

Timing of Academic Difficulties for Neglected and Non-Maltreated Males and Females¹

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Objective: *The present study examines sex differences in the timing of academic difficulties for neglected and non-maltreated students.*

Method: *The sample included 324 neglected elementary, junior high and senior high school students, and a sample of 420 non-maltreated children. Average grades in English and math were the dependent variables with socioeconomic status as the covariate.*

Results: *The results revealed that males and females differed on the timing of academic difficulties for both math and English. Males showed a severe decline in both math and English grades in junior high, with a slight rebound by senior high. The pattern of grades for females were more linear. For both math and English, there was a drop in junior high. Rather than rebounding, the math grades for females continued to drop in senior high. Grades in English for females showed a similar, but non-significant, pattern. The math and English grades of the neglected and abused/neglected students paralleled that of the non-maltreated students, but were lower at every level.*

Conclusions: *Timing of academic difficulties differed for males and females. Males appear to have more problems in junior high, while females have more problems in senior high. Intervention efforts should take these timing differences into account to be maximally effective.*

Key Words: Neglect, sex differences, school achievement, grades

Child neglect can seriously impair children's academic performance. Several previous studies demonstrated that neglected children performed more poorly on academic tasks than even physically or sexually abused children (Eckenrode, Laird &

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Doris, 1993). One longitudinal study of preschool and early school-age children revealed that neglected children had more difficulty performing tasks at 42 and 56 months than other maltreated children (Egeland, Sroufe & Erickson, 1983). Similarly, in studies of students grades K through 12, researchers found that neglected children had the poorest school performance of all maltreated children (Eckenrode, Laird & Doris, 1993; Leiter & Johnsen, 1994).

The school performance of neglected children also varies by age (Kendall-Tackett & Eckenrode, 1996). Among the general population, grades often decline during adolescence (Entwisle, 1990; Petersen, 1986). Junior high appears to be particularly difficult for a number of reasons including more difficult classes, harder grading, and the process of changing from one school to another. Both neglected and non-maltreated students had a decline in academic performance in junior high, but the grades of the neglected students were worse at each grade level (Kendall-Tackett & Eckenrode, 1996).

While each of these earlier studies demonstrated the difficulties that neglected child have with academic tasks, none of these studies examined possible sex differences on the impact of neglect. Previous studies of another type of maltreatment--sexual abuse--have revealed that the effects of sexual abuse often differ for males and females (Kendall-Tackett, Williams & Finkelhor, 1993; Kolko, Moser & Weldy, 1988; White, Halpin, Strom & Santilli, 1988). The question remains as to whether neglected students also show these sex-specific effects in the area of academic achievement. If so, do these effects differ by academic subject: English (traditionally a stronger subject for females) vs. math (traditionally a stronger subject for males)? These traditional differences are reflected in SAT scores (females higher on verbal sections; males higher on quantitative sections), but also in parental and societal beliefs that boys have more "natural talent" for math (Parson, Adler & Kaezala, 1982).

To consider the question of whether there are sex differences in the impact of child neglect, the present study examines the effect of neglect, alone and in combination with abuse, on academic achievement for males and females in elementary, junior high and senior high, and considers the following questions:

- 1) Does the timing of academic difficulties differ for males vs. females?
- 2) Do the developmental trajectories of neglected males and females differ from those of their non-maltreated counterparts?

Method

Sample

Subjects were drawn from a population of 8569 children attending public school in a small city in New York State, grades K-12 in 1987-88. The maltreated children were located from records of the New York State Child Abuse and Maltreatment Register. From a group of 1239 children who had at least one substantiated incident of

maltreatment at some point in their lives, a sample of 420 maltreated children was drawn. All children who had been either sexually or physically abused were included in the sample, but only one out of every four neglected children were included because of their high numbers on the Child Abuse Register. For the present study, we included data only from students who had been neglected either alone or in combination with abuse ($N=324$ out of the original 420). The "neglected only" group included only children for whom neglect without any other type of maltreatment was recorded ($N=217$). The neglect-only group was 47% male, 53% female. The "neglect with abuse" group ($N=107$) included those who had experienced neglect in combination with either physical abuse ($N=56$) or sexual abuse ($N=51$), and was 31% male, 69% female.

A comparison group of 420 non-maltreated children was drawn from the general population of school children. The comparison group was matched with the maltreated group on gender, grade in school, school, residential location, and classroom when possible. The comparison group was 41% male, 59% female.

In addition to being divided into maltreatment categories, the subjects were classified as elementary ($N=481$), junior high ($N=115$), or senior high school students ($N=148$) based on the school they were *currently* attending.

Measures

Data on school performance were collected using school records, which provided information on academic performance, grade repetitions, school transfers, home moves, and disciplinary actions. Two dependent measures were used in the present study.

- 1) **Current grades in math** This variable was an average of each student's current math and English grades, where 0=F and 4=A.
- 2) **Current grades in English.** This variable was an average of each student's current math and English grades, where 0=F and 4=A.

Analyses

The primary analyses were 2 (sex of subject) X 3 (grade level of subject) X 3 (neglect status) analyses of covariance for each of the two dependent measures, with socioeconomic status (SES) as covariate. SES was a dichotomous variable indicating whether the family was receiving public assistance at the time data were collected.

Results

Main Effects

Overall, the neglected and abused/neglected children did perform more poorly than their non-maltreated counterparts, having lower grades in both math ($F(2,618) = 4.58, p < .011$) and English ($F(2,616) = 4.22, p < .015$). Main effects for age of subject revealed that junior high was particularly difficult for neglected and non-maltreated students alike, with the junior high students having the lowest grades in math ($F(2,618) = 53.25, p < .0001$) and English ($F(2,616) = 43.7, p < .0001$). Sex main effects indicated that males had lower grades in English ($F(1,616) = 16.77, p < .0001$) but there was no sex main effect for math.

Age X Sex Interactions

English Grades

There was an age X sex interaction for grades in English, $F(2,616) = 5.5, p < .004$. Grades for females were higher in both elementary school ($M_s = 2.37; 2.55$ for males and females respectively; $t(359) = 3.72, p < .0001$), and junior high ($M_s = 1.18; 2.00$ for males and females respectively, $t(112) = 9.5, p < .0001$). There was no significant difference for the English grades of males and females in senior high ($M_s = 1.85, 1.97, t(143) = 1.57, ns$).

The grades for males dropped significantly between elementary school ($M = 2.37$) and junior high ($M = 1.18, t(199) = 18.33, p < .0001$), and rebounded in senior high ($M = 1.85, t(103) = 7.48, p < .0001$). The grades for females also dropped significantly between elementary school ($M = 2.55$) and junior high ($M = 2.00, t(272) = 9.9, p < .0001$), but not nearly as severely as did the grades of the males. The females' grades showed a slight drop between junior and senior high ($M = 1.97$) but this was not significant ($t(143) = 1.57, n.s.$).

Math Grades

There was also an age X sex interaction for grades in math, $F(2,618) = 6.32, p < .002$. Grades for males and females were almost identical in elementary school ($M_s = 2.52; 2.51$ for males and females respectively; $t(358) = .19, n.s.$). In junior high, math grades for females were significantly higher than those of males ($M_s = 1.44, 1.97$ for males and females respectively, $t(113) = 5.32, p < .0001$). In senior high, the reverse was true: the math grades of males were significantly higher ($M = 1.93$) than they were for females ($M = 1.57, t(145) = 4.47, p < .0001$).

The grades for males dropped significantly between elementary school ($M = 2.52$) and junior high ($M = 1.44, t(200) = 15.74, p < .0001$), and rebounded in senior high ($M = 1.93, t(105) = 5.18, p < .0001$). The grades for females also dropped significantly between elementary school ($M = 2.51$) and junior high ($M = 1.97, t(271) = 9.15, p < .0001$),

but again not nearly as severely as did the grades of the males. More distressingly, the females' grades also dropped significantly between junior and senior high ($M=1.57$, $t(153)=5.10$, $p<.0001$).

For both grades in math and English, neglect status was not significant in any of the other interactions because the performance of the neglected students paralleled that of their non-maltreated counterparts. Interestingly, we see the same patterns for males in both math and English.

Similarly, the performance of neglected and abused/neglected females also parallels that of the non-maltreated females, and this is a different pattern from that experienced by the males. Interestingly too, the patterns for females also appear the same for math and English. The drop in English grades in senior high was not significant, but appears to be a similar pattern to that of the grades in math. There does appear to be slightly different pattern for the abused/neglected and neglected students (particularly the drop in junior high), but these were not statistically significant.

Discussion

The results of the present study do indeed reveal that the timing of academic difficulties differ for males and females, with neglected and abused/neglected students following patterns similar to their non-maltreated counterparts. For both grades in math and English, there was a substantial decline in grades in junior high for males and then a rebound of grades in senior high. For females, there was a linear pattern of academic decline between junior and senior high, although the senior-high drop was significant for math grades only. These findings are particularly interesting in light of the lack of a sex main effect for math. The similarity of pattern for math and English was interesting because English is typically thought of as a strong subject for females and math for males. Therefore we might expect to see different patterns for males and females for these two subjects, but in this study we did not.

The developmental trajectories of neglected and abused/neglected students appear to be similar to those of their non-maltreated counterparts. The academic performance of the neglected and abused/neglected students paralleled that of their non-maltreated counterparts, but was worse at every level. As found previously (Kendall-Tackett & Eckenrode, 1996), child neglect alone or in combination with abuse, appears to exacerbate the whatever developmental effects may occur with either male or female students. On Figure 2, the pattern of grades in English for *female* neglected and abused/neglected students appears to follow the same trend as those for males. However, the age X sex X neglect status interaction was not significant, meaning that the pattern for the maltreated students was more similar to that of the non-maltreated students than it might appear. Among females in senior high, the performance of non-maltreated students was very similar to those of maltreated students, possibly because the most seriously affected students had dropped out of school.

In the present study, an "abused/neglected" category was added to explore an additional dimension of the effects of neglect. Because of the small number of students

who had either been physically abused and neglected, or sexually abused and neglected, these were combined to create an “abused and neglected” group. Not surprisingly, the relationship between abuse and neglect is more than simply additive. For students at some ages, abuse combined with neglect led to lower performance. At other ages, the “neglected only” students fared more poorly. Some of these findings could be due to the fact that this analysis collapsed across a wide variety of experiences and did not take into account timing or severity of the abuse experience. These findings do suggest, however, that the combination of abuse and neglect is worth exploring in future studies.

In conclusion, we see that child neglect has a substantial negative impact on the academic performance of both males and females. Obviously, the results of the present study are only a first step toward understanding sex differences in the impact of neglect. They only suggest differences but do not tell us why they occur. Males appear to be more at risk for academic difficulties in junior high, while females are more at-risk in senior high, particularly in math. What are the social pressures that account for these differences and how does child neglect interact with them? The timing of our intervention efforts should take these differences between males and females into account so that these efforts have their maximum effect. In the meantime, the present study highlights the need to conduct further research on sex differences on the effects of neglect.

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