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ABSTRACT

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Compensatory Effects of Sibling Support in Preadolescence and Adolescence¹

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Abstract

The current study is an examination of how support from siblings relates to academic competence in early adolescence, with a focus on the compensatory effects of sibling support. Participants were 694 African-American, European-American, and Hispanic-American students, ranging in age from 11 to 15. Participants were interviewed in school regarding their social support and academic achievement. Students under low mother and friend support conditions receiving greater support from brothers exhibited higher school achievement. The potential benefits of sibling support warrant a closer examination of the wide-ranging issues involved in sibling relations.

Compensatory Effects of Sibling Support in Preadolescence and Adolescence

Introduction

Sibling relationships in childhood have been shown to influence several aspects of development (Bryant & Crockenberg, 1980; Dunn & Munn, 1986). Furthermore, studies suggest that sibling support may compensate, somewhat, for the lack of parent and friend support (East & Rook, 1992; Stocker, 1994). However, the findings on sibling compensation are mixed. East and Rook (1992) concluded that, although peer-isolated children may turn to siblings for support, which may provide some positive outcomes, sibling support may not fully guard against the negative consequences of low school friend support. van Aken and Asendorpf (1997) failed to find a compensatory effect of sibling support when examining support from parents, classmates and friends in a sample of grade 6 students.

There are several limitations in the current work on sibling compensation. First, studies examining patterns of parent-sibling compensation have assessed this relationship consistently either as mother support alone or together with fathers, without considering potential differences between parents with respect to these patterns (Bank & Kahn, 1982; Stocker, 1994). Secondly, previous work failed to examine the academic outcomes associated with sibling compensatory support. Finally, most of the work has been done using samples of elementary school aged children.

In the present study, we sought to determine the extent of sibling compensation in relation to academic adjustment in preadolescence and adolescence under conditions of low parental and friend support.

Method

Sample

Participants were 694 African-American, Hispanic-American and European-American students participating in the second wave of a two-year investigation of social support and school adaptation. Students ($N = 782$) were drawn initially from grades 4 and 6 of eight public elementary schools in a Southeastern metropolitan area. The retention rate for the sample was 89%. Of the 694 participants in the retained sample, 356 were female and 338 were male. By ethnicity the sample consisted of 220 African-American students, 281 Hispanic-American students and 193 European-American students. Participants were in grades 5 through 8 when the present data were collected. The age range was 11 to 15 ($M = 12.69$, $SD = 1.12$).

Procedures

Informed consent was obtained from parents for all students participating in the study. Interviews were conducted individually with each participant by a female interviewer matched to the child according to ethnicity. The interviews were conducted within the school setting in a private area. The mean duration of the interview was 38.27 minutes ($SD = 9.69$).

Measures

Measures included indices of social support from mothers, fathers, sisters, and brothers in addition to measures of academic competence. The following specific measures were analyzed in the current study.

Social Support. Parent and sibling support was assessed using the Children's Convoy Mapping Procedure (Levitt et al., 1993). With this procedure, children identified

the people in their life who are close and important to them in a concentric circle map, with the closest and most important persons in the inner circle. The participants then indicated which persons provided specific support functions. Specifically, they were asked to identify the people “you talk to about things that are really important to you,” “who make you feel better when something bothers you or you are not sure about something,” “who would take care of you if you were sick,” “who help you with homework or other work you do for school,” “who like to be with you and do fun things with you,” and “who make you feel special or good about yourself.” Scales of mother, father, brother and sister support were obtained by summing the number of support functions provided within each of these three relationship categories. Alpha reliabilities were .72 for mother support, .83 for father support, .89 for sister support, and .81 for brother support.

Academic achievement was assessed with end-of-year grade reports and standardized achievement test scores (Stanford Achievement Test), obtained for each student from centralized school records. Reading and math grades were combined, as were reading and math test scale scores, to yield overall grade average and achievement measures.

Results

Sibling support and adjustment: Compensatory effects

Hierarchical regression analyses were also used to determine whether brother or sister support compensates for low father or mother support. Gender, grade, and the ethnicity indices were entered first, followed by the brother and sister support variables. Multiplicative terms representing the interactions of brother and sister support with

mother and father support followed. Significant interactions represent compensatory effects.

There was one significant compensatory effect. The interaction of brother support and mother support in relation to academic achievement was significant, $b = -.18$, $p < .01$, $f^2 = .03$ (Table 1). Follow-up regressions conducted separately under high (above the median) and low (below the median) mother support conditions indicated that brother support was positively related to school achievement for the low mother support students ($b = .12$), but not for the high mother support students ($b = -.04$). Students under low mother support conditions receiving greater support from brothers exhibited higher school achievement.

Furthermore, hierarchical regression analyses were also used to determine whether brother or sister support compensates for low friend support. Gender, grade, and the ethnicity indices were entered first, followed by the brother and sister support variables. Multiplicative terms representing the interactions of brother and sister support with friend support followed. Significant interactions represent compensatory effects.

The interaction of brother support and friend support in relation to academic achievement was significant, $F(9, 623) = 3.38$, $p < .05$, accounting for 1% of the variance (Table 2). Follow-up regressions conducted separately under high and low friend support conditions indicated that brother support was positively related to school achievement for the low friend support students ($b = .09$) but not for the high friend support students ($b = -.04$). Students under low friend support conditions receiving greater support from brothers exhibited higher school achievement.

Discussion

There was some evidence of a compensatory effect in the present sample however. For the segment of the current sample experiencing low mother support or low friend support, receiving support from brothers resulted in higher school achievement. Hence, brother support was found to compensate for low mother and friend support in terms of school achievement. Although Stocker (1994) failed to find evidence of sibling compensation, the dissimilarities in the age of the sample between the Stocker study and the current study may account for these different findings.

In general, the current study contributes to an important area of psychological inquiry by identifying significant but complex associations between sibling support and emotional and academic adjustment within the early adolescent population. The potential benefits of sibling support warrant a closer examination of the wide-ranging issues involved in research on sibling relations.

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Table 1. Hierarchical Multiple Regression of Sibling Support and Parental Support Variables as Predictors of School Achievement.

Predictors	School Achievement	
	Beta	r ²
<u>Demographics</u>		
Gender	.18**	.03
Grade	.04	<.01
African-American	-.38**	.10
Hispanic-American	-.26**	.05
<u>Support Indices</u>		
Father Support	.17**	.03
Mother Support	.09*	<.01
Brother Support	.02	<.01
Sister Support	-.02	<.01
<u>Significant Interactions</u>		
Brother Support X Mother Support	-.18**	.03

* $p < .05$ ** $p < .01$

Table 2. Hierarchical Multiple Regression of Sibling Support and Friend Support Variables as Predictors of School Achievement.

Predictors	School Achievement	
	Beta	r ²
<u>Support Indices</u>		
Friend Support	.13**	.02
Brother Support	.04	<.01
Sister Support	.00	<.01
<u>Significant Interactions</u>		
Brother Support X Friend Support	-.10*	.01

* p < .05 ** p < .01



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