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EMERGENT ACADEMIC SKILLS: GENDER DIFFERENCES IN THE  
RELATIONS WITH EXTERNALIZING BEHAVIOR PROBLEMS AND PEER  
RELATIONSHIPS IN HIGH-RISK PRESCHOOLERS

A Thesis Presented

by

REBECCA M. STOWE

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements for the degree of

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Psychology

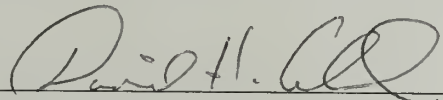
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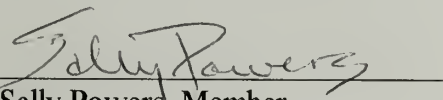
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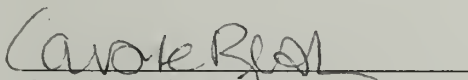
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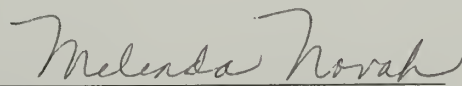
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## ABSTRACT

# EMERGENT ACADEMIC SKILLS: GENDER DIFFERENCES IN THE RELATIONS WITH EXTERNALIZING BEHAVIOR PROBLEMS AND PEER RELATIONSHIPS IN HIGH-RISK PRESCHOOLERS

FEBRUARY 1997

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The present study was conducted to determine if there are gender differences in how emergent academic skills are related to disruptive behavior and peer relationships. One hundred and eighty-five mostly minority, preschool children from low income families participated in this study. Videotaped observations were coded to assess disruptive behavior and off task behavior in group learning situations. Teacher ratings of child disruptive behavior and the quality of children's peer relationships were collected, and emergent academic skills were assessed with standardized tests of language skills. Information about referrals to special academic services were collected. Higher levels of disruptive behavior and poorer peer relationships were more strongly associated with lower levels of emergent academic skills for boys than for girls. Teacher perceptions of disruptive behavior were strongly related to the probability that a child would be referred for special academic services. There was no significant difference between the percentage of off-task behavior which was disruptive for boys and girls who were off-task. The results suggest that girls' preacademic problems may be less visible in the preschool classroom than those of boys.

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# CHAPTER 1

## INTRODUCTION

### Learning Problems

Persistent learning problems are of concern to both researchers and society. Such problems are associated with school avoidance, declines in self-esteem, and other negative outcomes (Hinshaw, 1992a). Because of this, it is important to identify children with learning difficulties as early as possible. Scarborough (1989) found that children's expressive language skills in preschool were correlated with their reading skills in second grade. Other studies have found relationships between language abilities in kindergarten and reading skills later in elementary school (Butler, Marsh, Sheppard & Sheppard, 1985; Pikulski & Tobin, 1989). This relationship between preschool language ability and later academic performance suggests that children who are at risk of later academic failure can be identified while they are still in preschool and before associated problems become entrenched.

Recent research suggests that girls' learning problems may be underdiagnosed due to gender differences in co-occurring externalizing behavior problems, which occur more frequently in boys (Hinshaw, 1992a; Shaywitz, Shaywitz, Fletcher, & Escobar, 1990). It has been suggested that the higher number of boys referred for special programs is related to their higher rate of externalizing behavior problems, because such boys demand more teacher attention than girls, who are not as disruptive as boys and are more manageable in the classroom (Morgan & Dunn, 1988; Phipps, 1982). Shaywitz et

al. (1990) compared two groups of second and third grade children who had been identified with reading disability. One group was identified using research criteria, while the second group consisted of children whom schools had identified as having reading disability. In the research criteria identified group, there was no difference in the prevalence of reading disability between boys and girls. However, in the school-identified sample, significantly more boys than girls had reading disability. Additionally, children identified by schools had more behavioral problems than did the children identified by research criteria. These data are consistent with the notion that boys may be referred more often for academic problems, not because they have more of them, but rather because their disruptive behavior makes them more noticeable.

In a purely qualitative and interpretational study of 4 to 7-year-old children, Morgan and Dunn (1988) proposed the idea of "visible" and "invisible" children in the classroom. "Visible" children were those children who had either a positive or negative high profile in the classroom. They were more likely to be boys. In contrast, "invisible" children were less noticeable, infrequently drew attention to themselves, and their presence did not seem to affect the classroom. Among the invisible children, the majority of whom were girls, were the shy children, the anxious children, and the "marginal survivors". The "marginal survivors" were those children who found learning difficult and who used their "invisibility" as a way of concealing their difficulties. Girls with difficulties in learning situations preferred to keep quiet and try to hide their uncertainty, while boys were more likely to demand teacher attention by being disruptive. The implications of Morgan and Dunn's observations are that girls' learning

difficulties could go unnoticed by teachers, whereas boys' problems would be more noticeable. Morgan and Dunn's study (1988) is important because they looked directly at classroom behavior to see what happens to girls with learning difficulties. Further studies are required to investigate whether quantitative data support their observations.

### Learning Problems and Externalizing Behavior Problems

There has been much research suggesting that learning problems and externalizing behavior problems co-occur in boys (for a review see Hinshaw, 1992b). Such research has focused on boys because externalizing behavior problems are more prevalent in boys than in girls (Hinshaw, 1992a); it has not examined specifically whether girls with academic problems also exhibit behavior problems in the classroom.

It may be that girls with academic problems do not exhibit elevated levels of disruptive behavior in the classroom. Several studies have found that aggressive behavior in toddler and preschool aged girls tends to be ignored by peers and adults, while reinforced in boys (Fagot, 1984; Fagot & Hagan, 1985; Serbin, O'Leary, Kent, & Tonick, 1973). Thus girls may learn that aggressive and disruptive behavior will not effect change in their environments (Fagot & Hagan, 1985). Indirect support for this notion comes from deHaas and Young (1984), who found that although hyperactive girls in the first and second grades had short attention spans and poor concentration, they presented few conduct problems in the classroom, in contrast to their male counterparts.

### Implications for Peer Relationships

Research on peer rejection in childhood has shown that many children who display aggressive and disruptive behavior are also rejected by peers (Coie & Cillessen, 1993; Olson, 1992; Olson & Brodfeld, 1991). It has been suggested that frustration in learning situations may play a role in the relationship between peer rejection and disruptive behavior (Homrok, Arnold, Ortiz, & Stowe, 1995). However, as research discussed earlier has suggested, acting out in difficult learning situations may not be a strategy used by girls. Thus, academic problems may be related to peer rejection in boys but not in girls. If so, boys' peer rejection in learning situations may add to their visibility in the classroom and attract teacher attention. At the same time, if there is no link between academic problems and peer rejection during learning situations for girls, this may add to their invisibility, because teachers may view them as functioning well in the classroom peer group.

### The Present Study

Studies examining the correlates of preacademic difficulties in preschool girls are badly needed. The present study was intended to be a first step in this area by examining whether two possible correlates of learning problems differ in girls and boys. The present study explored the so-called "invisibility" of girls' preacademic problems in the preschool classroom by examining whether there are gender differences in how levels of emergent academic skills are related to disruptive behavior and peer rejection in high-risk preschool children. Early identification of learning problems and subsequent interventions are particularly important for these children.

It was hypothesized that the level of emergent academic skills would be associated more strongly with higher levels of disruptive behavior for boys than for girls. It was expected that boys' off-task behavior would be more likely to be disruptive than that of girls. Additionally, it was predicted that the quality of children's peer relationships would be more strongly related to their levels of emergent academic skills for boys than for girls. Finally, it was hypothesized that the probability of being referred for special academic services would be related not only to a child's academic difficulties, but also to how disruptive he or she was in the classroom.

## CHAPTER 2

### METHOD

#### Participants

Participants were 185 preschool children (91 girls and 94 boys) and 16 teachers from 9 classrooms in a day care center in Springfield, Massachusetts. The center provides care to children from low-income families. Such children are at a very high risk of future academic problems and negative outcomes. The mean age of children was 54.9 months ( $SD = 12.1$ ). Sixty-eight per cent of these children were African American, 27% were Latino, and 5% were European American.

#### Procedure

Each child was tested on three tests of language ability, and teachers filled out rating forms of child disruptive behavior and how well children related with peers as part of a larger study. Videotaped observations of each classroom were collected for a larger study. For the present study, 10 minute videotaped segments of group circle times involving learning activities, such as listening to storybooks or talking about shapes, were coded. For one classroom, a 9 minute segment was used because a 10 minute segment was not available. These tape segments were randomly selected. Each of 124 children was individually observed by one of two undergraduate research assistants, however, some children were not visible on-camera for some parts of the segments. Twenty-nine children were not visible on-camera for at least 4 minutes and were excluded from the observational data. Observations of the 95 remaining children (a total of 938 minutes of coded segments) were used for the analyses. Ten minute samples



were chosen because previous studies indicated that this was sufficient time to obtain stable estimates of disruptive behavior and on and off-task behavior (e.g. Arnold, 1996). Additionally, these relatively short segments made a larger sample possible, and this increased power was thought to counteract any potential loss in reliability. One-third of each observer's ratings overlapped with those of the other observer to allow for estimates of inter-rater reliability. Coders were unaware of which segments were checked for reliability. The coders had no information about the children and were unaware of the hypotheses of the study.

## Measures

### Child and Teacher Behavior

In every interval, the observers noted whether the child was on-task (attending to the learning activity), off-task (not attending to the learning activity), or if these were not applicable (for times when the learning activity had stopped temporarily). If a child was coded as off-task, observers also coded whether the behavior was disruptive or nondisruptive. Disruptive off-task behavior was coded for behaviors such as running around or making loud noises, which disrupted the learning activity for either teachers or other children. Non-disruptive, off-task behavior involved behavior, such as sitting quietly and not attending to the lesson, or talking quietly with another child, that did not make it difficult for other children who were trying to pay attention to the lesson to do so. Talking with another child was not coded as disruptive unless the other child was bothered by it (e.g. was trying to pay attention) or unless it distracted another child not involved in that conversation.

### Emergent Academic Skills

Expressive vocabulary skills were measured by the One-Word Expressive Vocabulary Test-Revised (One-Word; Gardner, 1981) and the verbal expression subscale of the Illinois Test of Psycholinguistic Ability (ITPA; Kirk, McCarthy, & Kirk, 1968). Receptive vocabulary skills were assessed with the Peabody Picture Vocabulary Test-Revised (PPVT-R; Dunn & Dunn, 1981). Both the PPVT-R and the One-Word are standardized and have good normative data and demonstrated reliability and validity. The ITPA also has normative data and demonstrated reliability and validity; it was included as a standardized test of verbal fluency.

### Teacher Ratings and Referrals

Teacher ratings of how well children related with peers were made on a scale of 1 (does not get along well with other children) to 7 (gets along well with other children). Teacher ratings of how difficult a child was to handle in the classroom were made on a scale of 1 (easiest) to 7 (most difficult). Information about which children were referred for special academic services was collected from the administration of the day care center.

## CHAPTER 3

### RESULTS

#### Descriptive Information and Variable Formation

##### Descriptive Information

There were a total of 185 children (91 girls and 94 boys) in the sample. However, because of child absences, there were not complete data (test scores, teacher ratings, and observational measures) for all of these children. Teachers rated how difficult children were to handle in the classroom and the quality of peer relationships for 161 children. Test scores were obtained for 160 children. Observational measures were collected for 124 children, but 29 of these children were not visible on camera for at least 4 minutes of the video clips and were thus dropped from the analyses, leaving observations of 95 children (44 girls and 51 boys). The means for girls and boys for test scores, teacher ratings and observational measures are presented in Table 1 on page 10. Girls and boys had similar scores on the tests of emergent academic skills. Children, on average, were 10.8 months or 1.2 standard deviations below national age level norms on the One-Word, 14.3 months or 1.6 standard deviations below national age level norms on the PPVT-R, and 9.7 months or .7 standard deviations below national age level norms on the expressive language subscale of the ITPA, suggesting that, consistent with their high-risk status, these children are at risk of future academic failure.

Table 1. Means and standard deviations for girls and boys. Observational measures are presented in terms of the number of intervals during which a given behavior occurred. For teacher ratings of how difficult a child was to handle 7 = most difficult. For teacher ratings of peer relationships 7 = gets along well with peers.

Variable	Girls			Boys			
	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	
<b>Observational Measures</b>							
On-Task		25.34	10.28	44	22.98	14.13	51
Off-Task		10.86	7.52	44	11.63	7.26	51
Disruptive		.27	.62	44	.57	1.10	51
Nondisruptive		10.61	7.48	44	11.06	7.04	51
<b>Teacher Ratings</b>							
Difficulty Handling		2.83	1.50	81	4.12	1.92	80
Peer Relationships		5.45	1.59	81	4.68	1.80	80
<b>Test Standard Scores</b>							
PPVT		76.25	15.80	77	74.76	16.73	83
One-Word		83.55	17.23	77	82.12	16.12	83
ITPA		32.01	4.48	77	31.48	5.07	83

### Measures of Emergent Academic Skills

Correlations between the academic tests in this sample were as follows: One-Word and PPVT-R  $r(159) = .71, p < .001$ ; One-Word and ITPA  $r(159) = .60, p < .001$ ; and PPVT-R and ITPA  $r(159) = .57, p < .001$ . These correlations are consistent with previous studies and with the expectation that they each capture an aspect of emergent academic skills. Thus, a composite measure of emergent academic skills was created by calculating standard z-scores on each of the three measures (PPVT-R, One-Word, and ITPA), and then averaging these z-scores to create a composite measure of emergent academic skills for each child.

### Teacher Ratings of Child Behavior

Teacher ratings of how difficult a given child was to handle in the classroom and the quality of each child's peer relationships were also transformed to standard z-scores. The ratings given by the different teachers on a given dimension were averaged for each child to create an average teacher rating on each of these two dimensions for each child. Teacher ratings of how difficult a child was to handle in the classroom ranged from 1 (easiest) to 7 (most difficult). The mean rating for this dimension was 3.5 (SD = 1.8). Teacher ratings of peer relationships ranged from 1 (does not get along well with other children) to 7 (gets along well with other children). The mean rating for this dimension was 5.1 (SD = 1.7).

### Observational Measures

Because it was possible to code both on-task and off-task behavior in the same interval, the number of off-task behaviors was divided by the sum of on-task and off-task

behaviors to create a ratio of off-task behavior to the sum of off-task and on-task behavior. Disruptive behavior was measured in terms of the percentage of on-camera intervals in which it occurred. Observational measures were then transformed into z-scores for each classroom.

### Interrater Agreement

Rater agreement was calculated using intraclass correlation coefficients for each of the behavioral categories. Intraclass coefficients for off-task behavior and disruptive behavior were .88 and .63, respectively.

### Relation Between Emergent Academic Skills and Disruptive, Off-Task Behavior

In all of the following regression analyses, gender was coded as 1 for boys and as 0 for girls. For all the following regression analyses, regression diagnostics were consistent with the assumptions of regression. To test the hypothesis that preacademic problems would interact with gender to predict disruptive behavior, a multiplicative term was included in a regression analysis. The resulting equation is presented below:

$$\text{Disruptive Behavior} = -.28 + .31 (\text{gender}) + .04 (\text{composite test}) - .45 (\text{gender} * \text{test}) \quad (\text{Equation 1.})$$

The interaction term significantly predicted disruptive behavior ( $SE = .21$ ,  $t(75) = -2.09$ ,  $p = .037$ ), indicating that disruptive behavior is more strongly associated with preacademic problems for boys than for girls. This interaction is presented in Figure 1 on page 13.

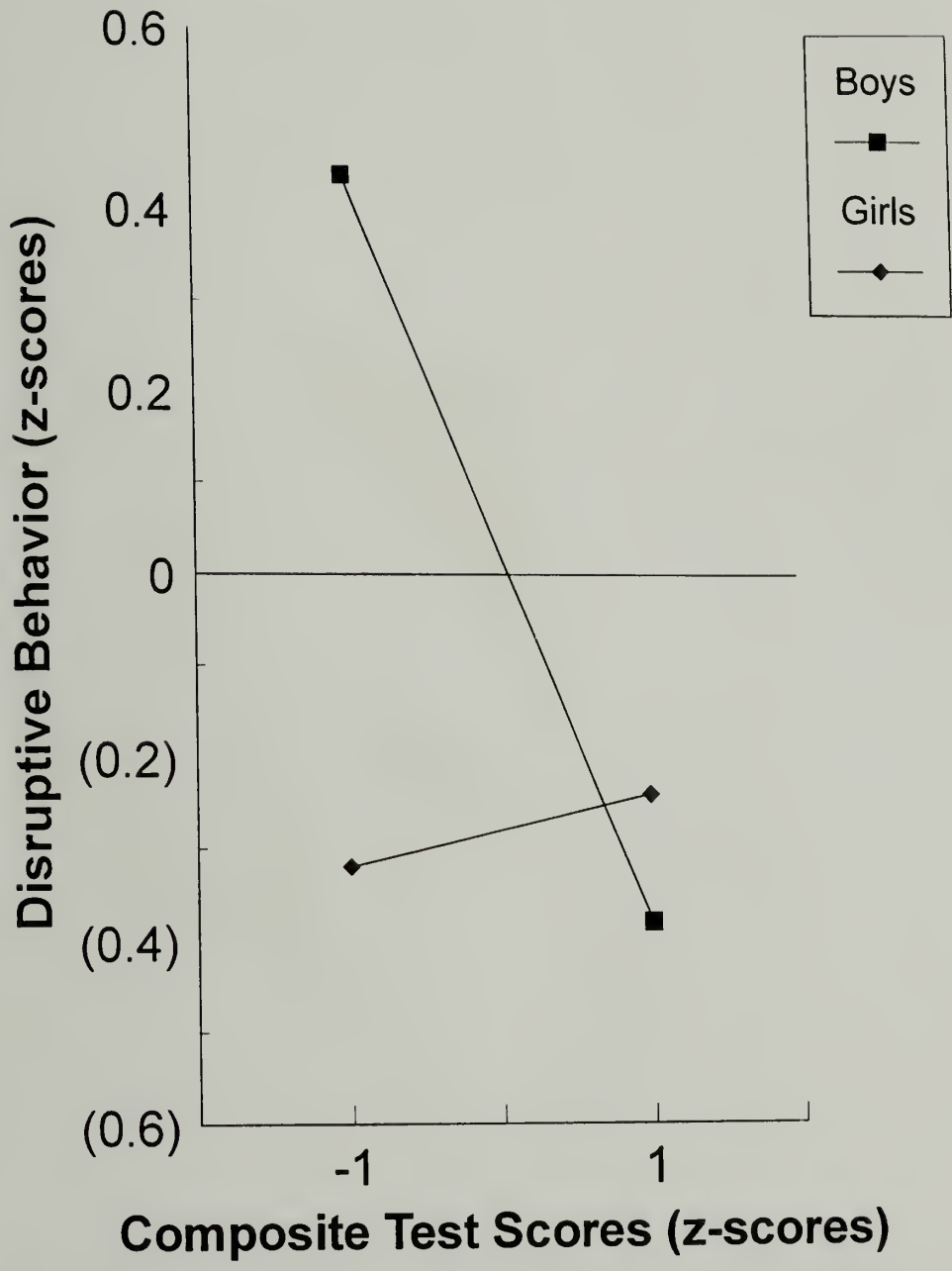


Figure 1. Relationship between composite test scores and observed disruptive behavior as a function of gender. For disruptive behavior, positive z-scores are indicative of increased disruptive behavior.

### Off-Task and Disruptive Behavior in Boys and Girls

It was hypothesized that boys' off-task behavior would be more likely to be disruptive than that of girls. The percentage of off-task behavior which was disruptive was used to evaluate this prediction. Contrary to the hypothesis, there was no significant difference between the percentage of off-task behavior which was disruptive between boys and girls who were off-task ( $SE = .19$ ,  $t(90) = .46$ ,  $p = .64$ ).

### Relation Between Emergent Academic Skills and Peer Relationships

Teachers' ratings of peer relationships were predicted from gender and composite test scores. It was hypothesized that there would be an interaction between gender and test scores, such that more problematic peer relationships would be more strongly associated with lower test scores for boys than for girls. Consistent with this hypothesis, gender and composite test scores interacted in predicting peer relationships ( $SE = .18$ ,  $t(144) = 2.22$ ,  $p = .03$ ). The resulting equation is presented as Equation 2:

$$\text{Peer Relationships} = .23 - .40 (\text{gender}) + .07 (\text{composite test}) + .39 (\text{gender} * \text{test}) \quad (\text{Equation 2.})$$

That is, the quality of children's peer relationships is more strongly related to their level of emergent academic skills for boys than for girls. This interaction is presented in Figure 2 on page 15.



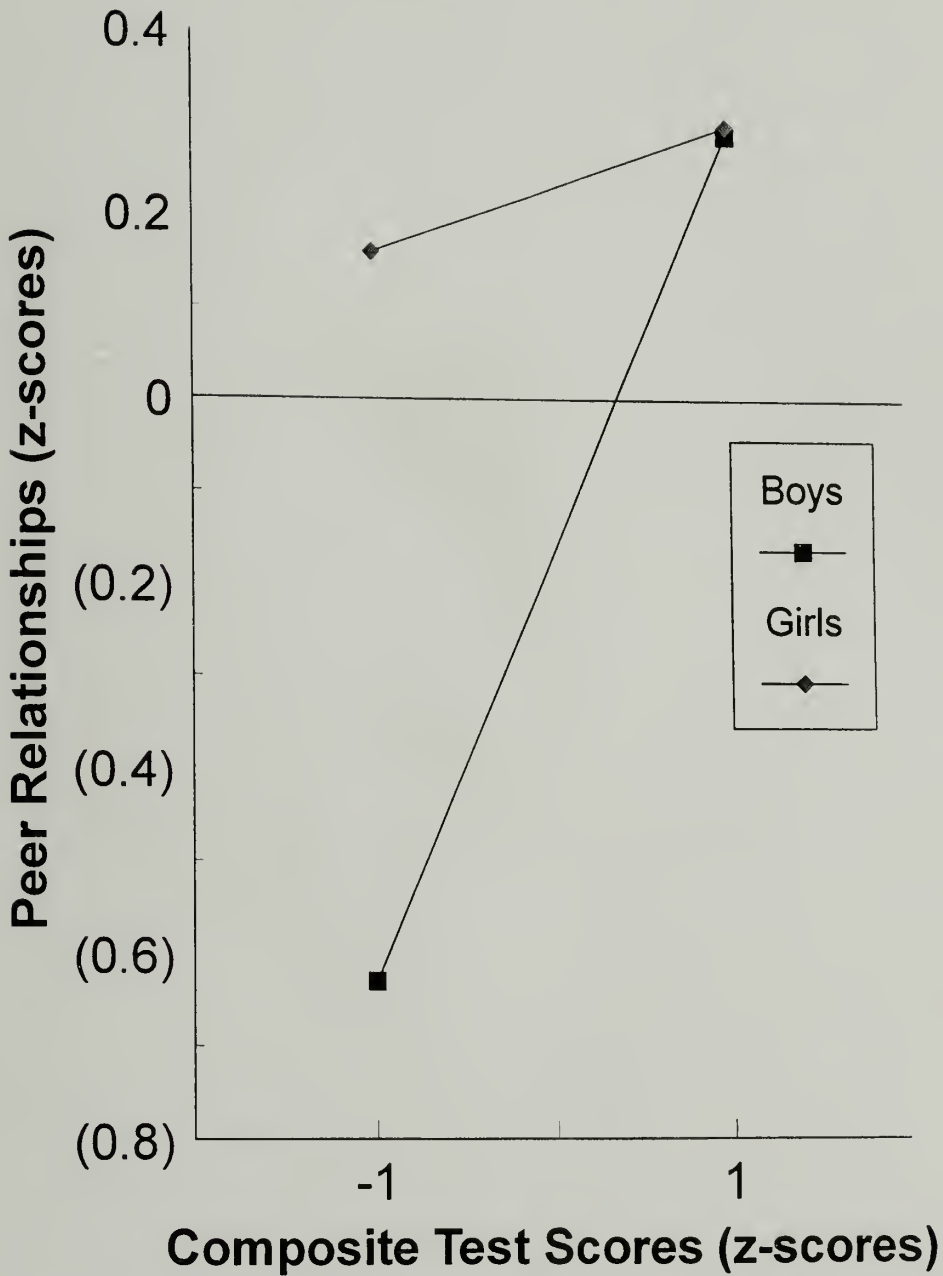


Figure 2. Relation between composite test scores and teacher ratings of peer relationships as a function of gender. For teacher ratings, positive z-scores are indicative of better peer relationships.

### Referrals to Special Academic Services

Only 10 children out of the entire sample of 184 children were referred for special academic services (most frequently the children were referred for speech and language therapy, although the services received were in some cases unknown). It was hypothesized that the probability of being referred for special academic services would be related not only to a child's academic difficulties, but also to how disruptive he or she was in the classroom. Because of the dichotomous nature of referrals (i.e. children are either referred or not referred), logistic regression was used to predict referrals to special academic services from teachers' ratings of disruptive behavior and the composite measure of emergent academic skills. If a child was referred for special services, it was coded as 1, and no referral was coded as 0. The resulting logistic model is as follows:

The probability of referral =  $e^z / (1 + e^z)$ , where

$$Z = -5.4 - .82 (\text{Composite test}) + 2.72 (\text{Teacher Rating of disruptive behavior}) \quad (\text{Equation 3})$$

As predicted, teacher perceptions of disruptive behavior were related to the probability of being referred for academic services ( $SE = .87$ ,  $t(119) = 3.13$ ,  $p < .01$ ). The relationship between test scores and referrals was in the predicted direction, but was not significant ( $SE = .64$ ,  $p = .20$ ). For descriptive purposes, the probabilities of being referred for special services at different levels of disruptive behavior and composite test scores are presented in Table 2 on page 17.

Table 2. The probability of being referred for special academic services derived from the logistic regression model. Teacher ratings of disruptive behavior and composite test scores are presented in sample standard deviations. For the composite test scores, negative standard deviations are indicative of lower test scores, but for teacher ratings of how difficult a child is to handle, a positive standard deviation indicates that a child is harder to handle than average.

Composite Test	Teacher Rating of Disruptive Behavior	Z	Probability
0	0	-5.42	.004
0	1	-2.70	.063
0	2	.02	.505
0	3	2.74	.939
-1	0	-4.60	.010
-1	1	-1.88	.132
-1	2	.84	.698
-1	3	3.56	.970
-2	0	-3.79	.023
-2	1	-1.07	.255
-2	2	1.65	.839
-2	3	4.37	.988

## CHAPTER 4

### DISCUSSION

The present study was conducted to examine whether there are gender differences in how emergent academic skills are related to disruptive behavior and peer rejection in high-risk preschool children. As predicted, disruptive behavior was more strongly associated with preacademic problems for boys than for girls. The quality of children's peer relationships was more strongly related to their level of emergent academic skills for boys than for girls. On average, boys had more problematic peer relationships than did girls. Teacher perceptions of disruptive behavior were related to the probability of being referred for special services. However, there was no significant difference between the percentage of off-task behavior that was disruptive in boys and girls who were off-task.

Taken together, these findings suggest that girls' academic problems may indeed be less visible in the preschool classroom than those of boys. The finding that preschool boys with early academic difficulties were more likely to be disruptive during learning activities than were girls is consistent with the notion that boys' learning problems are more visible to teachers because such boys are more disruptive and demand more attention (Morgan & Dunn, 1988; Phipps, 1982; Shaywitz et al., 1990). This heightened visibility may mean that boys' learning problems are more likely to be detected and treated than those of girls.

Similarly, the relationship between preacademic problems and poor peer relationships for boys may make boys with academic problems all the more noticeable in

the classroom. In contrast, since girls' peer relationships seem unrelated to their preacademic problems, their problems may remain unnoticed. Girls who get along well with peers would be more manageable than boys who are not getting along well with peers, and therefore, the girls may not receive the attention that a disruptive, peer rejected boy would. The relationship between test scores of emergent academic skills and peer relationships is consistent with the idea proposed by Homrok et al. (1996) that children who are frustrated in learning situations may act out during difficult tasks and disrupt other children who are interested in the task at hand. Since boys with learning difficulties are more likely than girls to be disruptive in learning situations, disruptive behavior may be one link between boys' emergent academic skills and the quality of their peer relationships.

As hypothesized, teacher perceptions of how disruptive a child was predicted whether that child would be referred for special academic services. What predicted referrals to special services most strongly was not a child's academic problems, but how difficult he or she was to manage in the classroom. For example, using the logistic model, a child 2 standard deviations below the sample mean for composite test scores and at the mean for teacher ratings of disruptive behavior has only a 2.3% chance of being referred for special services. In dramatic contrast, a child who is at the sample mean for test scores, but who is 2 standard deviations above the mean in terms of how difficult they are to handle has a 50.5% chance of being referred for special services. This becomes even more striking when one notes that the test score of 2 standard deviations below the sample mean is approximately 1.2 standard deviations below

national norms. Clearly such children are at dire risk of academic failure. This finding has important practical implications since it suggests that manageable children who have academic difficulties may not be receiving the services they need. Since girls are perceived as easier to manage in the classroom, they may not be referred to special academic services, even when they are in need of such services. In this sample no girls were referred for special services even though girls' and boys' mean test scores were similar. This is consistent with findings that a child's level of behavior problems in the classroom may play an important role in the decision to refer that child for special services and may account for the low number of girls referred for special services despite similar levels of learning problems (Phipps, 1982; Shaywitz et al., 1990).

Contrary to the hypothesis, there was no significant difference between the percentage of off-task behavior that was disruptive in boys and girls. It may be that there is in fact no difference between percentages of disruptive off-task behavior for boys and girls during learning situations. This, however, is not consistent with teachers' perceptions of how difficult to handle children are overall in the classroom. Boys were rated as more difficult to handle than were girls. Another potential reason that no difference between boys and girls in the percentage of disruptive, off-task behavior was found is that the coding scheme used in this study did not take into account fine grain distinctions of disruptive behavior. For example, disruptive behavior was coded when either another child or the teacher was distracted from the task at hand by that child's behavior. Therefore, disruptive behavior could include both talking out of turn, running around the classroom, or hitting another child. These three behaviors, while all

considered disruptive under this coding scheme, seem qualitatively different. It may be that the severity and type of disruptive behavior may be qualitatively different in boys and girls. Perhaps the disruptive behavior of boys is more salient to teachers (e.g. physical aggression) than is the disruptive behavior of girls.

Another potential reason for why no significant difference between boys and girls was found is the low base rate at which disruptive behavior was observed. On average, disruptive behavior was coded in only 3.7% of off-task intervals. The low power with respect to observed disruptive behavior is not problematic regarding the finding of the differential relationship of disruptive behavior and emergent academic skills in boys and girls since low power obscures relationships, but does not cause false positives; inferential statistics take low frequencies into account and limit the probability of Type I error to .05. Nonetheless, all of the findings of the present study should, of course, be replicated.

There are several potential limitations to this study. In any observational study coder bias is possible. Studies have shown that perceptions of child behavior can be biased by the gender and ethnic group of the child (Condry & Ross, 1985; Cornbleth & Korth, 1980). In planning this study this was of concern since the coders were European American women and the children and teachers in the study were mostly African American and Latino. During coder training, in order to attempt to address this potential problem, coders read articles on observer bias and watched and discussed video clips of boys and girls engaging in similar levels of disruptive and aggressive behavior. Additionally, the coding definition of disruptive behavior was not dependent on coders'

subjective judgments of what behaviors should be considered disruptive, but was modified so that disruptive behavior was coded only when other children or teachers were disrupted from the learning activity by a child's behavior. Most importantly, the primary hypotheses of this study involved interactions rather than main effects. It seems implausible that coder bias would lead to false results in such analyses.

Another potential limitation is the length of the video clips used for observation. While the present segments were relatively short, past studies have shown that ten minute segments do allow for stable estimates of the behavioral categories used in this study (e.g. Arnold, 1996). In addition, short clips should only lead to the absence of results and not to false positives. Furthermore, the results that did not rely on the videotape segments (i.e. the teacher ratings and standardized tests) were consistent with the observational results, providing convergent evidence for validity.

This study was a first step in examining gender differences in the relationship between emergent academic skills and disruptive behavior problems and peer relationships. While the results do suggest that girls' learning problems are likely to be less visible than those of boys since boys learning problems are associated with increased levels of disruptive behavior and poorer peer relationships, we still do not know a great deal about what learning problems are associated in girls. In this sample, girls had better peer relationships than boys, were less disruptive than boys, had similar levels of emergent academic skills and were off-task for a similar amount of time as boys. It is conceivable that girls with learning difficulties are withdrawing from learning activities. Other researchers have suggested that inattentive-withdrawn behavior during learning



situations is associated with poor academic achievement in elementary school and with negative outcomes in secondary school (Finn, 1989; Finn, Panno, & Voelkl, 1995). It will be imperative in future studies to examine what girls with preacademic problems are doing in learning situations. Such information would allow us to help educators better identify and help girls at risk of academic failure.

In conclusion, this study provides information about gender differences in how emergent academic skills are related to disruptive behavior and peer relationships in preschool children. The findings suggest that girls' learning problems may be invisible in the classroom because girls with such problems are less likely to be disruptive or have difficulties with peer relationships than are boys with similar levels of academic problems. This invisibility of girls' learning problems needs to be examined further in future studies. Clearly, we need to find ways to identify preschool girls with learning problems and help them, so that they do not fail silently.

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