The Effects of Perceived Daily Social and Academic Failure Experiences on School-Age Children's Subsequent Interactions with Parents

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REPETTI, RENA L. *The Effects of Perceived Daily Social and Academic Failure Experiences on School-Age Children's Subsequent Interactions with Parents.* CHILD DEVELOPMENT, 1996, 67, 1467–1482. The hypothesis that perceived failure experiences at school would increase the likelihood of aversive parent-child interactions after school was supported in a study of 167 fourth, fifth, and sixth graders. Children completed measures of mood, school events, and parent-child interaction 3 times each day for 2 consecutive days. Reports of social and academic failure experiences at school (e.g., peer problems and difficulty with schoolwork) were associated with increases in child self-reports of demanding and aversive behavior toward parents that evening. There was no evidence of the reverse effect; aversive child behavior did not predict an increase in reports of negative events the next day. When children rated more academic failure events at school, they also described their parents as more disapproving and punishing after school. However, this effect was only partially mediated by increases in the child's aversive behavior. It is argued that the findings cannot be explained solely by a response bias caused by the child's general mood or frame of mind that day. First, school-to-home mood spillover effects were controlled in the analyses. Second, reports of problems at school were not associated with other aspects of parent-child interaction (e.g., the parent's positive behavioral and emotional involvement with the child). In addition to its substantive findings, the study illustrates use of an unbiased method for assessing child responses to daily stressors.

The experience of high levels of daily stressors, such as peer problems and academic failure, is associated with an increased risk for psychological adjustment problems in childhood (Repetti, McGrath, & Ishikawa, in press). Even the effects of major stressful life events, such as a death or severe illness in the family, seem to be at least partly mediated by the more minor daily hassles that result from the major event. Studies of short-term emotional and behavioral reactions to minor events promise to contribute to our understanding of the mechanisms that link exposure to chronic daily stressors to long-term psychological outcomes. However, few investigations of this type have focused on children. This article addresses that gap in the literature by examining short-term changes in mood and behavior following what are common, yet distressing, events for fourth- through sixth-grade children.

The normative stressors investigated here are social and academic failure experiences that occur at school, such as being teased by another child or making a mistake in class. It is argued that the effects of these events can spread beyond the classroom, into the child's home. Other evidence supports the idea that children's coping responses unfold over time, even with a change in social context. For example, after witnessing a live simulation of an angry conflict between two adults, 4- and 5-year-old children were observed being more aggressive toward a playmate (Cummings, 1987). I propose that a child's attempts to recover

from a social or academic failure experience at school can easily go awry and escalate into demanding and disruptive behaviors at home with a parent. The study presented here tests one specific hypothesis: that children will have more aversive interactions with parents on evenings after they have reported social and academic problems at school.

Social and Academic Failure Experiences

Performance in the social and academic realms plays an increasingly important role in self-concept during middle childhood and preadolescence. Boys and girls spend more and more of their time with peers during this period and increasingly value the importance of belonging to a clique at school (Crockett, Losoff, & Petersen, 1984; Raffaelli & Duckett, 1989). Not surprisingly, the perception that one is not well accepted by peers is highly stressful and correlates with low self-esteem (Daniels & Moos, 1990; Fenzel, 1989; Ham & Larson, 1990; Lewis, Siegel, & Lewis, 1984). Children at this age also report that taking exams, getting grades, and doing homework are among the most common distressing events in their daily lives (Greene, 1988; Siegel & Brown, 1988). Academic failure, assessed by both self-reports and objective indicators, is associated with lowered perceptions of self-efficacy in fourth- through sixth-grade children (Cowen et al., 1991). Moreover, the impact that academic achievement has on perceived self-competence appears to be greater than the influence that self-esteem exerts on academic performance (Harter, 1983).

Children's Coping Responses

Following a social or academic failure, it seems reasonable to expect that many children would attempt to restore self-confidence by seeking attention and reassurance from important others, such as parents. Efforts to secure emotional support from parents in order to manage the negative emotions associated with a stressful encounter are often labeled emotion-focused coping in the coping literature. Preadolescents, especially girls, report seeking the support of friends and family members as one way of coping with poor grades and peer conflict (Band & Weisz, 1988; Causey & Dubow, 1992; Patterson & McCubbin, 1987). Not only do children at this age rate their parents as their most frequent providers of social support (Furman & Buhrmester, 1992), but the perceived availability of emotional support from family members appears to buffer

the impact of various types of negative events on child adjustment (Dubow & Tisak, 1989).

This study focuses on the possibility that this type of short-term self-regulatory coping behavior can go awry if increased bids for parental attention escalate into demanding and disruptive behaviors. Indeed, both preadolescents and adolescents report that they sometimes use behaviors like yelling, cursing, and throwing or hitting something as a way of coping with social and academic stressors (Band & Weisz, 1988; Causey & Dubow, 1992; Compas, Malcarne, & Fondacaro, 1988; Jose, Cafasso, & D'Anna, in press; Jose, D'Anna, & Cafasso, 1992; Patterson & McCubbin, 1987), although boys describe using this type of coping response more than do girls (Bird & Harris, 1990; Causey & Dubow, 1992). Margolin, John, and Burman (1993) found that on days when preadolescent children experienced more problems at school, they and their parents characterized their interactions as more angry and involving the use of parental discipline. Interestingly, at the same time, parents in the father-daughter and mother-son dyads were also described as more loving and attentive on those days.

There are several reasons to expect a dysfunctional escalation of child demands and aversive behavior following social and academic failures at school, especially among younger children. First, the child may not have the language or social skills needed to directly communicate her need for reassurance; indeed, she may not even connect a current state of distress to events that occurred earlier at school. It would be especially difficult to engage in age-appropriate requests for support due to the disrupting effects of distress and low self-esteem associated with failure. In particular, feelings of frustration and anger instigated at school may be expressed at home. Tangney and her colleagues have found that children describe failure situations as eliciting feelings of shame, and that children who are more prone to experience shame are also more prone to become angry and to engage in aggressive behavior (Tangney, Marschall, Rosenberg, Barlow, & Wagner, 1993; Tangney, Wagner, Barlow, Marschall, Sanftner, Mohr, & Gramzow, 1993).

Thus, having been hurt or humiliated at school, the child may directly express anger and aggressive behavior at home, or she might use immature and indirect bids for at-

tention, such as nagging, whining, or cling-
ing. Parents vary quite a bit in their re-
sponses to a child's expressions of anger or
distress. Only some engage in "emotion
coaching," such as talking about the condi-
tions that elicited the emotion and ways of
coping with it (Hooven, Gottman, & Katz,
1995). Children of parents who fail to recog-
nize and respond to their indirect requests
for comfort and reassurance may become
easily frustrated. The situation would be fur-
ther inflamed by parent responses of intoler-
ance and anger. A very similar process of
escalation to the one described here, in
which there is an increasing rate of coercive
exchanges between parent and child, has
been documented by G. R. Patterson and
his colleagues (Patterson, 1982; Patterson,
DeBaryshe, & Ramsey, 1989; Patterson,
Dishion, & Bank, 1984).

Finally, even if the child does overtly
and directly seek support for failures, some
parents may respond with disappointment or
criticism rather than emotional support. Par-
ents might be more likely to respond nega-
tively to the child's reports of academic
problems, such as a poor performance on a
test or failure to complete an assignment at
school, than to the child's reports of failed
social encounters. It therefore seems impor-
tant for researchers to distinguish between
these two types of events.

Although there do not appear to be any
published reports of studies testing the
short-term association between a social or
academic failure experience at school and
interactions with a parent, the *long-term* as-
sociation between children's peer accep-
tance or social competence and aspects of
the parent-child relationship, such as
warmth, involvement, and control, is a sub-
ject of interest in the child socialization liter-
ature (Bhavnagri & Parke, 1991; Bierman &
Smoot, 1991; Cassidy, Parke, Butkovsky, &
Braungart, 1992; Cohn, Patterson, & Christo-
poulos, 1991; Feldman & Wentzel, 1990;
Patterson et al., 1989; Putallaz & Heflin,
1990). Several studies have found that a
harsh parenting style and less positive emo-
tional qualities in the parent-child relation-
ship are associated with lower perceived
academic competence and less peer accep-
tance at school (Hart, DeWolf, Wozniak,
& Burts, 1992; Patterson, Kupersmidt, &
Griesler, 1990; Wagner & Phillips, 1992;
Weiss, Dodge, Bates, & Pettit, 1992). The
assumption in these studies is that parent-
child discord and ineffective parenting skills
foster problems in social information pro-

cessing and social skill deficits in the child
which, in turn, contribute to poor peer rela-
tions and academic failure.

The line of reasoning described in this
article emphasizes the role played by the
child in shaping parent-child interactions
and the indirect impact, at least in the short
run, that events at school can have on that
relationship. Of course, the long-term social-
ization model described by other authors
and the short-term escalation of aversiveness
following failure proposed here are not mu-
tually exclusive. Because both processes
may occur, the possible bidirectional influ-
ences between parent and child during their
social interactions seem important to inves-
tigate.

The Present Study
    This study tests the basic hypothesis
that failure experiences at school increase
the likelihood of aversive parent-child inter-
actions after school. It also evaluates the ex-
tent to which child aversive behavior might
mediate an association between events at
school and parent aversive behavior. The
study thus represents a first step toward
evaluating the more complete mediational
model described above. If the data from this
study support the hypothesized link be-
tween problems at school and short-term
changes in patterns of parent-child interac-
tion, a next step would be to test the other
proposed mediators: decreases in the child's
self-esteem and initial, failed, attempts to
elicit parental support. The reverse direc-
tion of effects, aversive parent-child interac-
tions leading to subsequent increases in re-
ports of failures at school, was also tested.

A test of the hypothesis that failure ex-
periences lead to increased aversive behav-
ior with a parent later the same day requires
an assessment of failure experiences and
parent-child interaction at (minimally) two
points in time. A within-subjects design was
used in which fourth- through sixth-grade
children completed brief paper-and-pencil
measures at three points during the day for
2 consecutive weekdays. Measures of peer
and academic events were completed twice
during the schoolday, measures of parent-
child interaction were completed before go-
ing to bed at night, and mood ratings were
completed at all three readings each day.

Children's reports of aversive interac-
tions with a target parent were contrasted
with another dimension of parent-child in-
teraction, a parent's positive behavioral and
emotional involvement with the child (e.g.,

being responsive, listening, expressing af-
fection, sharing enjoyable activities). This
strategy was used in order to rule out the
possibility that any observed association be-
tween events at school and parent-child
aversive interactions was an artifact of the
self-report methodology that was used. For
example, the child's mood or frame of mind
could inflate the correlation between ratings
of events at school and ratings of events at
home.

Age and sex differences in the associa-
tion between daily events and parent-child
interaction were also explored. For example,
even within this study's restricted age range,
the older children might use more effective
problem-solving strategies to cope with fail-
ure, making it less likely for them to escalate
their demands and aversive behavior on dif-
ficult days. Differences in boys' and girls'
reports about their use of different coping
strategies (girls tend to report greater use of
social support seeking and less use of ag-
gressive coping) suggested the need to ex-
amine child sex differences in this study. Fi-
nally, differences between mother-child and
father-child dyads in reactivity to daily stres-
sors were also tested.

Method

Procedure
All of the students in the fourth, fifth,
and sixth grades of a large public elementary
school were invited to participate in a study
of children's daily lives. Children completed
daily-report forms at three points during the
day, for 2 consecutive weekdays. The first
and second readings were taken in the class-
room, shortly before lunch period and just
before the children left school at the end of
the day. At those readings, measures were
administered to groups of participating chil-
dren and collected immediately. The third
set of measures was distributed at the end
of the schoolday, and children were in-
structed to complete it that night before go-
ing to bed. Completed forms were returned
at school the next day. Children were ran-
domly assigned to describe their interac-
tions with either their mother or their father
on both evenings, with the exception of the
children who lived in single-parent house-
holds and those children whose parents had
previously indicated that the child did not
typically see both parents on weekday eve-
nings.

Subjects
The children in this study were from a
middle-class, mostly white, suburban com-

munity outside a major metropolitan area in
the northeastern United States. Twelve
classrooms were sampled, four classes at
each grade level (fourth, fifth, and sixth
grades), representing a total of 254 children.
Although 171 (67%) of the parents returned
signed consent forms, data were collected
from 167 (66%) of the children (85 boys and
82 girls) because some children were absent
from school during the days when data were
collected from their class. Data for all six
readings (2 days × 3 readings per day) were
collected from 130 (78%) of the participating
children. However, some of the home read-
ings included mood ratings only (i.e., with-
out ratings of parent-child interaction) be-
cause the child indicated that he or she did
not spend any time with the target parent
on that particular evening. In addition, data
from 15 children were eliminated from most
of the analyses presented here either be-
cause they were inadvertently given forms
to rate two different target parents on the
two evenings, or because they provided par-
ent-child interaction ratings on an evening
in which they also reported that no time had
been spent with the target parent. Data from
a final sample of 103 children, with all rat-
ings completed on both days, were used in
the main analyses reported here.

The children ranged in age from 10 to
13 years, with a mean age of 11-2 (SD = 11
months). There were three children in the
average participant's family (SD = 1.3), al-
though families ranged in size from 1 to 10
children.

Measures
The children used a 4-point response
scale to rate how accurately each statement
on the daily-report forms described their
morning at school, their afternoon at school,
or their day after school (e.g., [1] "A defi-
nitely false statement about this morning,"
[2] "A mostly false statement about this
morning," [3] "A mostly true statement
about this morning," [4] "A definitely true
statement about this morning"). A total of
108 different items, which assessed mood
and general social behavior (34 items), posi-
tive and negative school events (23 items),
and parent-child interaction (51 items), were
rated at one or more points during the day.

Three separate principal component
factor analyses of the mood, events, and par-
ent-child ratings made by the children in
this study produced the Youth Everyday So-
cial Interaction and Mood (YES I AM)
Scales. Data from all readings, taken on both
days, were pooled for the factor analyses

(i.e., a child who completed daily report forms at all three readings on both days contributed six readings for the analysis of mood ratings, four readings for the analysis of school events ratings, and two readings for the analysis of parent-child interaction ratings). In other words, for the purpose of scale development, the unit of analysis was an individual reading, not an individual child. After orthogonal rotations, factors with eigenvalues greater than one were retained and factor-based scales were created that consisted of all items with factor loadings greater than .45 (Repetti & Pollina, 1994). Descriptive statistics for the scales used in this study are presented in Table 1.

Mood.—At each reading the children completed three measures of mood states: Positive Mood (e.g., "I was happy") (7 items, alpha = .79), Anxious Mood (e.g., "I felt tense") (6 items, alpha = .75), and Depressed Mood (e.g., "I was sad") (4 items, alpha = .65). Positive Mood scores were negatively correlated with concurrent ratings of both Anxious Mood ($r = -.24$, $p < .01$) and Depressed Mood ($r = -.33$, $p < .01$). Ratings on the two negative mood scales were highly correlated ($r = .57$, $p < .01$).

School events.—Twice each day at school, children completed measures of failure experiences in the social and scholastic realms: Peer Problems (e.g., "I felt that my friends didn't want to be around me") (5 items, alpha = .71) and Academic Problems (e.g., "I received a bad grade on a test or paper") (5 items, alpha = .75). Ratings made during the same reading at school on the two failure experiences scales were correlated ($r = .38$, $p < .01$). Additional measures of success experiences at school were not used in the analyses reported here.

Parent-child interaction.—Before going to bed each night, the children completed three scales to describe their interactions with the target parent after school. Positive Parent Involvement assessed a parent's positive behavioral and emotional involvement with the child (e.g., "My father/mother enjoyed doing things with me") (19 items, alpha = .92). Two scales assessed aversive parent-child interactions. The Child Aversive Behavior Scale (8 items, alpha = .75) assessed difficult or demanding child behaviors (e.g., "I misbehaved when I was with my mother"), and parent behaviors prompted by a difficult child (e.g., "My father needed to keep reminding me to do something"). The Parent Aversive Behavior Scale (7 items, alpha = .80) assessed negative parent behaviors (5 items) (e.g., "My father found fault with me") and a negative emotional quality in the parent-child interaction (2 items) (e.g., "Between my father and myself there was a feeling of anger"). Same-day scores on the Child Aversive Behavior and Parent Aversive Behavior Scales were correlated ($r = .56$, $p < .01$). The items

TABLE 1

DESCRIPTIVE STATISTICS FOR DAILY VARIABLES

	$\bar{X}$	SD	Obtained Range
Mood ($n = 152$):			
Positive mood	2.98	.51	1.62–4.00
Anxious mood	1.62	.48	1.00–3.06
Depressed mood	1.48	.40	1.00–2.81
School events ($n = 152$):			
Peer problems	1.59	.54	1.00–3.40
Academic problems	1.66	.51	1.00–3.30
Parent-child interaction ($n = 145$):			
Positive parent involvement	2.93	.61	1.50–4.00
Aversive parent-child interaction	1.63	.52	1.00–3.13
Child aversive behavior[a]	1.61	.53	1.00–3.13
Parent aversive behavior[a]	1.64	.63	1.00–3.29

NOTE.—The scores on each scale can range from 1 to 4 (i.e., item ratings were averaged). The individual child is the unit-of-analysis for the statistics reported in this table (i.e., each child's data were averaged over readings: six readings in which mood was assessed, four readings in which school events were assessed, and two readings in which parent-child interaction was assessed). When the data were examined with a single reading as the unit-of-analysis, scores ranged from 1 to 4 for all scales except those assessing aversive parent-child interactions. Scores for child aversive behavior ranged from 1 to 3.5 and scores for parent aversive behavior ranged from 1 to 3.8.

[a] This is a subscale of the Aversive Parent-Child Interactions Scale.

on these two scales are combined to form a single measure of Aversive Parent-Child Interactions (15 items, alpha = .85). Ratings on this measure were negatively correlated with same-day ratings on the Positive Parent Involvement Scale ($r = -.35, p < .01$).

Additional information about the YES I AM scales is reported elsewhere, including some evidence for their validity (Repetti & Pollina, 1994).[1] For example, at all three readings, items assessing general social behavior (e.g., acting nice/friendly/mean/demanding) were embedded with mood items. In a single factor analysis, the behavior items loaded on a separate factor, which suggested that children distinguished between their experience of internal states and their social behavior. This finding provides some evidence for the construct validity of the mood scales. In addition, mood ratings were correlated in the expected directions with descriptions of failure and success experiences at school and with positive and aversive parent-child interactions. There were no child sex, age, or grade differences on any of the YES I AM scales. The only parent sex difference was that parent-child aversiveness scores were higher for children who described interactions with their mothers than for children who described interactions with their fathers. There were no significant interactions between parent sex and child sex on any of the YES I AM parent-child scales. Preliminary data from an ongoing study suggest additional evidence for the validity of the YES I AM parent-child scales. For example, there was moderate but significant agreement between child ratings of daily parent-child interactions on the YES I AM scales and parents' same-day ratings on parallel scales (Positive Parent Involvement: $r = .21, p < .05$; Child Aversive Behavior: $r = .31, p < .01$; Parent Aversive Behavior: $r = .23, p < .05$) (Repetti, 1995).[2]

Results

The analyses presented here assess associations between children's perceptions of negative events that occurred at school and

subsequent changes in self-reported mood and parent-child interaction. The main analyses test the hypothesis that failure experiences at school increase the likelihood of aversive interactions with a parent later in the day. Child aversive behavior is evaluated as a mediator of the association between failure events and parent aversive behavior. Four additional issues are also addressed: sex and age differences in the link between events at school and parent-child aversive interactions are examined; a different aspect of parent-child interaction, parental involvement, is tested as an alternative outcome variable; and the degree of aversiveness in parent-child interactions is used to predict events at school the next day.

Events at School and Mood

Before examining how failure experiences at school are linked to child behavior after school, it is important to test whether reports of more failure events at school were associated with changes in the child's mood. First, scores on the two measures of failure events at school were correlated with the two measures of negative mood taken at the same reading. Because the unit-of-analysis in this case is a single reading, data from the two school readings on each of the 2 days were pooled so that each child provided data from four separate readings taken at school. Peer Problems correlated with both anxious mood ($r = .54, p < .01$) and depressed mood ($r = .48, p < .01$), and Academic Problems also correlated with both anxious mood ($r = .34, p < .01$) and depressed mood ($r = .26, p < .01$) measured at the same reading. Second, a spillover of negative mood from school to home was assessed through a series of multiple regression analyses. The analyses tested whether failure events at school continued to have an impact on mood after school. The outcome variables in each case were children's ratings of depressed and anxious mood at home in the evening. The main predictor variables (entered simultaneously) were academic problems and peer problems as rated earlier at school (ratings were averaged over the two readings at school).

[1] Interested readers may contact the author for additional information about the development and validation of the YES I AM Scales.

[2] The correlations are based on daily ratings from the first 25 parent-child dyads, who provided ratings over 5 consecutive days. The scores used here represent deviations from 5-day means. For example, a child's rating of parent aversive behavior on any given evening was subtracted from his or her mean rating of parent aversive behavior provided over all 5 evenings. The same was done for each of the five daily ratings provided by the parent of his or her own aversive behavior with the child. Thus, each deviation score represents the rater's perception of how aversively the parent behaved compared to his or her typical or average amount of aversive behavior that week.

Prior to testing the association between negative events at school and mood at home that evening, the mood rating made during the morning reading was controlled. This was done to test for a change in mood from morning to evening. The regression model also controlled for child sex. Separate regression analyses were performed on data from Day 1 and Day 2. On both days there were significant changes in R^2 both for anxious mood (Day 1 change in $R^2 = .05$, $p < .02$; Day 2 change in $R^2 = .06$, $p < .007$) and for depressed mood (Day 1 change in $R^2 = .05$, $p < .03$; Day 2 change in $R^2 = .08$, $p < .002$). Reports of more failure events at school were associated with significant increases from morning to evening in negative mood. In addition, interactions between child sex and school events were tested on data from each day. There was one significant interaction, using data from Day 1, which indicated a stronger effect of academic failure events on depressed mood among girls. However, this finding was not replicated with data from Day 2.

Events at School and Parent-Child Interaction

Same-day correlations.—It was hypothesized that the two types of failure experiences at school, peer problems and academic problems, would increase the likelihood of aversive interactions with a parent later in the day. The hypothesis was first tested by examining the zero-order correlations between children's reports of events, provided during the two readings at school, and their descriptions of parent-child interaction provided at home later that day. In order to compute the simple same-day correlations presented in Table 2, ratings of school events were averaged over the two readings taken at school each day. The data from the 2 days were pooled so that each

child provided 2 days of ratings. Thus, the correlations in Table 2 are based on a total of 277 child-days (149 children provided ratings on the first day and 128 of those children provided ratings on the second day).

Ratings of both peer problems and academic problems were significantly correlated with the children's report of more aversive parent-child interactions that evening. The same pattern of correlations was found when data from the 2 days were analyzed separately. For example, there were significant positive correlations between reports of peer problems and aversive parent-child interactions on the first day, $r(149) = .26$, $p < .01$., and on the second day, $r(128) = .31$, $p < .01$. There were also significant positive correlations between academic problems and aversive parent-child interactions on both the first day, $r(149) = .30$, $p < .01$, and the second day, $r(128) = .40$, $p < .01$. In addition, the two negative-events variables were significantly associated with both of the Aversive Parent-Child Interactions subscales, indicating that the children reported increases in both their own and their parents' aversive behaviors on evenings after they had experienced an academic or social failure at school.

Of course, the simple correlations in Table 2 represent more than a possible effect of failure experiences at school on parent-child interaction. An individual child's interpersonal skills would certainly account for a correlation between the success or failure of interactions with peers and parents. Individual respondent biases, such as a tendency to describe social interactions in a positive or a negative manner, also contribute to a correlation between the two sets of variables. Moreover, correlations between descriptions of events at school and at home

TABLE 2

SAME-DAY CORRELATIONS BETWEEN CHILDREN'S RATINGS
OF FAILURE EVENTS AT SCHOOL AND PARENT-CHILD
INTERACTION AFTER SCHOOL

Parent-Child Interaction After School	Peer Problems	Academic Problems
Aversive parent-child interactions......	.29**	.35**
Parent aversive behavior[a]	.21**	.36**
Child aversive behavior[a]..................	.31**	.24**
Positive parent involvement	−.02	−.05

NOTE.—$N = 277$ days of ratings from boys and girls combined. Most children contributed 2 days of data.
[a] This is a subscale of the Aversive Parent-Child Interactions Scale.
** $p \leq .01$.

could also be inflated by the child's mood on the day in which the data were collected. The possible impact of stable individual differences, as well as that day's mood, on the correlation between the children's ratings of events at school and parent-child interaction are addressed in the multiple regression analyses presented next. However, first, it is interesting to note in Table 1 that failure events at school were not correlated with the measure of positive parent involvement. This suggests that children did not elicit more emotional support from parents on days in which they had experienced social and academic failures at school. It also suggests that the same-day correlations between negative events at school and parent-child aversive interactions were not due simply to respondent bias or to the child's general mood that day acting as a third variable and inflating the correlations.

Within-dyad change in aversive parent-child interactions predicted by school events.—Separate hierarchical multiple regression analyses were used to test the association between each type of failure event at school and aversive parent-child interactions. In each multiple regression model the main predictor variable was the child's report of failure experiences, either peer problems or academic problems, averaged over the two readings at school on the second day, and the outcome variable was the child's description of aversive behavior during interactions with the target parent that evening (either the overall score for the aversiveness of parent-child interactions, or the score for one of the subscales describing child behavior and parent behavior separately). The first step of the regression controlled for child sex, parent sex, and the interaction of parent and child sex. A group of four additional control variables were added in a second step. In order to test for within-dyad changes in the child's report of aversiveness from Day 1 to Day 2, the measure of parent-child interaction on Day 1 was controlled. Similarly, in order to examine the effects of a change in negative events, the measure of failure experiences at school on Day 1 was also controlled. Finally, evidence presented above of a mood spillover from school to home is consistent with research indicating that, among adults, both stressors that occurred earlier in a day and a prior negative mood state have effects on adults' current mood (Marco & Suls, 1993; Repetti, 1993). It was therefore reasoned that negative mood caused by events at school and

carried over into the evening could color the child's perceptions of parent-child interactions and thereby inflate correlations between children's reports of events at school and their reports of interactions at home. Therefore, ratings of anxious and depressed mood that were made during the two readings at school on Day 2 were also controlled in the multiple regression model.

Table 3 presents the results of six separate multiple regression analyses. Each of the three parent-child outcome variables was separately regressed onto each of the school negative events variables, peer problems (Model A) and academic problems (Model B). Not surprisingly, the seven control variables accounted for a highly significant proportion of the variance in the children's reports of aversive parent-child interactions. As would be expected from the high correlations between ratings of parent-child interaction made on the 2 days (rs ranged from .44 to .53, ps < .01), the Day 1 score on the parent-child scale was the strongest predictor of aversiveness on Day 2.

According to the hypothesis, an increase (from Day 1 to Day 2) in a child's experiences with failure at school should be associated with a significant increase (over the same time period) in aversiveness during after-school parent-child interactions. As can be seen in the first column of results in Table 3, both types of negative events, peer problems and academic problems, were significant predictors of increased scores on the parent-child aversiveness scale. The results of analyses of the two subscales of the parent-child variable are reported in the second and third columns of Table 3. Within-dyad increases in difficult or demanding child behaviors (e.g., loud and noisy, misbehaved, hyperactive) were predicted by both peer events (Model A) and academic events (Model B). A within-dyad increase in negative parent responses to child behavior (e.g., disapproval and punishment) was predicted by academic events (Model B) only. Thus, when children reported more academic failures at school than they had the previous day, later that evening they also tended to describe their own behavior as more difficult and to report more aversive parent responses to their behavior. When children reported more peer problems at school than they had the previous day, they also tended to describe themselves as more difficult at home with parents.

TABLE 3

Results of Six Hierarchical Multiple Regression Analyses Testing the Relation between Children's Daily Perceptions of Peer Problems (Model A) or Academic Problems (Model B) at School and Their Reports of Aversive Parent-Child Interactions After School

	PARENT-CHILD OUTCOME VARIABLE MEASURED ON DAY 2		
	Aversive Parent-Child Interactions	Parent Aversive Behavior	Child Aversive Behavior
Control variables:[a]			
R^{2b}	.32–.33****	.26–.27****	.30–31****
Adjusted R^2	.27–.28	.21–.22	.25–.26
Main predictor variable:			
Model A: Peer problems on Day 2:			
Beta	.25*	.24	.27*
Change in R^2	.03	.02	.04
Adjusted R^2	.30	.22	.28
$F(8, 94)$	6.35****	4.60****	5.93****
Model B: Academic problems on Day 2:			
Beta	.36***	.47***	.27**
Change in R^2	.08	.10	.04
Adjusted R^2	.36	.32	.30
$F(8, 94)$	8.11****	6.91****	6.41****

Note.—N = 103 children.

[a] The following seven variables were controlled: child sex, parent sex, child sex × parent sex, the parent-child outcome as rated on Day 1, the failure experiences variable (either peer problems [Model A] or academic problems [Model B]) as rated on Day 1 (averaged over the two readings), anxious and depressed mood ratings made at school on Day 2 (averaged over the two readings).

[b] There were minor differences in the amount of variance explained by the control variables depending on which of the two failure experiences variables was tested (i.e., Model A or Model B). For each outcome variable, perceptions of academic problems on Day 1 (Model B) accounted for more variance than did perceptions of peer problems (Model A).

* $p \le .05$.
** $p \le .01$.
*** $p \le .001$.
**** $p \le .0001$.

Another group of multiple regression analyses were performed that included both types of failure events as simultaneous predictor variables in one equation. These models included controls for the Day 1 scores on both types of events. For all three outcome variables, the two failure events scores for Day 2 together predicted a significant increase in explained variance (aversive parent-child interactions: change in R^2 = .09, $p < .001$; parent aversive behavior: change in R^2 = .11, $p < .001$; child aversive behavior: change in R^2 = .06, $p < .01$). Even after reports of peer problems were controlled in the analysis, academic problems continued to predict an increase in aversive parent-child interactions (beta = .33, $p < .002$). The same was true when the two subscales describing parent and child aversive behavior were examined as separate outcome variables. However, with academic failure experiences controlled in the analysis, the child's reports of peer problems no longer predicted

an increase in any of the measures of aversive parent-child interactions.

Child aversive behavior as a possible mediator of the association between academic problems and parent aversive behavior.—In order to test the possible mediational role of child aversive behavior, the regression analysis reported in Table 3 testing the association between child reports of academic problems and parent aversive behavior was repeated. Two additional control variables were added to the model: the child's ratings of his or her own aversive behavior on Days 1 and 2. As would be expected, child perceptions of own aversive behavior and parent aversive behavior on the same evening (Day 2) were significantly associated (β = .63, $p < .0001$). However, even after controlling for child aversive behavior, the child's reports of academic problems earlier in the day continued to be a significant predictor of his or her reports of

parent aversive behavior that evening (β = .28, p < .01). The reduction in the beta associated with academic problems on Day 2 (from .47 without controls for child aversive behavior to .28 with controls for child aversive behavior) suggests that this association may have been partly mediated by changes in the child behavior. Nonetheless, there was a significant remaining link, between perceptions of academic problems at school and perceptions of more aversive parent behavior at home, that appears to be mediated by some variable other than child aversive behavior.

Parent and child sex differences in the association between failure events and aversive interactions.—Interactions between the negative school event predictor variable and the sex of parent and child were also examined in the multiple regression equations predicting aversive parent-child interactions. One three-way interaction term (parent sex × child sex × failure events at school) and both two-way interactions (parent sex × events, and child sex × events) were included as a final step in each of the multiple regression analyses reported in Table 3. Although none of the interaction terms reached the p < .05 level of statistical significance, two were marginally significant. The interaction between parent sex and peer problems (β = .54, p < .10) and the interaction between parent sex and academic problems (β = .44, p < .10) were marginally significant predictors of child aversive behavior.

Follow-up regression analyses examined children's reports of their aversive behavior with mothers and with fathers after school as outcome variables. Among children who were asked to rate interactions with their mothers (n = 57), the perception of difficulties with peers at school was a significant predictor of increased child aversive behaviors (β = .51, p < .006), and perceived academic problems was a marginally significant predictor of increased child aversive behaviors (β = .27, p < .08). Among those children who described interactions with their fathers (n = 46), neither reports of academic nor social problems at school were significant predictors of aversive child behaviors. Thus, the children described both mothers and fathers as engaging in more negative or disapproving responses to their behavior after days in which they described more academic problems at school. However, in a follow-up analysis to a marginally

significant interaction term, only the children who were asked to report on interactions with mothers tended to describe themselves as more demanding or difficult on days in which they experienced more academic failure. In addition, only the children who were asked to report on interactions with mothers described themselves as more demanding or difficult after days in which they perceived more social difficulties at school.

Age differences in the association between failure events and aversive interactions.—Interactions between the negative school event predictor variables and the child's age were examined in a separate set of multiple regression analyses by adding the child's grade as an additional control variable in the first step and the interaction term (grade × event) as a final step in each of the multiple regression analyses reported in Table 3. The interaction between grade and peer problems (β = −.27, p < .05) was a significant predictor of child aversive behavior. (There was a similar significant interaction between child age and peer problems.) Follow-up regression analyses separately examined fourth-, fifth-, and sixth-grade children's reports of their aversive behavior after school as outcome variables, including all of the control variables described earlier. Because of the reduced sample sizes in these analyses (n = 33–36 children with complete data in each grade), the peer problems variable was not a statistically significant predictor of increased child aversive behavior at any one of the grade levels. However, the strongest results were obtained with data from the fourth graders (β = .44, p = .14) and the weakest results were obtained with data from the sixth graders (β = −.39, p = .70). Thus, the one significant interaction with grade level (and with child age) reflected a tendency for younger children to show a stronger association between peer problems and child aversive behavior compared to older children in our sample.

Failure events and parent involvement.—Multiple regression analyses that paralleled the analyses reported in Table 3 were performed with two indicators of parental involvement as outcome variables: the children's Day 2 ratings on the YES I AM positive parent involvement scale and a single-item estimate of the amount of time spent with the target parent after school that day (responses ranged from 1 ["I didn't see my father (or mother) at all"] to 6 ["We were

together almost constantly"]). Whereas increases in children's descriptions of failure experiences at school were associated with increases in their reports of aversiveness during interactions with a parent after school, in none of the parallel regression analyses was there a significant relation between failure events and a measure of parent involvement. This difference does not appear to be due to differences in the psychometric properties of the two YES I AM parent-child interaction scales. For example, the internal reliability of the measure of positive parent involvement was greater than the internal reliabilities of the aversiveness scales. Thus, children's descriptions of negative school events (in particular, academic failure events) were uniquely associated with subsequent reports of aversive parent behavior after school, not with the amount of time spent with the parent or the extent to which the child perceived the parent as involved, interested, and responsive.

Parent-child interaction as a predictor of school events.—The multiple regression analyses indicated that an increase in perceptions of failure events at school was associated with a significant increase later that day in the child's reports of aversive interactions with the target parent. The reverse direction of effects was examined by using aversive parent-child interactions on Day 1 to predict ratings of academic and peer problems on Day 2. These multiple regression analyses were analogous to the regression models described in Table 3. They included controls for parent and child sex, the Day 1 score on the negative school event variable (in order to test for a change in negative events from Day 1 to Day 2), and Day 1 anxious and depressed mood scores (in order to control for a mood spillover from Day 1 to Day 2). The child's report of aversive parent-child interactions on Day 1 was not associated with increased reports of either peer problems or academic problems on Day 2. However, in separate analyses using the two aversive parent-child interactions subscales (parent aversive behavior and child aversive behavior), there were two marginally significant associations. Child descriptions of high levels of *parent* aversive behavior on Day 1 were associated with increases in reports of both types of negative events on Day 2: peer problems ($\beta = .13$, $p < .10$), and academic problems ($\beta = .16$, $p < .10$). This was not found with ratings of *child* aversive behavior on Day 1 as the predictor variable.

Discussion

Children's Self-Reported Behavior Following Perceived Social and Academic Failure Events

As predicted, on days when a child reported more academic and social failure experiences at school, he or she also reported more negative mood and more aversive interactions with a parent later in the day. In particular, children described themselves as more demanding and difficult with their parents on days in which they had earlier perceived more problems with peers, such as being teased by another child or feeling excluded by friends, or more academic problems, such as receiving a poor grade or having difficulty with schoolwork. This is consistent with the proposal that attempts to secure parental attention and reassurance following a failure experience at school can escalate into more aversive child behaviors, such as insistent, uncontrollable, or aggressive behavior. Moreover, there was no evidence for the reverse direction of effects; children's reports that they were difficult and demanding with their parents were not associated with an increase in reports of failure events at school the next day.

In addition, whereas both mothers and fathers were described by their children as more negative and disapproving following academic failure experiences, a trend in the data suggested that children may be more prone to behave aversively with mothers than with fathers when the children are under stress. The youngsters in this study not only reported, on average, more aversive behavior during interactions with mothers (Repetti & Pollina, 1994), they also seemed to be more likely to respond to failure experiences at school with increases in their aversive behavior when in the company of mothers. Perhaps children generally make greater efforts to control their behavior and affect when with their fathers. In addition, the mother-child relationship may be more reactive to daily child stressors because children are more inclined to turn to mothers, and to express their distress, when they have been hurt or feel humiliated. According to the conceptualization presented here, mothers would be more likely to experience their children's anger and aversive behavior if children are more prone to seek emotional support and comfort from them.

Although perceptions of both academic and peer problems were separate predictors

of an increase in child aversive behaviors after school, in multiple regression analyses that included both types of events as simultaneous predictors, only academic failure was an independent predictor of aversive child behavior. A conservative interpretation of this difference seems warranted because children tended to describe academic failures on the same days that they reported peer problems: Day 1: $r(166) = .34$, $p < .05$; Day 2: $r(162) = .54$, $p < .01$. The same type of correlation is found in other studies; children who perform better at school are generally more well liked by their peers (Wentzel, 1991). It may be that a sense of failure and its impact on self-esteem is what is salient and it doesn't matter which important aspect of the child's self-concept has been challenged.

An alternative approach to the assessment of coping behaviors.—The strategy that was used here to assess children's responses to failure differs in several ways from the approach that is typically used in the psychological coping literature. First, this study focused on a restricted range of daily hassles and possible coping responses. Only one category of possible behavioral responses to two types of school-based daily stressors was examined, with largely comparable results across the two types of events. Second, intrasubject variability was assessed (i.e., day-to-day changes in the subject's behavior), rather than measuring "coping styles" as more or less stable individual-difference moderators to be studied on a between-subjects basis. Third, this was done by testing for a predicted short-term change in children's self-reported behavior following a minor event. This contrasts with the more common methodology that asks children to describe how they usually respond, or how they have responded in the past, to stressful situations (Repetti et al., in press). The traditional approach is limited by the fact that children may not be aware of all the different internal psychological and behavioral strategies that they have tried in the past. Moreover, when confronted with a questionnaire or interview, they might not recall or adequately describe even those coping strategies that they have recognized. For example, preadolescents and younger children tend to describe using mostly problem-focused or primary control coping strategies in the kinds of situations that were studied here (Band & Weisz, 1988; Compas, Malcarne, & Fondacaro, 1988). These commonly reported coping responses, such as

studying to improve grades or staying away from children who tease, are precisely the coping behaviors that adults encourage children to use. In addition to the possibility of a reporting bias favoring adult-like responses, children may also be subject to the same biases suspected in adults' descriptions of their coping, such as the tendency to report coping responses that, in retrospect, appear to have produced a desired outcome (Stone & Kennedy-Moore, 1992). Less rational and intentional responses may be relatively difficult for a child to recognize as coping, to recall later, and to describe, even though they were part of an effort to manage emotional distress.

The type of research design used here avoids the reporting biases mentioned above. Because it does not require children to infer a connection between their behavior at home and stressful events that occurred earlier at school, it may contribute a different kind of information to the literature on children's coping and adaptation to daily stressors. For example, preadolescents only rarely spontaneously mention venting negative emotions or "taking it out on others" in response to social and academic stressors and, when specifically asked, indicate that they only sometimes use these strategies (Band & Weisz, 1988; Causey & Dubow, 1992). This study's findings suggest that preadolescents may, in fact, behave more aggressively in response to some minor daily events than they realize. This may be especially true for girls, who were just as likely as the boys in this study to react to problems at school with more difficult behavior at home. Other studies have found that although girls do report using social support in stressful situations, they are less inclined to describe using aggressive coping behaviors (Bird & Harris, 1990; Causey & Dubow, 1992).

Within the age range studied here (fourth–sixth grade), younger children appeared more likely to show an increase in difficult and unmanageable behavior following negative peer events at school, which may suggest greater difficulty managing their injured feelings. This finding appears to contrast with data indicating that the self-reported use of emotion-focused and secondary-control coping increases with age, particularly around adolescence (Band & Weisz, 1988; Compas et al., 1988). It may be that children use more emotion-focused coping strategies during middle childhood and preadolescence than they report. How-

ever, compared to adolescents, they may have more difficulty understanding and describing their efforts to manage emotional distress. In addition, their emotion-focused coping efforts may be less rational and less effective and this may also contribute to under-reporting. This interpretation is consistent with other research indicating that pre-adolescents have less knowledge of the effectiveness of different coping strategies than do older adolescents (Berg, 1989).

Parent Responses to Academic Failure Events

There was no evidence that the children in this study perceived more emotional support after relatively high-stress days at school. Although they did not describe their parents as more involved or responsive on those evenings, there was a strong link between children's reports of academic problems at school and increases in their perceptions of aversive parent responses to their behavior, like disapproval and punishment. Interestingly, the association between academic problems at school and negative parent behaviors was only partially mediated by children's reports of increases in their own aversive behavior. There are several possible alternative explanations for direct and indirect links between child reports of academic failure and parent expressions of disapproval.

First, although this study did not assess parents' awareness of events that occurred in their child's life each day, it seems likely that, on at least some of the evenings, the children discussed their day at school with their parents, including their experiences with failure. When parents learn of an academic failure event, such as receiving a poor grade, they may directly express disappointment and disapproval regarding the child's school performance. Indeed, parents and children at this age report that many of their conflicts concern academic issues (Hill & Holmbeck, 1987; Smetana, 1989). In addition, parents may (intentionally or unintentionally) react somewhat more harshly to evidence of child misbehavior when they are aware of recent slips in the child's academic performance at school. Thus, there may be an increase in negative parent behaviors independent of any increases in the child's aversive behavior on days when parents are aware of academic failures that occurred at school. Whereas expressions of parental disapproval might be expected in the context of academic failure, it would not be an expected response to social failure. Most par-

ents would not react with criticism or behave more harshly toward a child who describes feeling rejected by peers that day at school. This is exactly what was found. Although children described themselves as more difficult and demanding after days in which they had reported more problems with peers, they did not describe more aversive parent responses to their behavior on those days.

Second, even when children do not tell their parents about failures experienced at school that day, their interpretation of their parents' attitudes toward them may be colored by those recent events. Because parents and teachers are both important authority figures, a child's belief that she failed to meet adult expectations at school may increase her propensity to perceive more parental disappointment at home, whether or not she has behaved in a more aversive manner and whether or not there has been an actual increase in the parent's expressions of disapproval. The general notion that feeling unsuccessful in one situation may prime a child to perceive failure and rejection in subsequent situations could also account for the marginally significant correlations between reports of parent disapproval at home and perceptions of more academic and social problems at school the next day. The results may thus provide some evidence (albeit weak evidence) of a downward spiraling process in which academic failure experiences at school increase perceptions of parent disapproval later in the day, which, in turn, increase the propensity to perceive rejections and failures at school the next day.

Child Reporting Biases?

Of course, a bias in perceptions caused by earlier events cannot fully account for this study's findings. First, school-to-home mood spillover effects were eliminated in the analyses by controlling for earlier mood at school. Second, reports of failure experiences at school were uniquely associated with perceptions of increased aversiveness with parents. As mentioned above, they did not predict a change in perceptions of how available, interested, involved, and affectionate the parent was with the child, nor did they predict a change in the child's report of the amount of time spent with the parent after school. If the significant association between reports of negative events at school and aversive parent-child interaction were due solely to a response bias caused by the child's mood or frame of mind that day, then ratings of other aspects of parent-

child interaction should have also been biased. Other research suggests that a parent's emotional and behavioral involvement with a child during the evening may be more tied to the *parent's* exposure to stressors during the day (Repetti, 1994; Repetti & Wood, in press).

In short, this study illustrates use of a relatively unbiased method for assessing children's responses to daily stressors. Besides avoiding the general biases inherent in self-report measures of coping, the controls for mood functioned as an additional check on any respondent biases in the children's descriptions of the day's events and behavior.

Conclusion

I have proposed here that demanding and difficult child behavior can be an unfortunate and unintended result of a child's efforts to recover from the distress engendered by a failure situation. Although this is not the only, nor probably even the primary, outcome of most children's coping efforts, the findings reported here are provocative and should be extended and explored more fully. In particular, this study did not fully assess the internal and behavioral processes that are assumed to mediate the link between failure and aversive behavior—short-term changes in the child's sense of self, and attempts to engage a parent that escalate into aversive behaviors. The present study also did not include independent raters to distinguish children's perceptions from more objective indicators of events at school and at home. Finally, this study did not test individual and situational characteristics that shape the conditions under which stressful events lead to aversive parent-child interactions. For example, parents who use ineffective parenting practices and children who are more shame-prone might be more vulnerable to the type of process described here (Patterson et al., 1989; Tangney, Wagner, et al., 1993). The nature of the event to which the child is responding is probably another critical situational variable, as is the parent's awareness of the events that occurred.

Investigations of the role played by parents in a child's adjustment to stress typically ask whether or not the parent tends to be supportive. The results presented here suggest that this paradigm may be overly limited. A child's attempts to seek emotional support from a parent may be indirect and may sometimes escalate into demanding and disruptive behaviors. When this happens, many parents are probably more likely to notice and respond to the negative child behavior rather than its underlying cause. Because parents seem to either withdraw or become more irritable with their children (or both) on days when they are coping with more stressors (Dumas, 1986; Patterson, 1983; Repetti, 1992, 1994; Repetti & Wood, in press), the risk for this cycle probably increases when parents are also under stress. It seems plausible to suggest that the more long-term negative effects of chronic stress are at least partly mediated or exacerbated by the cumulative effects of aversive parent-child interactions following repeated daily stressors. This may explain why a self-reported aggressive coping style in preadolescent and young adolescent children is correlated with psychological symptoms, such as depression and low self-esteem, and why aggressive coping appears to magnify the impact of daily hassles on depression (Cafasso, Jose, & Bryant, 1993; Jose et al., in press; Kurdek, 1987). Naturalistic studies, such as this one, of children's short-term responses to commonplace events in their lives hold a promise of improving our understanding of chronic stressors and their effects on children.

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