITY IN THEIR  
CHILDREN'S FREE PLAY

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MOTHERS AND SOCIAL ACTIVITY IN THEIR  
CHILDREN'S FREE PLAY

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A Thesis Presented to  
the Faculty of the Department of Psychology  
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Master of Arts

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by  
David L. Tate  
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## ABSTRACT

The relationship between generalized anxiety in mothers and social activity in their children's free play was investigated by means of a behavior check-list and the Taylor Manifest Anxiety Scale. Thirty-six children were observed in three different nursery schools or day-care centers for ten days. These observations of their play was correlated with their mothers' anxiety scores and a small negative correlation, significant at the .10 level, was found. Analyses of variance were calculated among groups of nursery schools. These indicate that the children were more socially active toward children in the non-university-operated program and more socially active toward adults in a program that had more adults available. It also indicated that boys in the non-university program were less inclined to social interaction with adults than were the girls.

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## INTRODUCTION

There has been a great deal of research done in the area of anxiety. However, very little has been done in the direction of the effects that anxiety in one person has on another person. It seems likely that some effects should be found, especially in close relationships, such as a mother-child relationship.

The Taylor Manifest Anxiety Scale (Taylor, 1953) is a widely used measure of generalized anxiety, as opposed to more specific situational anxiety tests such as the test anxiety test developed by Mandler and Sarason (1952). Scores on the Taylor Manifest Anxiety Scale have been correlated with direct observations of behavior by a number of researchers. Hoyt and Magoon (1954) asked eight college counselors to rate their 289 clients as low, medium, or high in anxiety after defining manifest anxiety in behavioral terms. The correlation between counselor ratings and manifest anxiety scale scores was .47. Buss (1955) and Buss, Wiener, Durkee, and Baer (1955), in essentially the same experimental design, found .60 correlations between the anxiety ratings of four psychologists and scores on the manifest anxiety scale. In both studies, four clinical psychologists interviewed 64 patients and following each interview each psychologist rated each



patient. The latter study differed from the former in that the latter had a clearer behavioral definition of anxiety. Using a rating scale developed by Shatin (1961), a psychiatrist rated forty male psychiatric patients. The total pathology score from this rating correlated .45 ( $p < .01$ ) with manifest anxiety scale scores. Three psychologists and a psychiatrist independently rated forty-four patients referred for psychiatric consultation for anxiety in a study by Lauterbach (1958). Although the psychiatrist's rating was not related to manifest anxiety scores, the combined ratings of the three psychologists correlated .44 ( $p < .01$ ) with manifest anxiety scores. The interjudge reliability for the psychologists was .78 to .80, but their rating was unrelated to the rating of the psychiatrist.

The Taylor Manifest Anxiety Scale has also been correlated with other personality measures of anxiety. Goodstein (1954) used a Rorschach scoring system for anxiety and achieved a correlation of .38 ( $p < .01$ ) between that score and scores on the manifest anxiety scale. His group consisted of 57 college undergraduates. Stewart (1958) utilized a Q-sort technique with adolescent boys and with their mothers. The boys performed a sort as they thought they were, as they thought was ideal for them, and as they thought their mothers thought their ideal was. Their mothers sorted as they thought their son's were and as they thought was ideal for their sons.

The amount of discrepancy between the boy's sort of themselves as they are and the mother's sort of how they saw themselves ideally was correlated .49 ( $p < .01$ ) with manifest anxiety scores. The discrepancy between how the boys saw themselves and how they thought their mothers wanted them to be ideally was correlated with manifest anxiety scores. The correlation was .25 ( $p < .05$ ).

Manifest Anxiety Scale scores have been found to correlate negatively with measures of intellectual ability. Calvin, et. al. (1955) compared the Wechsler Bellevue Intelligence Scale with manifest anxiety scores. Using a group of 51 undergraduate students a correlation of  $-.31$  ( $p < .05$ ) was revealed. This study was first done with non-significant results, with 36 students enrolled in a psychology class. The results became significant when a group of 15 students experiencing scholastic difficulty was added. Spielberger (1958) found correlations ranging from  $.04$  (N.S.) to  $-.34$  ( $p < .01$ ) between the ACE college test and manifest anxiety for groups of students entering Duke University over several semesters.

A reading of the items of the Taylor Manifest Anxiety Scale (Taylor, 1953) reveals that a person with high generalized anxiety believes that he tires quickly, has more nausea and headaches than other people, generally has trouble with his digestive tract, works under a lot of tension, is easily embarrassed, is more sensitive, worries a lot, has trouble sleeping, has little self-confidence, and

finds it true that "life is a strain for me much of the time. (Taylor, 1953)." A person who scores as having high anxiety on this test must affect the people surrounding him in some way. This person's orientation and focus must be on himself more than is normal due to his real or perceived troubles. He expends more effort just getting through the day than do other people, thus leaving less energy for significant interpersonal interactions. The personality picture is too extreme not to have an influence, and some effort needs to be expended to determine what these effects are.

High anxiety does affect a person's attitudes toward himself and others. Suinn and Hill (1964) found that "high anxiety subjects may then be characterized as being somewhat dissatisfied with themselves and somewhat dissatisfied with others." They found "A significant negative correlation, i.e., the higher anxiety, the lower the self-acceptance or acceptance of others." This, also, points to some type of definite effect that an individual with a high anxiety score could have on the people with whom he has a significantly close relationship.

Becker, (1959) in a study relating the factors in parental behavior and personality to problem behavior in children, found that the mothers of problem children "tended to be active (tense), dictatorial, thwarting, and suggesting...". This points up the very obvious effect that parents have on their children's personality. Simply that a child is with

his parents more than anyone else is significant. The fact that the parents are the sole source of food, the most powerful reinforcer, during childhood, is significant. Also, as the child is growing up, the interaction that takes place between parents and child is probably the most important part of the child's waking world until the child becomes increasingly less dependent on his parents as he gets older. This would probably be true regardless of the quality of that interaction. This presents a picture of the parents as the most significant and the most influential persons in the child's environment; and in the western culture, the mother is typically this important caretaker. Due to the powerful influence that this significant person has on her child, any definite and pervasive personality characteristic of the mother, such as high generalized anxiety, would logically tend to be related to some corresponding identifiable set of behaviors on the part of her child.

The purpose of this study is to ascertain if there is a relationship between social activity in children and the anxiety level of their mothers.

## METHOD

### Subjects

The subjects were 36 children between the ages of two years and five months and four years, and these children's mothers. All children between these ages who were regularly attending one of the three nursery schools or day-care centers observed were included in the sample.

Seventeen subjects were drawn from a university-operated nursery school and the remainder were drawn from two day-care centers. Over half of the children in the university-operated center were from faculty families and the remainder were from families headed by professional or business men. The cost of attending this program is considerably more than the cost of the other two programs. Twelve subjects were drawn from a church-owned and operated day-care center. The children from this program were predominantly from student families, factory workers' families, or office workers' families. The third program, which contributed seven subjects, is a privately owned and operated day-care center with families very similar to those of the church-operated program.

### Procedure

At the beginning of the study, each mother who had agreed to participate in the study was given the Taylor Manifest Anxiety Scale to take home, complete, and return at her leisure. At the same time, observations began on

the children. The observations took place during a period of unstructured free play. The observer was present and visible in the play area, but refrained from interacting with the children. Each child's behavior was observed by a random time sample method on ten different days over a period of three weeks. Each subject was observed twice each day for a period of fifteen seconds and his behavior during that time period was recorded on a behavior check list which is found in Appendix A. When more than 20 per cent of the children were not present, no observations were made. On this sheet, the child received two checks if he was actively engaged in some type of ongoing play excluding simple listening or observing. In addition, the subject received one check each for each of the following conditions applicable to his activity: (1) talking, (2) physical contact, (3) within two feet of one child, (4) within four feet of one child, (5) within four feet of two or more children, and (6) facing a child (if any of the preceding three conditions prevailed). For example, if three boys were playing in a line on a climber by pretending they were jumping into water, they would receive checks in categories two, three, four, and five but not one and six because the boys were in line, one behind the other and they were not talking. Three girls playing house in a kitchen, one telling the others what to do next would receive checks in categories one, three, four, five, and six. A child standing in a corner by himself deciding what to do

next would receive no checks. Two children coloring beside one another would receive checks in categories three and four. A child would receive a check if he were talking to himself or others but his words had to be recognizable as words. A sentence was not necessary to receive a check on talking. The more a child tended to be very near to other children, to play with them, to face and talk to them, the more checks he received on his behavior check list. These same categories were checked if that child engaged in any of the above-listed behavioral categories with an adult. Thus, three scores were arrived at which might be called the child's social activity score: A social activity score toward other children, a social activity score toward adults, and a total social activity score which is a combination of the two.

One week of observation was devoted to rater reliability. This week served the dual purpose of getting the children used to the presence of a rater and increasing the skill of the rater in using the behavior check list. A teacher in the university-run nursery school was chosen at random and she and the rater observed the same child at the same times throughout one week. No evaluation was made between the two checksheets until the week was over. A 96 per cent agreement, considering each item rather than scores, was achieved on the last day of this period.

## RESULTS AND DISCUSSION

Table 1 presents the correlations between the mother's anxiety score and each of the three social activity scores and between the child's age and each of the three social activity scores. Correlations near zero were found between the social activity scores and the child's age. Therefore, it appears that within this narrow age range, social activity is not related to age.

However, the data does tend to indicate that there may be a trend pointing toward an inverse relationship between the child's total social activity score and their mothers' anxiety score. When the total social activity score was correlated with the mothers' anxiety score, the correlation fails to be significant at the .05 level, but the probability level is between .10 and .05, as Table 1 indicates. Even though this small correlation accounts for only nine per cent of the variance, it tends to indicate that additional research should be conducted in this area. Generally, the correlations reported in the literature in which the Taylor Manifest Anxiety Scale is used are low, between .25 and .60, with the majority in the area of .30 to .50. (Buss, 1955; Buss, et. al., 1955; Calvin, et. al., 1955; Goodstein, 1954; Hoyt and Magoon, 1954; Lauterbach, 1958; Shatin, 1961; Spielberger, 1958; and Stewart, 1958.) If additional research indicates this inverse relationship generally holds true, then it could prove a very useful



TABLE 1  
CORRELATIONS

	<u>Taylor Manifest Anxiety Scale</u>	<u>Child's Age</u>
Total Social Activity Score	*-0.301	0.004
Adults' Social Activity Score	-0.194	-0.015
Children's Social Activity Score	-0.157	0.020

\* $p < .10 = 0.275$

$p < .05 = 0.325$

$p < .01 = 0.418$

fact to mothers and nursery school teachers alike. Such a pre-indication of a tendency toward lower social activity could serve to pre-structure the social environment of that group in the nursery school to facilitate social interaction. Also, for a mother to be aware that a certain personality characteristic in herself could tend to have certain affects on her child might help her modify that effect.

One possible source of uncontrolled variance could possibly be the quality of the interactions between the adult teachers and children. In the program which was run by the university, the nursery school was used as a laboratory for students of child development. These students were graded on their performance with the children. This probably induced them to try harder than those teachers in other programs whose job it was to look after the children. This and the fact that there were more teachers per child in the university program as opposed to the church and private programs, could account for some of the uncontrolled variance.

Table 2 presents the means and the S.D. of the social activity scores separately for each school involved in the study. The mean adult social activity score for the university program was 54.12, whereas the means for the church and private programs were 36.75 and 31.00, respectively. This order was reversed, however, in the children's social activity means with a 57.24 for the

TABLE 2  
 SOCIAL ACTIVITY MEANS AND STANDARD  
 DEVIATIONS FOR EACH PROGRAM

	Total Social Activity		Children Social Activity		Adult Social Activity	
	Mean	SD	Mean	SD	Mean	SD
University Program (N=17)	111.35	11.88	57.24	13.38	54.12	10.03
Church Programs (N=12)	104.42	21.54	67.67	15.37	36.75	11.28
Private Program (N=7)	98.14	14.07	67.14	11.73	31.00	4.10

university program, a 67.67 for the church program, and a 67.14 for the private program. Combining the two scores into a total social activity score results in a university program mean of 111.35, a church program mean of 104.42, and a private program mean of 98.14. On the S.D. of the subgroups there is a tendency of the variance not to be homogenous. Although there were three nursery schools, a more satisfactory comparison could be made by combining the two non-university operated schools, as the two contributed 19 subjects and the university-operated one, 17 subjects. Total social activity did not differ significantly; however, the social activity with children was significantly higher in the non-university operated nursery schools than in the university-operated. The mean scores were found to be 67.53 and 57.23, respectively. This data, along with the means and standard deviations for males and females in the university program and the non-university program is presented in Table 3.

One may question whether the differences in samples may have led to spurious correlations between mothers' anxiety level and childrens' social activity. Therefore, an analysis of variance was computed for scores for mothers' anxiety. The results, which Table 4 presents indicate that the mothers' anxiety scores are not significantly different among the groups. It is also of interest to determine if social activity differed significantly between sexes or nursery school types. Consequently, a two-way analysis of

TABLE 3

MALE, FEMALE, AND TOTAL MEANS AND STANDARD DEVIATIONS FOR SOCIAL ACTIVITY SCORES

	Total Social Activity		Children Social Activity		Adult Social Activity		
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
University Program (N=17)	Male	115.20	11.80	62.60	10.10	52.60	7.57
	Female	105.86	11.45	49.57	14.10	56.29	13.77
	Total	111.35	11.88	57.24	13.38	54.12	10.03
Non-University Program (N=19)	Male	97.00	17.25	68.75	13.82	28.25	6.61
	Female	105.82	21.64	66.55	15.62	39.77	9.61
	Total	102.11	19.45	67.47	14.14	34.63	9.71

TABLE 4  
MOTHER'S ANXIETY

Analysis of Variance

	Sum of Squares	df.	Mean Square	F
Groups	29.4468	2	14.7234	.4257
Error	1141.3032	33	34.5849	
Total	1170.75	35		

variance was computed for total social activity, social activity with children, and social activity with adults. These results are presented in Tables 5, 6, and 7, respectively.

The most important findings emerged on the factor of social activity with adults. As Table 7 reveals, the F ratios for both the type of nursery school and interaction between nursery school and sex are significant at the .01 level. Contrary to the finding about the social activity level with children, the social activity with adults was significantly higher for the university-operated nursery school than for the non-university-operated, the mean being 54.12 and 34.63, respectively. This may be the result of the presence of a greater number of adults in the university program and may support the contention that there is pressure on the students to interact with the children.

To examine further the sex and nursery school interaction revealed in Table 7, one should refer to Figure 1. It is evident not only that nursery school children in the university program interact more with adults but also that a greater tendency exists among the males to interact with adults in comparison to males in non-university operated schools. Note that the boys' mean score on social activity with adults in the university program almost equals the mean score of the girls (52.60 Versus 56.29), while the corresponding mean scores in the other program are more divergent (28.25 for boys and 39.27

TABLE 5  
 TOTAL SOCIAL ACTIVITY  
 ANALYSIS OF VARIANCE

Source	Sum of Squares	df	Mean Square	F
Nursery Schools (A)	767.3003	1	767.3003	2.876
Sex (B)	14.6944	1	14.6944	.055
A X B	704.8840	1	704.8840	2.267
Error	8538.0935	32	266.8154	



TABLE 6  
 SOCIAL ACTIVITY WITH CHILDREN;  
 ANALYSIS OF VARIANCE

	Sum of Squares	df	Mean Square	F
Schools	940.5096	1	940.5096	5.109*
Sex	261.3616	1	261.3616	1.419
Schools X Sex	460.0838	1	460.0838	2.499
Error	5890.3510	32	184.0735	
TOTAL	7552.3060			

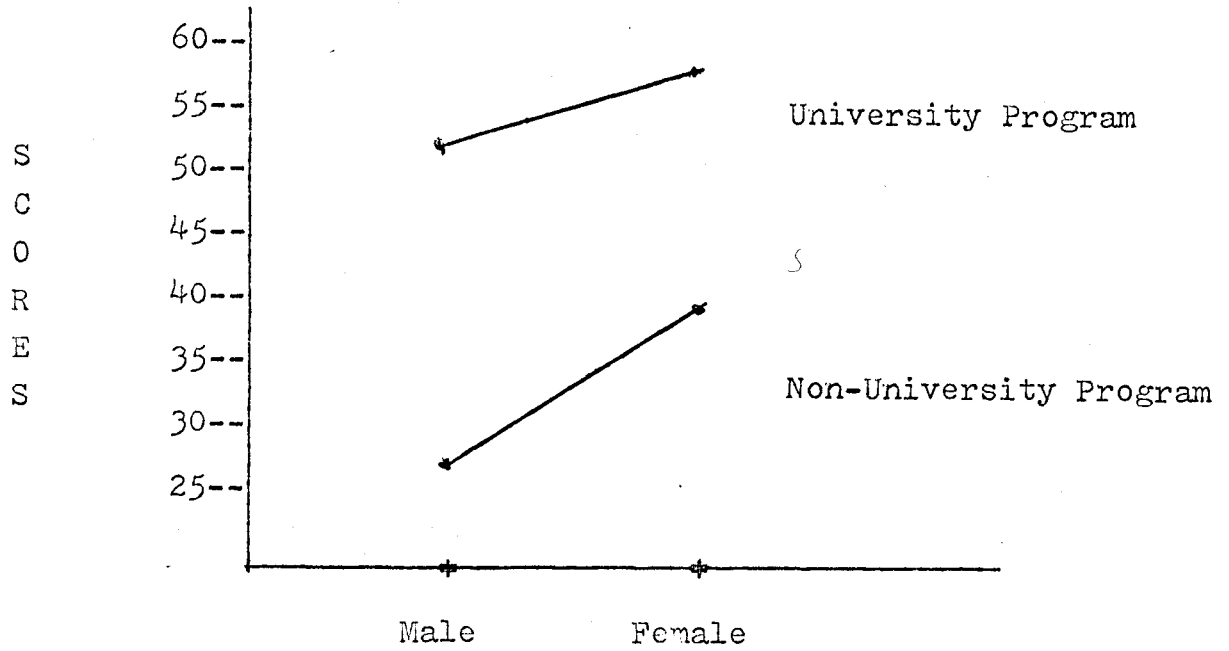
\*p. < .05.

TABLE 7  
 SOCIAL ACTIVITY WITH ADULTS:  
 ANALYSIS OF VARIANCE

Source	Sum of Squares	df	Mean Square	F
Nursery Schools (A)	846.84	1	846.84	9.398**
Sex (B)	152.11	1	152.11	1.688
A X B	3026.54	1	3026.54	33.587**
Error	2883.51	32	90.11	
TOTAL	6909.00			

\*\*p < .01.

Figure 1  
Social Activity With Adults



for girls). One may be tempted to speculate that this is an indication of greater feminization of the more affluent, but it could be said with equal validity that these children are less fearful of adults and unhesitatingly interact with them socially.

#### SUMMARY AND CONCLUSION

The purpose of this study was to determine if there is a relationship between the social activity of nursery school children and the anxiety level of their mothers. No significant correlation was found; however, the data tended to indicate an inverse relationship between mother anxiety and the child's social activity toward adults and children. The higher the anxiety, the lower the social activity. The relationship was significant at the .10 level of significance. A replication of this study utilizing a large sample drawn from a single school would possibly prove significant.

A difference in the behaviors of the children was found among the three different nursery schools. In the university program, the child-adult social activity scores were higher than average and the child-child social activity scores were lower than average. The structure of this program seems to facilitate child-adult interaction. This was supported by analysis of variance data among groups. The structure of the church program and of the private program seems to facilitate child-child interaction.

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APPENDIX



APPENDIX A  
BEHAVIOR CHECK LIST

		.15 second observation period			
Place:		Name of Student	Name of Student	Name of Student	Name of Student
Date:					
Comments:					
Actively Engaged in Any Type of Ongoing Play (Not listening and/or observing)					
Talking					
Physical Contact					
Within 2 feet of 1					
Within 4 feet of 1					
Within 4 feet of 2 or more					
Facing (if any of above 3)					
<b>TOTAL NUMBER</b>					
Actively Engaged in Any Type of Ongoing Play (Not listening and/or observing)					
Talking					
Physical Contact					
Within 2 feet of 1					
Within 4 feet of 1					
Within 4 feet of 2 or more					
Facing (if any of above 3)					
<b>TOTAL NUMBER</b>					

