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The Impact of After-School Peer Contact on Early Adolescent Externalizing Problems Is Moderated by Parental Monitoring, Perceived Neighborhood Safety, and Prior Adjustment

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Abstract

Unsupervised peer contact in the after-school hours was examined as a risk factor in the development of externalizing problems in a longitudinal sample of early adolescents. Parental monitoring, neighborhood safety, and adolescents' preexisting behavioral problems were considered as possible moderators of the risk relation. Interviews with mothers provided information on monitoring, neighborhood safety, and demographics. Early adolescent (ages 12–13 years) after-school time use was assessed via a telephone interview in grade 6 (N = 438); amount of time spent with peers when no adult was present was tabulated. Teacher ratings of externalizing behavior problems were collected in grades 6 and 7. Unsupervised peer contact, lack of neighborhood safety, and low monitoring incrementally predicted grade 7 externalizing problems, after controlling for family background factors and grade 6 problems. The greatest risk was for those unsupervised adolescents living in low-monitoring homes and comparatively unsafe neighborhoods. The significant relation between unsupervised peer contact and problem behavior in grade 7 held only for those adolescents who already were high in problem behavior in grade 6. These findings point to the need to consider individual, family, and neighborhood factors in evaluating risks associated with young adolescents' after-school care experiences.

Introduction

Where children and adolescents go and with whom they spend time in the after-school hours has become a central concern of parents, researchers, and policy makers (Miller & Marx, 1990; Vandell & Posner, 1999). The need to better understand the dynamics of the after-school experience is especially acute in the early adolescent years, a period during which at least minimal amounts of self care become commonplace, and opportunities for self-directed activity —with and without parents or other adult supervisors present—abound (Medrich & Marzke, 1991). Given emerging evidence that most deviant activity in the early adolescent years takes place in the school-day afternoon hours (Fox & Newman, 1998), it becomes critical to identify the conditions and contexts that may heighten (or attenuate) the risks associated with unsupervised peer activity at these times.

Although unsupervised after-school peer contact has been linked to child and adolescent adjustment difficulties (Galambos & Maggs, 1991; Posner & Vandell, 1994; Steinberg, 1986), this linkage appears to hinge importantly on child, family, and neighborhood characteristics. Both Galambos and Maggs (1991) and Steinberg (1986) found that relations

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between unsupervised self-care with peers present and later outcomes were moderated by parenting qualities, with poorer outcomes shown by children whose parents were lax in monitoring the children's whereabouts. Lack of monitoring has been shown to be a key factor in young adolescents' drift toward antisocial peers (Patterson, Reid, & Dishion, 1992). It makes sense, therefore, that the relative absence of effective monitoring, combined with a high degree of adolescent involvement in peer activities in which no direct adult supervision was present, might constitute a potentially risky mix.

Monitoring has been operationalized in a variety of ways, but a core feature of most definitions is an emphasis on parents' knowledge of their children's whereabouts, companions, and activities (e.g., Fletcher, Darling, & Steinberg, 1995). Through knowledge about, active involvement in, and regulation of children's after-school activities, parents may exert positive socialization pressures toward adaptive behavioral adjustment. On the other hand, lack of awareness and knowledge, coupled with an inability or unwillingness to supervise and regulate children's companions and activities, may be associated with heightened risk of adjustment difficulties. In this study, we considered whether a broadly defined measure of monitoring—including constituents reflecting both knowledge of child whereabouts and beliefs about the extent to which the child would be supervised by other adults—might moderate the relation between after-school peer contact and young adolescents' subsequent externalizing behavior problems.

Whether after-school involvement with peers contributes to poor adjustment outcomes in early adolescence also likely depends on family context factors, such as family socioeconomic status and residential location (e.g., type of neighborhood; Chase-Lansdale & Gordon, 1996; Coley & Hoffmann, 1996; Kupersmidt, Greisler, DeRosier, Patterson, & Davis, 1995). Interest in neighborhood characteristics as predictors of child and adolescent adjustment has increased markedly in recent years, and accumulating evidence suggests that both objective (e.g., census tract assessments) and subjective (e.g., family members' ratings of safety and security) features of neighborhoods are associated with children's behavioral adjustment (e.g., Richters & Martinez, 1993). Moreover, the impact of these neighborhood characteristics on adjustment has been shown to operate independently of family structure and family economic well-being. For example, Brooks-Gunn, Duncan, Klebanov, and Sealand (1993) found that relative neighborhood affluence was associated with lower rates of adolescents' dropping out of school, even after controlling for family socioeconomic characteristics.

Various explanations have been put forth to explain possible links between neighborhood characteristics and children's adjustment (Jencks & Mayer, 1990; Kupersmidt et al., 1995). An explanation that appears to be gaining currency is one that focuses on variations in neighborhoods in terms of collective socialization; that is, the extent to which adults in the neighborhood share in the responsibilities of child-care supervision and regulation (Chase-Lansdale & Gordon, 1996; Sampson, Raudenbush, & Earls, 1997). From this perspective, neighborhood qualities are presumed to exert an impact on adolescent adjustment through the availability of role models and through the provision of nonparental guidance and supervision. It also may be that neighborhood qualities operate indirectly on adjustment outcomes through their intermediate effects on parenting variables (Klebanov, Brooks-Gunn, & Duncan, 1994). Access to resources and social support available in some neighborhoods may enable parents more effectively to monitor and regulate their children's activities and behavior. Where there are scant resources and external support is unavailable, there may be a decline in parenting effectiveness and a concomitant heightening of risk for poor adolescent adjustment outcomes.

The extent to which neighborhood characteristics might moderate the impact of unsupervised after-school activity on adjustment outcomes in childhood and early adolescence is not yet clear. One study bearing directly on this issue (Coley & Hoffman, 1996) found that levels of

neighborhood danger interacted with types of supervision and monitoring in the prediction of school-aged children's behavior problems. The lowest rates of problem behaviors were found for those children living in low-danger neighborhoods, whose mothers provided high amounts of monitoring. Interestingly, the highest level of problem behavior was shown by closely supervised children living in high-danger neighborhoods. In interpreting this finding, Coley and Hoffmann speculate that a “reverse causation” effect may be at work: In dangerous neighborhoods, parents may be more likely to supervise children who previously had shown a tendency toward behavior problems. However, because no antecedent behavior-problem data had been collected, Coley and Hoffmann were unable empirically to test this possibility. In the current study, we further examined the role of neighborhood factors in early adolescent behavioral adjustment. Of interest was the role of perceived neighborhood safety as a moderator of the impact of unsupervised peer contact and parental monitoring.

Children's current adjustment also has been implicated in the relation between children's after-school experience and later adjustment outcomes. Self-selection factors may operate, such that children seek out experiences (or their parents arrange for or tolerate such experiences) because of preexisting behavioral styles and problems (Laird, Pettit, Dodge, & Bates, 1998). In the present context, it seemed possible that children already showing antisocial behavioral tendencies might more actively seek out peers (and eschew parental supervision) in the after-school hours. Without controls for initial adjustment, it would be difficult to interpret any obtained relations between unsupervised peer contact and later behavior problems (as in Coley & Hoffman, 1996). We therefore controlled for current externalizing behavior problems in our longitudinal analyses.

It also is the case that preexisting or current child behavior problems may moderate the impact of unsupervised peer activity on subsequent adjustment. Pettit, Laird, Bates, and Dodge (1997) found that children in frequent self-care in the early elementary grades showed poorer patterns of adjustment in grade 6 *only* if the children were above-average in teacher-rated externalizing problems in kindergarten. This suggests that certain types of after-school experiences—such as spending time in the company of peers when no adult supervision is present—may pose special risks for children already showing signs of behavioral maladjustment prior to their involvement in these experiences.

In this study, we examined the extent to which frequency of unsupervised peer contact, degree of parental monitoring, and perceived neighborhood safety and security predicted teacher-rated externalizing behavior problems concurrently and over a 1-year period, from sixth to seventh grade. A principal question was whether the three factors interacted with one another in the prediction of behavior problem outcomes. Based on past research (e.g., Coley & Hoffman, 1996; Steinberg, 1986), it seemed reasonable to expect that unsupervised peer contact might be more strongly linked with problem behavior for those children whose parents engaged in low levels of monitoring and/or for those children residing in unsafe neighborhoods. Because neighborhood quality and parenting effectiveness may covary with family economic resources (see Pettit, Bates, & Dodge, 1997), we controlled for family socioeconomic status (SES) in these analyses.

A second goal of the study was to investigate concurrent child adjustment as a possible moderator of the effects of unsupervised self-care with peers on later adjustment. As noted earlier, young adolescents already showing high levels of problem behavior may be more likely to be in unsupervised self-care and also may be more likely to show increases in problem behavior over time. Because sex differences have been reported in the literature on children's after-school experiences and adjustment (Galambos & Maggs, 1991), child sex also was examined as a possible moderator of the effects of unsupervised peer activity on adolescent adjustment.

Method

Participants and Overview

This study examined children and families participating in the ongoing Child Development Project, a multisite, longitudinal study of children's social adaptation (see Pettit, Bates, & Dodge, 1997). Families originally were recruited in two cohorts (1987 and 1988) from each of three sites: Nashville and Knoxville, TN, and Bloomington, IN. At the time of kindergarten preregistration in the spring, parents were approached randomly by research staff and asked to participate in a longitudinal study of child development; about 75% agreed to do so. Because about 15% of the children at the targeted schools do not preregister, that proportion of participants was recruited on the first day of school or through letter or telephone. The sample was diverse in terms of child sex (52% male), ethnicity (81% European American, 17% African American, 2% other ethnic groups), and family composition (26% lived with single mothers). The demographic breakdowns at each site generally were commensurate with community-wide statistics. The Hollingshead (1975) index of social status indicated a predominantly middle-class sample (M = 40.4, SD = 14, *range* = 8–66), although a range of statuses was represented, with 9%, 17%, 25%, 33%, and 16% of the families classified into five possible classes (from lowest to highest), following Hollingshead's recommendations.

The sample consisted of 585 families at the first assessment prior to kindergarten (i.e., when the children were approximately 5 years old). Follow-up assessments of the children were conducted in kindergarten and annually through grade 7 (age 13 years); follow-up family assessments (via parent questionnaires) were conducted in the summer following kindergarten and in all subsequent summers. Each of the families in the prekindergarten sample was invited to participate in a home-visit interview in the summer prior to, and early fall of, the 6th grade school year, when the children were 12 years old. Approximately 80% of the families agreed to these follow-up interviews. These families generally were representative of the original sample, with 51% boys, 16% ethnic minorities, 32% from single parent families, and an average Hollingshead SES score of 39.1 (SD = 14.1). The 20% attrition was due mainly to families moving out of the area and to lack of interest in continuing involvement in the study. Attrited participants were not different from ongoing participants in either initial child adjustment or family background characteristics (see Pettit, Bates, & Dodge, 1997).

During the winter and spring of grade 6, telephone interviews (focusing on after-school experience) were conducted with each child. Completed interviews were obtained for 438 children; mother-interview data were available for 95% of these children. In the grade 6 and 7 academic years, questionnaires were distributed at schools to each child's teacher. In grade 6, questionnaires were returned for 444 children, of whom 95% had mother-interview data and 89% had child telephone-interview data. One year later, questionnaires were again distributed at schools for teachers to complete. Because in grade 7 most children had multiple teachers, the principal of each school was asked to name the teacher most familiar with the child. In most cases this was either the physical education teacher, the language arts teacher, or the homeroom teacher. Questionnaires were returned for 426 children, of whom 94% had the earlier mother-interview data and 91% of whom had the earlier child telephone-interview data.

The main multivariate (regression) analyses in this study were conducted for those participants for whom complete data were available from the mother interview, the child interview, and teacher ratings in both grades (n = 342). These participants were contrasted with the remaining participants (i.e., those missing one or more data points) on all predictor, outcome, and control variables. Only one significant difference was found: Those in the complete-data sub-sample had higher SES scores (M = 40.0) than those with some missing data (M = 36.1), $F(1, 476) = 4.53$, $p < .05$. Thus, participants contributing data to the principal regression analyses were

somewhat more economically advantaged compared to those participants who could not be included in these analyses.

Procedure and Measures

Parental monitoring and neighborhood safety—In the summer prior to and early fall of the 6th grade, mothers (and in three instances, nonmaternal caregivers) were interviewed in their homes. One part of the 90-min interview focused on the child's involvement in differing kinds of after-school care settings during the elementary school years (described in Pettit, Laird, Bates, & Dodge, 1997) and another part of the interview focused on descriptions of parenting practices, neighborhood characteristics, and family changes and adjustments over the past year.

Embedded in the interview were a series of items that were designed to assess aspects of *parental monitoring and supervision*. Some of these items were adapted from existing measures (e.g., Capaldi & Patterson, 1989); others were developed specifically for this project. The items were judged to tap parents' awareness of their children's activities and companions, parents' beliefs about the difficulty of tracking their children's whereabouts, and parents' judgments of the extent to which other adults would be available to provide supervision when their children were away at friends' homes. Each item was read aloud to the mother and she then was asked to rate the item on a 5-point scale. Because the scale anchor points differed somewhat, depending on the content of the item being rated, the rating anchors were written on cards and shown to the mother, who could then respond orally or point to the rating she wished to make. Sample items included “When your child is not at home, do you know where he/she is?” and “How often do you talk with your child about what he/she does with his/her friends when he/she is away from home?”

Based on rational considerations and internal consistency checks, a 9-item composite scale was selected for use. The α internal consistency for this scale was .73 and the average interitem correlation was .40. In no case did the deletion of an item increase the α by more than .01. (A list of the items comprising this scale is available from the first author upon request.)

Another set of items described aspects of *neighborhood safety* and security (adapted from the Self-Care Checklist; see Posner & Vandell, 1994) and were rated by the parent on a 6-point scale (very unsafe to very safe). One item indexed mothers' general appraisal of neighborhood safety, three items tapped mothers' feelings of their own safety in coming home and being home alone, and two items indexed mothers' judgments of how safe it was for their children to play in the home and outside. The α internal consistency of this 6-item scale was .90. (Items available from the first author upon request.)

Adolescent after-school time use—During the late winter and early spring of the grade 6 school year, families were contacted by a research staff member to schedule a time when the adolescent child would be available to participate in a telephone interview about children's experiences in the afternoon after school. If the child was at home and was agreeable to being interviewed at the time of the initial contact, the interview was then completed. If this was not possible, a later time was scheduled for the interview to take place. Written informed consent for this procedure had been obtained from parents during the earlier home visit interview; verbal assent was obtained from the adolescent prior to the telephone interview. Interviews lasted an average of 40 min. When the contact for the interview was made, the research staff member asked that the child complete the phone interview in a location that would be private.

Each adolescent was asked to recall his or her after-school experience for the present day and the preceding day. Because details of the earlier occurring day might have been more difficult to recollect, the adolescent was asked to report on the earlier day first to avoid these reports influencing recall of the current day. In the majority of cases, interviews were completed in

the evening on a Tuesday, Wednesday, Thursday, or Friday. This allowed the child to describe after-school experiences on adjacent days, including the current day. For a small number of families, interviews were conducted on a Monday or on a weekend day, which meant that the obtained descriptions were of after-school experiences on nonadjacent days (e.g., Monday and Friday). Also, in rare instances, interviews had to be scheduled in the afternoon hours, requiring that the child describe the 2 days prior to the interview day. Inspection of the interview protocols suggested no differences in the general descriptions provided by children who were interviewed later in the week versus children who were interviewed early in the week, on weekends, or in the afternoon.

The children's responses were recorded using a modified version of the Posner and Vandell (1994) Activity Schedule. This instrument was used to determine the amount of time after school (broken down into 12, 15-min intervals) the child spent in the presence of parents, other adults, or with no adult supervision (alone, with siblings, and with peers). If siblings or peers were mentioned, then the interviewer asked for their ages and sex. Interviewers also recorded the reported activities for each 15-min interval, as well as the location of the child for those intervals. (Activities and locations are not considered in this report.)

An Activity Schedule was completed for each of the two days, providing 24, 15-min intervals (i.e., 3 after-school hours for each of 2 days). Interviewers were trained to efficiently and thoroughly guide the adolescent through the afternoon hours, using common activities (e.g., favorite TV programs) as reference points. This technique has been found in prior research to provide a reasonably accurate assessment of children's involvement in various after-school activities (Posner & Vandell, 1994).

Interrater reliability was computed only for location and activity. Because coding of presence or absence of other persons was done essentially by the adolescent interviewee (i.e., the adolescent indicated for each interval whether a parent, other adult, sibling, and/or peer was present, or whether he or she was alone, using a forced-choice format), interrater agreement was not assessed.

We first determined the amount of time (i.e., number of 15-min intervals) that the adolescent reported spending in the company of parents, other adults, or with no adults present. Intervals in which no adult was present were examined further, with respect to whether the adolescent was alone, with peers, or with siblings under the age of 15. Siblings over the age of 15 were counted as adult care. Parent care was defined as any interval in which the parent was present for the majority of the 15-min period. Other adult-supervised care included intervals in which the target child spent the majority of the 15-min interval with an adult other than the child's parents (e.g., babysitter, formal care program staff, teacher). The adolescent was considered to be in unsupervised self-care if he or she spent the majority of the 15-min interval alone, with siblings, or with peers. For the adolescent to be considered in self-care for any interval, there must have been no adult present during any of that interval. Of special interest in the current study was the number of intervals of *unsupervised self-care spent with peers* (i.e., unsupervised peer contact). In a very few instances both peers and siblings (but no adults) were present; such intervals likewise were coded as unsupervised self-care with peers.

An independent verification of the adolescents' time-use reports was obtained via a separate telephone interview conducted with mothers at or near the time of the adolescent interview. Each mother was asked to estimate the number of minutes per day (out of 180, reflecting the designated 3-hour after-school block) that her adolescent spent alone on each of the 2 days reported on by the adolescent. Summing across the 2 days, mothers reported that the adolescents were alone an average of 18.7 min, an amount similar to that reported by the adolescents' themselves (M = 1.48 intervals, or approximately 22 min). Mothers' and

adolescents' reports were significantly correlated, $r(437) = .42$, $p < .001$. Mothers' reports would therefore seem to provide some evidence in support of the validity of the adolescent recollections.

Externalizing behavior problems in grades 6 and 7—During the spring of grades 6 and 7, the child's teacher completed the 112-item Child Behavior Checklist–Teacher Report Form (TRP; Achenbach, 1991). Teachers noted whether each item was not true for the child (0), somewhat or sometimes true (1), or very true or often true (2). The *externalizing problems* score was used in the current study to index children's behavior problems in each grade. This score consisted of 35 items for both girls and boys. The TRF externalizing score has been reported to have excellent psychometric properties (Achenbach, 1991).

Results

Descriptive Statistics and Relations among Predictors and Family Demographics

No adults were reported to be present in 22.5% of the intervals, or about 40 min per afternoon. The no-adults-present time was further subdivided into that spent with siblings, peers, or alone. About 40% of the no-adult-present intervals was spent with peers. This is the equivalent of about 15 min per afternoon. There were wide variations in number of intervals spent with peers ($M = 2.1$, *range* = 0–24), with a substantial portion of the adolescents reporting no unsupervised time spent with peers (51%) and others reporting only one or two intervals (i.e., between 15 and 30 min) spent with peers (22%).

As can be seen in Table 1, mothers in general rated themselves as very high in monitoring (*range* = 3.0–5.0) and rated their neighborhoods as quite safe (*range* = 1.0–5.7). Parent-reported neighborhood safety was associated with higher levels of monitoring. The frequency of unsupervised peer contact was associated with lower levels of parental monitoring, lower family SES, and child sex (i.e., boys were slightly more likely than girls to report unsupervised peer activity). Neighborhood safety and parental monitoring were associated with higher SES; parental monitoring also was related to child sex (i.e., girls were monitored somewhat more than boys).

Do Unsupervised Peer Contact, Monitoring, and Neighborhood Safety Interact in the Prediction of Behavior Problems at School?

To provide some context for the principal analyses we first computed correlations among the predictor and demographic variables and teacher ratings of externalizing problems (shown in Table 1). Higher levels of behavior problems were associated with greater frequency of unsupervised activity with peers, lower levels of monitoring and neighborhood safety, lower SES, single-parent status (grade 7 only), and child sex (boys showing more problems). These patterns of relations were highly similar for boys and girls, with one exception: Single-parent status was associated with less monitoring for girls, $r(227) = -.38$, $p < .01$, but not for boys, $r(225) = -.09$; difference via *z*-test significant at $p = .05$. (We also explored possible ethnic differences in the relations among predictors and outcomes. All significant correlations in column 8 of Table 1 [total sample] also were significant [and in the same direction] when African American and European American families were considered separately.)

A series of hierarchical regression analyses were computed to address the primary research issue, namely, whether unsupervised after-school peer contact, monitoring, and neighborhood safety interact in the prediction of grade 7 behavior problems. To examine this issue, a regression was computed with grade 7 externalizing problems as the dependent variable, and the independent variables entered as follows: grade 6 externalizing (entered first to control for concurrent adjustment), SES, child sex, and marital status (entered second as a block, to control

for family background characteristics), and unsupervised self care with peers present, parental monitoring, and neighborhood safety (entered third, as a block). Preliminary analyses indicated that child sex did not interact significantly with any of the latter measures (unsupervised peer contact, monitoring, neighborhood safety) in predicting externalizing problems. Some interactions were found between ethnic group and predictors, but small cell sizes made interpretation difficult (e.g., there were only two instances in which neighborhood safety was rated above the median and parental monitoring was rated below the median for African American adolescents). Owing to the need to minimize the number of control variables, and because we had no specific predictions with respect to ethnicity, we did not include ethnicity in the regression analyses. However, analyses with and without ethnicity as a control yielded highly comparable results. Interaction terms were entered on the fourth step. The interaction terms were the multiplicative products of the main predictors. All two-way interactions were computed (e.g., monitoring and neighborhood safety) as well as the three-way interaction among unsupervised peer contact, monitoring, and neighborhood safety. Before creating the multiplicative interaction terms, each predictor variable was centered to reduce multicollinearity (Jaccard, Turisi, & Wan, 1990). Each interaction term was entered one at a time in the final regression step, as recommended by Cohen and Cohen (1993).

The regression results are summarized in Table 2. The regression for the first three steps was highly significant, $R^2 = .40$, $p < .001$, and each of the first three entry steps was significant, $\Delta R^2 = .28$ for grade 6 externalizing, .06 for the demographic variables, and .06 for the additive combination of unsupervised peer contact, monitoring, and neighborhood safety. It is interesting to note that the βs were significant, $p < .05$, for each of the three predictors in the latter set, indicating an independent contribution of each to the prediction of grade 7 behavior problems.

All two-way interactions (i.e., between unsupervised peer contact and monitoring, between unsupervised peer contact and neighborhood safety, and between monitoring and neighborhood safety) were significant, $p < .05$. However, because the triple interaction also was significant, $\Delta R^2 = .03$, $p < .005$, it is the only one tabled (and discussed).

The three-way interaction was examined further by dichotomizing each of the three constituent factors. Monitoring and neighborhood safety were split at the median to create low and high groups. Adolescents were grouped as relatively high (three or more intervals) or low (two or fewer intervals) in unsupervised self-care with peers. (Preliminary analyses supported the use of these distinctions as a means of interpreting the three-way interaction effect.) A multi-factor analysis of variance, with monitoring, neighborhood safety, and unsupervised peer contact as factors, and the demographic variables and grade 6 externalizing as control variables, was then computed. Consistent with the regression analysis, the three-way interaction among monitoring, perceived neighborhood safety, and unsupervised peer contact was significant, $F(1, 331) = 3.94$, $p < .05$, for grade 7 externalizing. This analysis shows that the three-way interaction was significant after controlling for all two-way interactions, as well as main effects and covariates.

As is apparent in Figure 1, children reporting high amounts of unsupervised peer contact were at greatest risk for behavior problems when they resided in comparatively unsafe neighborhoods and experienced lower levels of parental monitoring, $M = 17.5$, $n = 29$. If monitoring occurred at a higher rate, the adolescents' behavior problem scores were reduced markedly, $M = 8.1$, $n = 18$. Monitoring also played a role in the adjustment of adolescents reporting low amounts of unsupervised peer contact: Those residing in less safe neighborhoods had higher behavior scores when monitoring was lower, $M = 9.1$, $n = 63$, than when monitoring was higher, $M = 5.3$, $n = 56$. Adolescents residing in safer neighborhoods generally had lower levels of behavior problems. This was especially true for higher-monitored adolescents

reporting low amounts of unsupervised peer contact. These adolescents, who comprised the largest group, had the fewest behavior problems overall, $M = 3.1$, $n = 101$. Together, these analyses indicate that the impact of unsupervised after-school peer contact on subsequent adolescent adjustment is moderated by parental monitoring and neighborhood safety.

We also considered whether overall peer contact (i.e., with and without adult supervision) or overall lack of supervision (i.e., with and without peers present) likewise pose risks. To address this issue we examined two other forms of unsupervised care—time spent alone and time spent with siblings—and two other forms of adolescent involvement with peers—time spent with peers when parents were present and time spent with peers when other adults (nonparents) were present—as predictors of behavior problems. Time spent in these types of arrangement was unrelated to grade 7 externalizing problems, rs(386) = .00 to −.08. Also, time spent alone, time spent with siblings, and peer contact with parents present did not interact significantly with monitoring or neighborhood safety in the prediction of grade 7 problem behavior. Peer involvement when nonparental adults were present did interact significantly, $p = .03$, with monitoring and neighborhood saftey. However, inspection of means showed that in the riskiest condition—where monitoring was rated as relatively low and the neighborhood as relatively unsafe—the problem behavior scores of the low peer-involvement group ($M = 12.4$, $n = 47$) and the high peer-involvement group ($M = 11.0$, $n = 45$) were quite similar. Thus, peer contact in the context of adult supervision did not appear to constitute a risk for later adolescent behavioral problems.

Does Earlier Adjustment Moderate the Impact of Unsupervised Peer Contact on Later Adjustment?

We next considered the role of earlier adjustment in the link between unsupervised self-care with peers present and grade 7 behavior problems. Children were classified into low- or high-problem groups on the basis of a median-split of grade 6 teacher ratings. Among those children in the low-problem group, the association between amount of unsupervised self-care and grade 7 externalizing problems was nonsignificant, $r(190) = .01$. For high-problem children, however, the correlation between amount of unsupervised self care and later externalizing was $r(170) = .30$, $p < .001$. These relations were comparable for boys, $r(74) = -.04$ and $r(105) = .30$, respectively, and girls, $r(115) = .04$ and $r(64) = .30$, respectively.

Discussion

In this study we sought to provide an “insider's view” of young adolescent's after-school care experience by asking the adolescents to describe their whereabouts and companions on 2 school-day afternoons. The major pattern of findings was broadly consistent with past reports (e.g., Galambos & Maggs, 1991; Steinberg, 1986) in that young adolescents' involvement in unsupervised self-care in the company of peers was found to be associated with behavior problems, both concurrently and in a follow-up 1 year later. Importantly, the magnitude of this relation varied as a function of parental monitoring and perceived (by the mother) neighborhood safety. As might be expected, adolescents at greatest risk for behavior problem development as a function of time spent with peers in unsupervised settings were those living in homes characterized by lower levels of parental monitoring and in neighborhoods characterized by lower levels of rated safety and security. These findings point to the importance of considering the possible impact of differing forms of after-school experience in terms of the broader family and social-ecological contexts within which such experiences occur (Pettit, Laird, et al., 1997; Vandell & Posner, 1999).

In the present study, a minority of the young adolescents reported spending time with peers when no adult supervision was occurring. This suggests that, even in the early adolescent years, peer contact without adults being present in the immediate after-school hours may be fairly

uncommon. Still, those young adolescents reporting relatively more unsupervised peer involvement were more likely to be rated by teachers as exhibiting behavior problems. These data should not be construed to mean that there is a critical number of “safe” minutes of unsupervised peer contact time in the after-school hours (e.g., 30 min), beyond which risks begin to accrue. Rather, we believe that the data suggest that there is a continuum of low- to high-levels of unsupervised peer involvement and that it is at the high end of this continuum that behavioral adjustment problems may be more likely to be evidenced—at least when these high levels of unsupervised peer contact co-occur with low levels of parental monitoring and low-perceived neighborhood safety.

The presumed risks associated with low monitoring and unsafe neighborhoods as assessed in this study also must be framed in relativistic rather than absolute terms. That is, when we speak of low versus high monitoring homes or safe versus unsafe neighborhoods, we refer to variations around the study-sample median levels of these measures, and not to some objective set of measurement criteria. The indicators of monitoring and neighborhood safety used here are based on mothers' reports and therefore may not reflect actual patterns of supervision and monitoring and actual characteristics of the residential neighborhood. Moreover, the measures did not show a great deal of variability. The high average mean and narrow range of scores on these measures may reflect the influence of social desirability.

With these measurement considerations in mind, we offer a tentative interpretation of the possible effects on adolescent adjustment of mothers' monitoring and reported neighborhood safety. Relatively low levels of mothers' monitoring were associated with elevated externalizing behavior problems in both grades, consistent with past reports on the impact of monitoring on behavioral adjustment (e.g., Patterson et al., 1992). Monitoring also acted as an exacerbator (when monitoring was relatively low) and a buffer (when monitoring was relatively high) of unsupervised peer contact. Other researchers have reported moderating effects of parenting practices, including monitoring, on the relation between unsupervised self care in the company of peers and adolescent adjustment (Galambos & Maggs, 1991; Steinberg, 1986). The current study extends this work by documenting the presence of a moderating relation even after controlling for current adjustment and correlated family context variables, as well as perceived neighborhood safety.

As a buffer, parental monitoring was most influential for children living in neighborhoods rated by parents as low in safety and security. That is, children in comparatively less safe neighborhoods were better adjusted when monitoring occurred at a high rate. This was the case for adolescents reporting both high and low amounts of unsupervised peer contact. At the same time, whereas unsafe neighborhoods incremented the risk of unsupervised activity with peers, safe neighborhoods appeared to reduce the risk. As Kupersmidt et al. (1995) noted, certain kinds of neighborhood may serve a facilitative role in behavioral development for children who are at risk for behavior problems because of other child or family characteristics. This may be because of the availability of positive role models in the neighborhood and because of shared community responsibility in overseeing and regulating child behavior (Chase-Landsdale & Gordon, 1996; Sampson et al., 1997). Thus, it may be that secure, low-threat neighborhood settings provide a context within which unsupervised after-school activities may be pursued with little fear of negative outcome for the adolescent.

The results reported here shed some light on the role of so-called self-selection factors in the link between after-school care experience and child adjustment (Vandell & Posner, 1999). Because we controlled for grade 6 externalizing problems in our main predictive analyses, the finding that monitoring, neighborhood safety, and unsupervised peer contact incrementally predicted grade 7 externalizing problems cannot be attributed to prior behavior problems. Few studies have controlled for preexisting problems in evaluating the “effects” of self-care and

other types of after-school experiences, making it difficult to draw conclusions regarding the role of the care experience as distinct from the impact of the child's earlier and ongoing adjustment. Our results suggest that unsupervised self-care with peers, in the context of lack of monitoring and unsafe neighborhoods, does in fact forecast the development of externalizing problems.

Along these lines, we also wished to explore the role of earlier adjustment as a possible moderator of unsupervised self-care in the company of peers. In a prior investigation of the current study sample, Pettit, Laird, et al., (1997) found that self-care in the early elementary grades was a risk factor for later social and academic problems only for those children already high in behavior problems in kindergarten. For those children low in kindergarten problems, the effect of self-care was negligible. Similar findings emerged in the present study in that the amount of unsupervised peer contact was significantly related to later problems only for the subset of children showing relatively high levels of problem behavior in grade 6. Taken together with the earlier discussed results, the implication is that young adolescents who already are showing signs of behavior problems may be at considerable risk for behavior problem development when they spend substantial amounts of time in unsupervised care in the company of peers.

No sex differences were found in the predictive relations between unsupervised self-care with peers and externalizing problems, which contrasts with prior sex-differentiated patterns reported in the literature. For example, both Galambos and Maggs (1991) and Steinberg (1986) found negative effects of unsupervised self-care, mainly for girls. Our finding that unsupervised care with peers present predicted problem behavior development for both girls and boys may be due to our method of assessment. Unlike Galambos and Maggs (1991) and Steinberg (1986), who classified children as being exclusively in a single type of care (out of four possibilities), in the present study we asked the adolescents to describe how much time over two afternoons they spent in varying circumstances. It may be that the relative amount of time reported is a more sensitive indicator of risk for both boys and girls than is an exclusive classification system. Use of the latter type of system may lead to the identification of a more extreme group of girls. That is, adolescent girls who report that their principal care arrangement is unsupervised “hanging out” after school may represent a generally more deviant and at-risk group in comparison to adolescent boys reporting being in the same type of arrangement (but for whom such arrangements might be more normative). The method used in the current study is far from perfect—calls were made on a single occasion, and though we sought to enhance representativeness by asking the adolescents to report on 2 separate days, the range of possible after-school experience is still limited. It would have been desirable to have multiple interviews, conducted during differing phases of the school year. Nonetheless, the assessment technique would seem to hold promise as a means of tapping young adolescents' views of their after-school experience.

In conclusion, these findings underscore the importance of considering the individual, family, and neighborhood contexts of the adolescent after-school care experience. Involvement with peers in the absence of adult supervision, as reported by adolescents, emerged as a risk factor for later adjustment only among those adolescents already displaying high levels of problem behavior, for those adolescents living in comparatively unsafe neighborhoods, and for those adolescents whose mothers reported monitoring them less carefully.

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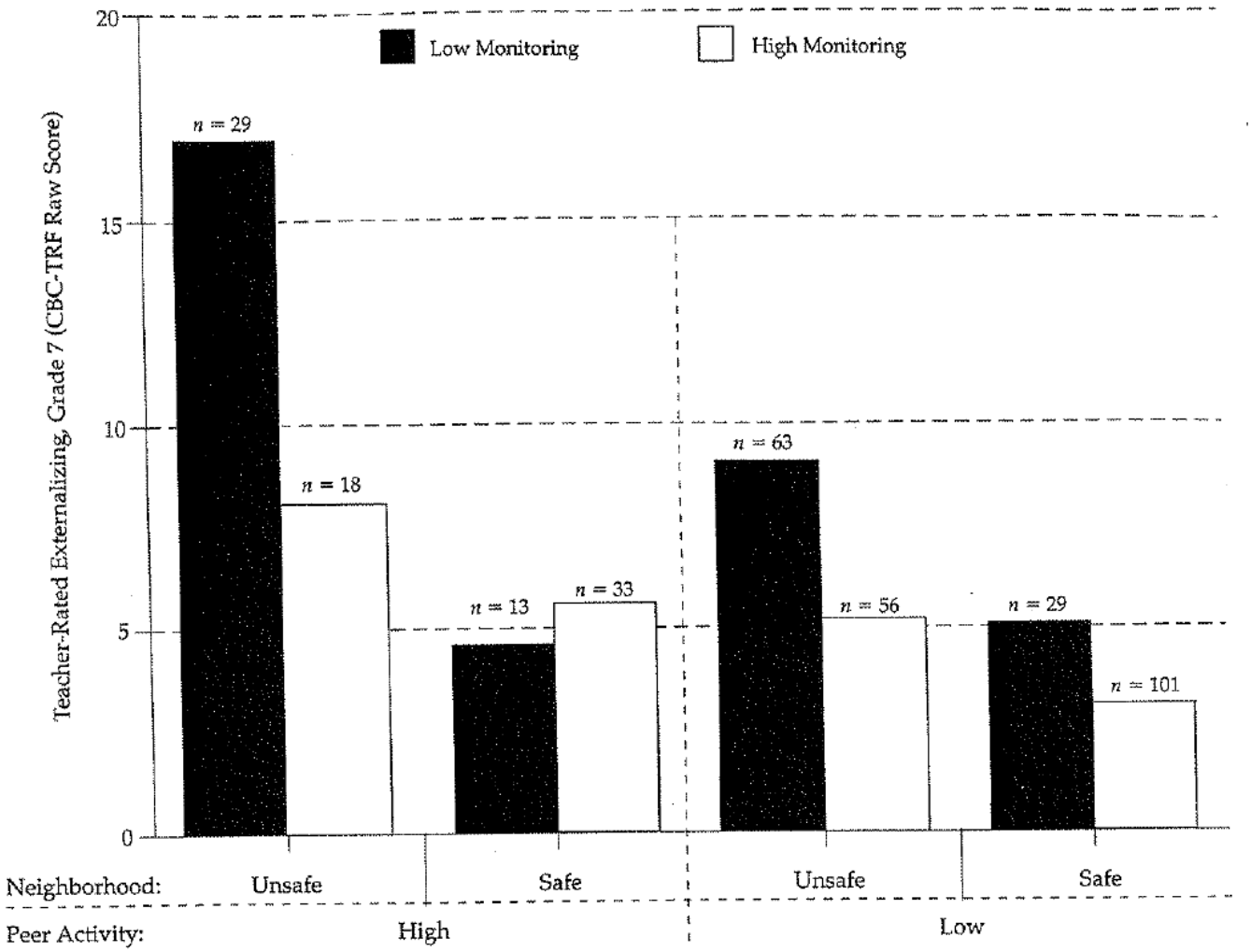

Figure 1.
Breakdown of interaction among parental monitoring, perceived neighborhood safety, and unsupervised peer involvement for grade 7 teacher-rated externalizing problems.

Table 1

Descriptive Statistics and Correlations among Unsupervised Self Care with Peers, Parental Monitoring, Neighborhood Safety, Demographic Variables, and Teacher-Rated Externalizing Problems

	M	*SD*	2	3	4	5	6	7	8
1. Unsupervised self-care with peers	2.1	3.6	−.23*	−.03	−.11 +	.07	−.14+	.15+	.25*
2. Parental monitoring	4.6	.4		.27*	.22*	−.22*	.14+	−.26*	−.37*
3. Neighborhood safety	4.1	.8			.38*	−.33*	−.04	−.27*	−.32*
4. Family SES	39.1	14.1				−.36*	−.06	−.30*	−.36*
5. Marital status[a]	.6	.5					−.01	.21*	.31*
6. Child sex[b]	.5	.5						−.16*	−.13+
7. TRF externalizing (grade 6)	7.1	10.6							.52*
8. TRF Externalizing (grade 7)	6.7	9.8							

*Note: N*s range from 394 to 462.

[a]Marital status coded as 0 = intact, 1 = single parent.

[b]Child sex coded as 0 = male, 1 = female.

+ $p < .05$;

* $p < .001$ (two-tailed).

Table 2

Summary of Regression Predicting Grade 7 Externalizing from Unsupervised Peer Contact, Parental Monitoring, and Perceived Neighborhood Safety

	β (Standardized)	ΔR^2
Step 1		.28*
Grade 6 externalizing problems	3.15* (.53*)	
Step 2		.06*
SES	−.12* (−.17*)	
Marital status[a]	2.97* (.14*)	
Child sex[b]	−2.03+ (−.10+)	
Step 3		.06*
Unsupervised self-care with peers	.32* (.12*)	
Parental monitoring	−4.43* (−.17*)	
Neighborhood safety	−1.21+ (−.11+)	
Step 4		.03*
3-way interaction[c]	−.97* (−.21*)	

Note: $N = 342$.

[a] Marital status coded as 0 = intact, 1 = single parent.

[b] Child sex coded as 0 = male, 1 = female.

[c] Unsupervised self-care with peers × parental monitoring × neighborhood safety.

+ $p < .05$;

* $p < .01$.