Published in final edited form as:
Child Dev. 2001 ; 72(2): 583–598.

Antecedents and Behavior-Problem Outcomes of Parental Monitoring and Psychological Control in Early Adolescence

Gregory S. Pettit, **Robert D. Laird**, **Kenneth A. Dodge**, **John E. Bates**, and **Michael M. Criss**
Robert D. Laird is at the University of Rhode Island, Kingston, RI; Kenneth A. Dodge is at Duke University, Durham, NC; John E. Bates is at Indiana University, Bloomington, IN; and Michael M. Criss is at Auburn University.

Abstract

The early childhood antecedents and behavior-problem correlates of monitoring and psychological control were examined in this prospective, longitudinal, multi-informant study. Parenting data were collected during home visit interviews with 440 mothers and their 13-year-old children. Behavior problems (anxiety/depression and delinquent behavior) were assessed via mother, teacher, and/or adolescent reports at ages 8 through 10 years and again at ages 13 through 14. Home-interview data collected at age 5 years were used to measure antecedent parenting (harsh/reactive, positive/proactive), family background (e.g., socioeconomic status), and mother-rated child behavior problems. Consistent with expectation, monitoring was anteceded by a proactive parenting style and by advantageous family–ecological characteristics, and psychological control was anteceded by harsh parenting and by mothers' earlier reports of child externalizing problems. Consistent with prior research, monitoring was associated with fewer delinquent behavior problems. Links between psychological control and adjustment were more complex: High levels of psychological control were associated with more delinquent problems for girls and for teens who were low in preadolescent delinquent problems, and with more anxiety/depression for girls and for teens who were high in preadolescent anxiety/depression.

INTRODUCTION

How parents oversee and regulate the behavior and activities of their adolescents is a topic of considerable interest to socialization researchers. The general rubric of "parental control" has been used to describe such parenting behaviors and styles. Two aspects of parental control of adolescents were of interest in the present study, namely, parental behavioral regulation—operationalized here in terms of parents' monitoring and supervision—and parents' use of psychological control. Although the conceptual distinctiveness of behavioral control and psychological control has long been acknowledged (Baumrind, 1967; Schaefer, 1965), the two forms of control nonetheless have often been combined to describe broad types of parenting. Baumrind's (1967, 1989) typological approach is best known in this regard. Authoritative parents, for example, are characterized as being warm and accepting, generally promoting of psychological autonomy, yet firm in establishing behavioral guidelines. In contrast, authoritarian parenting is marked by high levels of demanding-ness accompanied by low levels of warmth and psychological autonomy. Research based on Baumrind's framework has produced a large and impressive body of findings linking parenting styles with children's social behavior and adjustment. The typological approach, however, makes it difficult to identify the

Corresponding author: Gregory S. Pettit, Department of Human Development and Family Studies, 203 Spidle Hall, Auburn University, Auburn, AL 36849; gpettit@auburn.edu.

role of the specific constituents that coalesce to form parental control "types" (Darling & Steinberg, 1993).

Although the empirical distinction between behavioral and psychological forms of control can be traced back to early factor-analytic studies of parenting dimensions (e.g., Schaefer, 1965), Steinberg (1990) provided the most detailed description of the operation of the two forms of control and how they differ, both conceptually and empirically, from one another. At the heart of the distinction is the notion that psychological forms of control adversely affect adolescent development by impeding the development of autonomy and self-direction, whereas behavioral regulation serves a positive socializing function by providing youth with needed guidance and supervision. The assertion that the two forms of control are qualitatively different and engender differing outcomes for adolescents stemmed from findings reported in an earlier study of adolescent academic success and psychosocial maturity (Steinberg, Elmen, & Mounts, 1989).

Barber (1996; Barber, Olsen, & Shagle, 1994) further sharpened the distinction between behavioral and psychological forms of control, and how and why they may become linked with adolescent behavior and adjustment. The essence of his arguments may be framed as follows. Behavioral regulation, as the term implies, is concerned with the regulation, supervision, and management of behavior. Monitoring is a fundamental component of effective behavioral regulation (Patterson, Reid, & Dishion, 1992), especially in the middle-childhood and adolescent years, and typically is defined in terms of parents' awareness and supervision of their children's whereabouts, activities, and companions (Brown, Mounts, Lamborn, & Steinberg, 1993; Dishion, Patterson, Stoolmiller, & Skinner, 1991).

In contrast to monitoring and behavior regulation, psychological control refers to control attempts that inhibit or interfere with children's development of independence and self-direction by keeping the child emotionally dependent on the parent. Early adolescence is a period of increased striving for autonomy (Steinberg, 1990), and normal development requires that the adolescent be accorded sufficient "space" to assert an independent sense of identity, while still maintaining connection to the parents. Extensive use of psychologically controlling behaviors (e.g., guilt induction, love withdrawal) is thought to thwart the emergence of psychological autonomy (Barber, 1996; Steinberg, 1990).

The current study sought to examine further the distinctiveness of these two forms of parental control in early adolescence by tracing their antecedents in early family and social experiences. It is believed that no prior study has examined the early-childhood precursors of both forms of control. If individual differences in indexes of monitoring and psychological control were found to emerge through differing pathways, their construct validities would be strengthened, and theories of the development of parenting patterns would have to account for distinct pathways for these two different aspects of parental control.

Barber and Harmon (in press) recently provided some direction for the study of parental control antecedents in their speculations regarding the "locus" or motivational center from which behavioral and psychological forms of control emanate. Parents' use of monitoring and other forms of behavioral regulation are thought to stem principally from parents' active role in socializing their children toward the normative goals of conformity to parental and societal standards and, subsequently, the internalization of those standards (see also Steinberg, 1990). Such forms of control might be viewed as "psychologically neutral" in that it is the child's behavior that is the focus of the parent's attention, and it is the parent's adherence to prevailing (and culturally informed) childrearing philosophies (i.e., that children need guidance and clear communication about the kinds of behaviors and activities that are acceptable) that provides the impetus for the parent's actions. Parental monitoring, therefore, may be construed as a behavioral strategy employed as a tool in regulating child behavior.

Parents' use of psychological control, according to Barber and Harmon (in press), stems not from parents' normative socialization beliefs and goals, but from intrapsychic disturbances, likely stemming from the parents' own developmental history, that heighten parents' needs to protect their "psychological" power in the parent–child relationship. This is done through the manipulation of emotional and psychological boundaries between child and parent in an effort to thwart or stunt their children's emerging autonomy and self-development. In contrast to behavioral control then, high levels of psychological control would appear to be strongly characteristic of negative parent–child relationship quality. Indeed, inspection of the literature reveals that intrusiveness, demanding-ness, and hostility, as well as emotional manipulation and constraining of child communication, figure prominently in the conceptualization and assessment of psychological control (Barber and Harmon, in press).

These perspectives on monitoring (behavioral control) and psychological control clearly imply differing antecedent processes for the two forms of control. The use of monitoring likely reflects a strategic parenting orientation that may be rooted in a fairly explicit childrearing philosophy. As such, it might be viewed as a normative practice of regulation and control intended to inculcate into the child a system of prescribed cultural (and familial) standards and expectations. It was hypothesized that mothers' monitoring in early adolescence would be anteceded by a proactive parenting style and by relatively advantageous (and, hence, culturally valued and accepted) family background characteristics. Specifically, the expectation was that mothers who endorsed a preventive approach as a means of addressing their children's potential interpersonal difficulties in early childhood (e.g., that by being tuned in to early signs of difficulty, mothers should be able to head off problems before they occur), and mothers from higher socioeconomic status (SES), maritally intact homes, would engage in higher levels of monitoring in early adolescence.

Owing to its empirical and conceptual overlap with parental coerciveness and hostility (Barber and Harmon, in press), it was expected that mothers' use of psychological control might be linked with earlier manifestations of parent–child negativity. Two such manifestations were of interest. The first consisted of an index of mothers' use of harsh, restrictive discipline in early childhood. Previously this index has been found to be predictive of children's behavioral problems concurrently and in the later school grades (Dodge, Pettit, & Bates, 1994; Pettit, Bates, & Dodge, 1997). It was hypothesized that harsh discipline in the early childhood years would be associated with higher levels of mothers' psychological control in early adolescence. The second index of early mother–child negativity consisted of mothers' reports of their children's externalizing problems. Drawing from Patterson's (1982) social-interactional theory of coercive family process, it was speculated that mothers' judgments of their young children's externalizing behavior problems might forecast mothers' subsequent use of psychological control. This hypothesis is based on the premise that mothers who viewed their preschool-aged children as being difficult, demanding, and aggressive would be more likely to develop hostile attitudes about their children that might subsequently (in early adolescence) be expressed through mothers' heightened tendency to use covert and psychologically manipulative forms of control.

The emerging literature on behavioral and psychological control is inconclusive with respect to the impact of child gender on predictor–outcome links, with some studies finding no gender differences (e.g., Herman, Dornbusch, Herron, & Herting, 1997) and other studies reporting stronger patterns of relations for girls than for boys (e.g., Conger, Conger, & Scaramella, 1997). In the present study, omnibus tests were conducted to test for possible gender differences in the relations among the antecedent variables and mothers' monitoring and psychological control in early adolescence. Child gender also was included as a predictor in the family ecological set, allowing for an examination of possible differences in mothers' use of monitoring and psychological control with boys and girls.

Prior to addressing the parenting antecedents issue, we conducted a set of preliminary analyses designed to ensure that our monitoring and psychological control measures showed the expected pattern of relations with early adolescent adjustment. Conceptually, psychological control has been implicated as undermining autonomy and self-confidence and as contributing to feelings of personal distress and inadequacy (Barber, 1996; Steinberg, 1990). It therefore seemed appropriate in this initial inquiry to focus specifically on measures tapping anxiety and depression. Delinquency also was of interest because of consistent findings linking monitoring with delinquency and related antisocial behaviors. Most models of monitoring stress its role in preventing young adolescents' "drift" toward antisocial peers and the concomitant increase in risk of delinquency (e.g., Patterson et al., 1992).

Prior child adjustment was taken into account in our examination of associations between monitoring and psychological control and adolescent adjustment. This was done to rule out continuity in behavior problems as an explanation of the link between parental control and adolescent adjustment. Prior child adjustment, as well as child gender, also were included in a preliminary analysis designed to shed light on factors that might influence the strength of the association between parental control and adolescent adjustment. This was done by examining specific moderating effects through the testing of interaction terms involving child gender and prior child adjustment in a series of hierarchical regression analyses. To our knowledge no prior study has considered such Child Behavior × Parenting interactions for psychological control, although a smattering of studies have explored this issue with respect to monitoring-related constructs (e.g., Colder, Lochman, & Wells, 1997).

Monitoring and psychological control were assessed in the current study from the perspective of both the parent and the adolescent. Some disagreement in how well parents monitor their adolescent's behavior, and how much parents know about their adolescent's friends and activities, might be assumed (Kandel & Wu, 1995). At the same time, it seems possible that parents' judgments might be a better gauge than adolescents' reports of the actual amount of monitoring being provided; hence, they would show more consistent patterns of relations with other important family and adolescent variables. This expectation is based on the assumption that the impetus to show more independence might lead adolescents to appraise their parents' monitoring strategies in less than veridical ways. Alternatively, one might argue that adolescents' reports of monitoring might be more predictive of adjustment because the adolescents would misbehave less often—at least in the sense of engaging in fewer antisocial acts— if they felt their parents knew about their misbehavior.

With respect to psychological control, owing in part to its relatively more subtle and "eye-of-the-beholder" nature, we thought its presence might be gauged more accurately by the adolescent and that adolescents' reports might therefore be linked more consistently than parent reports with other indexes of adolescent and family functioning. This expectation was based on findings of lower congruence among differing informants' reports of child internalizing versus child externalizing problems (Achenbach, McConaughey, & Howell, 1987).

In summary, this prospective longitudinal study sought to identify the antecedents of early adolescent monitoring and psychological control in two differing types (proactive teaching and harsh discipline) of early childhood parenting, in mothers' ratings of their preschool-aged children's adjustment, and in family background characteristics. Preliminary analyses also were conducted to establish that the monitoring and psychological control measures were related in meaningful ways to indexes of adolescent adjustment.

METHOD

Participants and Overview

The children and families in this study were participants in the Child Development Project, a multisite longitudinal study of socialization factors in children's and adolescents' adjustment (see Dodge et al., 1994; Pettit et al., 1997). Participating families were recruited from three geographical areas (Nashville and Knoxville, Tennessee, and Bloomington, Indiana) during kindergarten preregistration in 1987 (cohort 1) and 1988 (cohort 2). The first data collection wave commenced the summer prior to kindergarten, when most children were 5 years of age, and included questionnaires and interviews with parents (described later). Follow-up assessments of the families were conducted yearly.

The monitoring and psychological control data described in this report come from interviews with mothers and adolescents in wave 9 (i.e., the summer preceding grade 8). Ratings of anxious and delinquent behaviors were collected during waves 9 (mother reports) and 10 (teacher and adolescent reports), as well as in waves 4, 5, and 6. The early antecedent measures (parenting, mother ratings of child adjustment, family background characteristics) were derived from the wave-1 data collection. Table 1 lists the constructs, informants, and data-collection wave for all measures used.

The sample consisted of 585 children at the initial prekindergarten assessment (52% male; 81% European American, 17% African American, 2% other ethnic groups; 26% living with single, i.e., unmarried, noncohabitating mothers). Although the sample was predominantly middle class, as indicated by an average Hollingshead (1979) score of 40.4 (*SD* = 14), a range of SES groups were represented, with 26% of the families being classified in the lowest two of Hollingshead's five classes.

A total of 440 families (or 75% of the original sample) participated in the wave 9 summer assessments. The children from these families generally were representative of the original sample, with 50% male, 17% from ethnic minorities, 27% from single-parent families, and a mean Hollingshead SES score of 38.5 (*SD* = 13.3). Attrition was due largely to families moving out of the area or opting to drop out owing to lack of interest. There were no differences between participants that dropped out of the study or ongoing participants in either initial child adjustment or family background characteristics (see Pettit et al., 1997; Pettit, Bates, Dodge, & Meece, 1999).

Completed behavior-problem questionnaires were obtained from mothers and teachers in each wave of data collection. Because the focus here was on delinquent behavior and anxiety/depression as indexes of behavioral and psychological adjustment, only data collected during the middle-childhood years and beyond—when ratings of delinquent behavior and anxiety/depression show more meaningful variation—were used. Completed behavior-problem questionnaires were obtained from mothers and teachers for waves 4 (*n*s = 473 and 498, respectively), 5 (421 and 468, respectively), 6 (396 and 448, respectively), and 9/10 (416 and 403, respectively). Adolescent reports of behavior problems from wave 10 only were used (*n* = 408). Mother reports were collected in the summer, whereas teachers completed behavior-problem questionnaires toward the end of the school year. Because most adolescents had multiple teachers, for the wave-10 teacher data, the principal of each school was asked to name the teacher most familiar with the child, usually a homeroom teacher.

The varying *n*s in some analyses are due to the use of different informants in different years and to the need for complete data in the multivariate analyses. The actual *n*s for each analysis are noted later in the appropriate sections. No systematic differences were found in the characteristics of the participants who contributed data to the multivariate analyses and those

who did not, with the exception that those participants who were excluded from the main analyses owing to missing data were somewhat more economically disadvantaged than were those participants who were included in these analyses (see Pettit et al., 1999).

Procedure and Measures

Parental monitoring and psychological control—During separate interviews conducted in the home, mothers and adolescents were asked a series of questions about disciplinary issues and parent–child relationships. Items describing parents' monitoring and use of psychological control were embedded in these interviews. For the mother and child interviews, monitoring items were adapted from items described by Brown et al. (1993) and Dishion et al. (1991). Five items scored on a 3-point scale were embedded into the adolescent interview (e.g., "How much do your parents know about who your friends really are?" "How much do your parents know about where you are most afternoons after school?"). In the mother interview, monitoring was assessed through mothers' ratings of eight items on a 5-point scale (e.g., "When your child is at a friend's house, how often do you think that a parent or another adult is there?" "If your child played with children who get in trouble, how often would you know it?"). Adolescent- and mother-reported monitoring scores were computed as the means of the five and eight monitoring item responses respectively, αs = .65 and .67 for adolescent and mother reports, respectively.

The 10 psychological control items embedded into the adolescent interview were adapted directly from Barber (1996; Barber et al., 1994) and were scored on a 3-point scale (e.g., "My mother is always trying to change how I feel or think about things"). Embedded in the mother interview were the same 10 items, reworded slightly (e.g., "My mother is a person" was changed to "I am a person") but scored on the same 3-point scale. Adolescent- and mother-reported psychological control scores were computed as the means of the 10 adolescent and 10 mother responses, respectively, αs = .76 and .63 for adolescent and mother reports.

Anxiety/depression and delinquent behavior—Adolescent, teacher, and parent reports of anxiety/depression and delinquent behavior were assessed using the Youth Self-Report (YSR), Teacher Report Form (TRF), and Child Behavior Checklist (CBC), respectively (Achenbach, 1991). The YSR consists of 102 items and the TRF and CBC each consist of 112 items. Each item is rated on a 3-point scale as not true (0), somewhat true (1), or very true (2) for the child or adolescent. The delinquent behavior scale (11, 9, and 13 items in the YSR, TRF, and CBC, respectively) was used in the current study to index externalizing-type behavior problems, and the anxiety/depression scale (16, 18, and 14 items) was used to index internalizing-type behavior problems. Delinquent behavior and anxiety scale scores from the YSR were created for wave 10. Delinquent behavior and anxiety scale scores from the TRF and CBC were created for waves 4, 5, 6, and 9 (CBC), or 10 (TRF). The means of available scores in waves 4, 5, and 6 were computed to create parent and teacher indices of preadolescent behavior problems. The CBC scores were more reliable, cross-year αs = .85 and .80 for anxiety and delinquent behavior, respectively, than the TRF scores, cross-year αs = .45 and .70, respectively.

Early childhood antecedents—Measures representing each of the three types of early childhood antecedents were constructed from data collected during the wave-1 home-interview assessment when children were 5 years of age (see Dodge et al., 1994; Pettit et al., 1997, for a more in-depth description of this assessment phase). Demographic data collected at the beginning of the interviews with mothers were used to index SES (described earlier), marital status (coded dichotomously as single-mother or two-parent family), and child gender. Mothers completed the Achenbach (1991) CBC at this time; the behavior-problem index used was mother-rated externalizing problems (33 items for boys and girls; e.g., "gets in many fights").

The delinquent behavior subscale was not used alone as an index at this age because it did not seem as developmentally appropriate as at later ages.

The measures of mothers' early parenting style were based on interviewer ratings and mothers' questionnaire responses. During the course of a 90-min in-home interview, mothers were asked to respond in an open-ended fashion to each of several questions for each of two early childhood eras (ages 1–4 years, and ages 4–5 years): "Who usually disciplined your child?" "How?" "Was your child ever physically punished?" "How often?" For each era, the interviewer provided a rating for the parents' use of harsh, restrictive discipline, based on the mothers' answers. The rating ranged from 1-nonrestrictive, mostly positive guidance, to 5-severe, strict, often physical. Ratings across the two eras were averaged to yield a score for harsh, restrictive discipline, $\alpha = .61$; interrater *r*, based on independent rater's checks on 10% of interviews, . 80.

Positive, proactive involvement also was assessed during the home visit. In an orally administered questionnaire (the Concerns and Constraints Questionnaire) mothers were presented with five hypothetical situations in which a child misbehaved during peer interaction (e.g., a child refuses to relinquish a toy after a reasonable length of time). Mothers were asked to describe ways in which the child might have been prevented from acting this way in the first place. Parents' responses were scored as "do nothing" (unpreventable), "after-the-fact punishment," "after-the-fact guidance and reasoning," "before-the-fact, preventive, but general," and "before-the-fact preventive and situation and method specific." Parents who used either of the last two categories received a score of "1"; parents using any other category received a score of "0." Scores were summed across the five stories, $\alpha = .70$, to create a measure of positive, proactive involvement. Reliability assessments were available only for a subset of families ($n = 24$) for this instrument. The correlation between independent raters for the number of times (0 to 5) that the mother suggested a proactive strategy was .56.

RESULTS

Analysis Plan

Preliminary analyses were conducted to examine associations among monitoring, psychological control, and indices of adolescent adjustment. Evidence of such associations would help situate this study's measures and findings within the broader literature on parental control and child adjustment. First, a multitrait, multimethod confirmatory factor analysis was conducted to assess the validity of the mother and adolescent reports of monitoring and psychological control. Next, a series of correlations and regression analyses were computed to examine patterns of association between monitoring and psychological control and early-adolescent anxiety/depression and delinquency, and the extent to which these associations varied as a function of (i.e., were moderated by) child gender and earlier child behavior problems.

Primary analyses focused on early childhood antecedents of monitoring and psychological control. Hierarchical regression analyses were used to evaluate the unique contribution of proactive parenting and harsh discipline, mothers' ratings of their children's externalizing problems, and family background characteristics to early adolescent monitoring and psychological control.

Preliminary Analyses: Monitoring and Psychological Control and Early Adolescent Adjustment

Confirmatory factor analyses of parenting domains—A multitrait, multimethod model was evaluated that included both mother and adolescent reports of monitoring and

psychological control. Data from 425 families were used to fit the measurement model. Five indicators were created for each of the constructs: adolescent-reported monitoring, adolescent-reported psychological control, and parent-reported psychological control. Four indicators were created for parent-reported monitoring. To reduce data loss resulting from missing item responses and to maintain an adequate participants-to-parameter ratio, each indicator for the parent-reported monitoring and parent-reported and adolescent-reported psychological control constructs was the mean of two randomly selected items. Items appearing on both the parent and adolescent psychological control measures were paired consistently across the two constructs. Because there were fewer adolescent-reported monitoring items, each item served as an indicator.

For the measurement model, two latent factors represented the two parenting domains and two latent factors represented source (adolescent versus mother) factors. Each indicator was allowed to load on one parenting factor and one source factor. Error terms were not allowed to covary. This model provided a good fit to the data as indicated by an adjusted goodness-of-fit index (AGFI) of .929, a comparative fit index (CFI) of .942, and an acceptable chi-square, χ^2 (131) = 208.2, p = .001.

Comparisons of models nested within the multitrait, multimethod model provide evidence of convergent and discriminant validity (Widaman, 1985). To assess convergent validity, the multitrait, multimethod model was contrasted with a model that had the two source factors but did not have the two parenting factors. The full model fit significantly better, $\chi^{2\text{diff}}$ (20) = 383.9, $p < .001$, than the model without parenting factors, suggesting that the parenting factors were needed to reproduce the covariances among the indicators, and thus providing evidence of convergent validity. To assess discriminant validity, the multitrait, multimethod model was contrasted with models setting the two parenting factors, or the two source factors, to be perfectly correlated. In essence, we tested whether a single parenting factor could account for the covariation among indicators as well as the two parenting factors. The multitrait, multimethod model fit significantly better than the model with a single parenting factor, $\chi^{2\text{diff}}$ (1) = 95.9, $p < .001$, and significantly better than the model with a single source factor, $\chi^{2\text{diff}}$ (1) = 102.1, $p < .001$.

Inspections of the factor loadings indicated little congruence between mother and adolescent reports. Specifically, the psychological control factor in the multitrait, multimethod model was defined almost exclusively by mother reports, and the monitoring construct was defined primarily by adolescent reports. Moreover, removal of the source factors resulted in a substantial decrement in model fit, $\chi^{2\text{diff}}$ (20) = 433.4, p = .001. Based on these findings, the fit of a model specifying four parenting factors (adolescent- and mother-reported monitoring and adolescent- and mother-reported psychological control) was assessed. The fit of the four-factor model was comparable with the fit of the full multitrait, multimethod model, AGFI = .927; CFI = .929; χ^2 (146) = 241.0, p = .001. Moreover, the four-factor model fit significantly better than a two-factor model (i.e., combining mother and adolescent reports), $\chi^{2\text{diff}}$ (5) = 400.6, p = .001, and better than a single-factor model, $\chi^{2\text{diff}}$ (6) = 630.4, p = .001. Based on these analyses, four parenting variables were included in all subsequent analyses.

The bivariate correlations among the four parenting variables are shown in Table 2. The four parenting indices were modestly intercorrelated with one exception: Adolescent-reported monitoring was not significantly related to mother-reported psychological control.

Monitoring and psychological control as predictors of adolescent anxiety/depression and delinquent behavior—We first examined the extent to which the relations among the antecedent variables and early adolescent parenting variables were moderated by child gender. This was done by comparing covariance matrices as recommended

by Rowe, Vazsonyi, and Flannery (1994). The covariances among the four parenting variables and the 10 behavior problem variables were computed for boys and girls. A model with constraints equating covariances among the two groups did not fit the data well, AGFI = .874; CFI = .956; χ^2 (91) = 137.6, $p < .001$. This analysis indicated that child gender moderated the set of relations among monitoring, psychological control, anxiety, and delinquent behavior. Because of the significant difference in covariances, multivariate analyses included tests of Child Gender × Parenting interactions to pinpoint specific moderation patterns.

Bivariate correlations between the four parenting variables and the 10 behavior problems variables (6 adolescent behavior problem scores and 4 preadolescent behavior problem scores) are listed in Table 2. The pattern of correlations suggests that monitoring was related (negatively) somewhat more systematically to delinquent behavior than to anxiety. In contrast, psychological control was associated (positively) with both delinquent behavior and anxiety. These findings are consistent with prior research in this area (e.g., Barber, 1996).

For the final set of analyses, hierarchical regressions were computed, with child gender, the alternate adolescent behavior problem score (e.g., adolescent anxiety was the alternate score when adolescent delinquent behavior was the dependent variable), and the preadolescent behavior problem score as covariates. These analyses also examined interactions between gender and each parenting variable and between preadolescent behavior problems and each parenting variable in the prediction of adolescent behavior problems. Interactions were tested individually using centered variables and were interpreted using procedures described by Jaccard, Turrisi, and Wan (1990). To interpret interactions between continuous variables, slopes were computed at high (+ 1 *SD*) and low (− 1 *SD*) levels of the moderator. Because preadolescent behavior problem reports were not available from the adolescents, some terms were not included as predictors of adolescent-reported behavior problems. These analyses are summarized in Table 3.

Early adolescent delinquent behavior was considered first. Adolescent-reported and mother-reported monitoring together accounted for 10% of the variance in adolescent-reported delinquent behavior, 9% of the variance in mother-reported delinquent behavior, and 3% of the variance in teacher-reported delinquent behavior. Psychological control did not account for any unique variance in delinquent behavior. Child gender interacted with monitoring and adolescent-reported psychological control in the prediction of mother-reported delinquency only. Monitoring was associated more strongly with lower levels of mother-reported delinquent behavior for girls, slopes = −.22, $p < .001$, and −.38, $p < .001$, for adolescent-and parent-reported monitoring, respectively, than for boys, slopes = .04, *ns*, and −.20, $p < .001$. Mother-reported delinquent behavior also was predicted by mothers' psychological control for girls, slope = .14, $p < .05$, but not for boys, slope = −.01, *ns*.

Two teacher-reported Preadolescent Behavior Problems × Psychological Control interactions were significant predictors of teacher-reported adolescent delinquent behavior. Mother-reported psychological control was negatively related to delinquent behavior problems when teacher-reported preadolescent delinquent behavior problems were high, slope = −.12, $p < .10$, but not when preadolescent behavior problems were low, slope = .06, *ns*. In contrast, adolescent-reported psychological control was positively related to delinquent behavior problems when preadolescent delinquent behavior problems were low, slope = .14, $p < .05$, but not when preadolescent behavior problems were high, slope = −.02, *ns*. That is, among children with high levels of preadolescent delinquent behavior problems, more mother-reported psychological control was associated with fewer subsequent adolescent delinquent behavior problems as seen by teachers, but among children with low levels of preadolescent delinquent behavior problems, more adolescent-reported psychological control was associated with higher levels of teacher-reported adolescent delinquent behavior problems.

The prediction of early adolescent anxiety and depression was next considered. Mother-and adolescent-reported psychological control accounted for 2% of the variance in adolescent-reported anxiety and 3% of the variance in mother-reported anxiety. Neither psychological control variable accounted for unique variation in teacher-reported anxiety. Monitoring did not account for any unique variance in anxiety. In addition to these main effects, there was one significant Child Gender × Psychological Control interaction and one significant Preadolescent Anxiety × Psychological Control interaction. Adolescent-reported psychological control was related to mother-reported anxiety for girls, slope = .22, $p < .001$, but not for boys, slope = .03, *ns*. This interaction indicates that among girls, but not boys, high levels of adolescent-reported psychological control were associated with more mother-reported anxiety. Mother-reported psychological control was positively associated with teacher-reported anxiety when there were high levels of preadolescent anxiety, slope = .17, $p < .05$, but not when there were low levels of preadolescent anxiety, slope = −.11, *ns*.

Primary Analyses: Antecedents of Monitoring and Psychological Control in Early Childhood Parenting, Mothers' Rating of Child Adjustment, and Family Background Characteristics

Differences in patterns of relations as a function of child gender—As with the preliminary analyses, the extent to which the relations among monitoring, psychological control, anxiety/depression, and delinquent behavior were moderated by child gender was first examined. Covariance matrices including the four parenting variables and the nine antecedent variables were computed separately for boys and girls. A model with constraints equating covariances between the two groups provided a good fit to the data, AGFI = .948; CFI = .986; $\chi^2(36) = 40.2$, $p = .29$. This approach is analogous to an omnibus *F* test and the results indicated that child gender did not significantly moderate the set of relations among the measures of monitoring, psychological control, and the antecedent variables. Interactions between child gender and individual antecedent variables, therefore, were not considered further.

Correlations among antecedent measures and monitoring and psychological control—In general, mother-reported parenting was associated more consistently with antecedent measures than was adolescent-reported parenting (see Table 4). This was especially the case for mother-reported monitoring, which was significantly related to each of the antecedent measures: Higher levels of mother-reported monitoring were associated with higher SES, child gender (more monitoring for girls), mother's marital status (less monitoring in single-mother families), more proactive involvement and less harsh discipline, and lower levels of mother-rated prekindergarten behavior problems. Adolescent-reported monitoring was associated only with proactive involvement. Higher levels of both mother- and adolescent-reported psychological control were associated with higher levels of harsh discipline; mother-reported psychological control also was associated with higher levels of prekindergarten behavior problems.

Hierarchical regression analyses—Each of the four early adolescent parenting measures served as a dependent variable in a series of regression analyses. The independent variables were the measures representing the three domains of early childhood antecedents (i.e., parenting, mothers' ratings of prekindergarten externalizing problems, and family background characteristics). These variable domains were entered into the regression analyses in a distal-to-proximal order because of our interest in examining whether early parenting contributed to the prediction of later parenting after first controlling for family background variables, and whether mothers' prekindergarten perceptions of child adjustment contributed to the prediction of later parenting after first controlling for family background and earlier parenting. In these analyses, the alternate parenting measure was first controlled for (e.g., in the prediction of mother-reported monitoring, mother-reported psychological control was the "alternate" measure and was entered first). This was done because, as indicated in the bivariate

correlations, the measures shared some common variance. The distinct antecedents of each were evaluated, after controlling for their overlap. The multivariate *n*s were 414 for the analyses with the mother-reported parenting variables and 413 for the analyses with the adolescent-reported parenting variables. The results of the regression analyses are summarized in Table 5 and Table 6.

The results for both mother-reported and adolescent-reported monitoring are highly similar (see Table 5). After controlling for covariation among monitoring and psychological control (significant in both instances), significant incremental predictions were found for the family background set (although none of the individual βs were significant for adolescent-reported monitoring) and for the parenting set. With respect to parenting, only proactive parenting contributed significantly to the prediction of later monitoring. Consistent with the bivariate correlations, mother-reported monitoring also was forecast by earlier family SES, by child gender, and by marital status. Mother-reported prekindergarten child externalizing problems were not predictive of later monitoring in these analyses. Thus, it appears that monitoring in the early adolescent years, as reported by both mothers and adolescents, is predicted by an earlier proactive parenting style and by family background characteristics.

Turning to psychological control (Table 6), both mother-reported and adolescent-reported indexes were significantly predicted by earlier harsh parental discipline, after controlling for covariation with concurrent monitoring. Mothers' reports of psychological control also were significantly predicted by positive/proactive parenting and by mothers' ratings of their children's externalizing problems in early childhood. The emergence of proactive parenting as a predictor in these analyses likely reflects a suppressor effect, insofar as proactive parenting and mother-reported psychological control were not significantly related at the bivariate level. Family ecological characteristics were not associated with later psychological control. These findings suggest somewhat different antecedents for mother and adolescent reports, with mother-reported psychological control being predicted both by early harsh parenting and by mothers' judgments of early child behavioral adjustment problems, and adolescent-reported psychological control being predicted only by early harsh parenting.

DISCUSSION

In this study a prospective, longitudinal, multi-informant design was used to examine the antecedents and behavior-problem correlates of monitoring and psychological control. Consistent with the hypothesized linkages, monitoring was anteceded by an earlier proactive parenting style, whereas psychological control was anteceded by earlier harsh parenting and, for mothers' reports of psychological control, by earlier maternal judgments of child externalizing behavior problems. This is the first empirical study known to demonstrate that these two key forms of parental control of adolescents have distinct early childhood precursors. Also consistent with expectation, and with prior research, monitoring and psychological control showed a coherent pattern of relations with anxiety/ depression and delinquent behavior in late middle childhood and adolescence. High levels of monitoring were associated with lower levels of delinquent behavior, and psychological control was associated with higher levels of anxiety/ depression and delinquent behavior. As discussed later, the patterns of relations involving psychological control differed somewhat for boys and girls, for children with high versus low levels of behavior problems in late middle childhood, and for mother versus adolescent reports.

The primary goal of this study was to determine whether monitoring and psychological control have common or unique antecedents in early parenting, child adjustment, and family ecology. Monitoring was hypothesized to have its roots in an early proactive/preventive orientation to parenting. This hypothesis received support in that monitoring, as reported by both mothers and adolescents, was associated significantly with an earlier parenting style marked by a

preventive orientation toward dealing with children's problematic social behavior. Proactive planning and anticipatory guidance have been shown to be effective socialization tools with preschool-aged children (Pettit & Bates, 1989; Russell & Russell, 1996). These aspects of parental control also have been found to converge modestly with other positive and supportive parenting behaviors in early childhood (Pettit et al., 1997). Parental monitoring in adolescence likewise reflects elements of anticipation and planning, in terms of structured rules and regulations, as well as in "behavior tracking" (Dishion & McMahon, 1998). According to Dishion and McMahon, tracking skills are necessary for the monitoring of children of all ages, but are insufficient for effective monitoring of older children and adolescents. At these later ages—when children increasingly spend time in extrafamilial settings—new monitoring skills are needed, especially skills in communication and effective listening. Such skills facilitate parents' ability to keep abreast of their children's whereabouts and companions, and increase the likelihood that children will abide by family rules regarding how discretionary time is to be spent.

Together, these two strands—anticipation and tracking of child behavior, and positive involvement and communication with the child—may account for the significant association between the early childhood measure of proactive teaching and the early adolescent measure of monitoring. Also underlying this association may be the presence of an enduring proactive childrearing philosophy in some mothers that expresses itself in different ways depending on the age of the child and prevailing socialization demands. In early childhood this philosophy may be manifest in the endorsement of planful, before-problems-arise approach to teaching interpersonal problem-solving skills. In early adolescence this philosophy may be evidenced in parents' regulation and relatively distal (owing to the adolescents' increasing autonomy) supervision of their teens' activities and whereabouts, and in fostering a relational climate that is conducive to information sharing and communication.

We also predicted that mothers' monitoring would be anteceded by favorable family background characteristics. This hypothesis was derived in part from research on the determinants of parenting (e.g., Belsky, 1984; Bogenschneider, Small, & Tsay, 1997), which consistently has found effective parenting to be linked with a variety of ecological and social-contextual supports and advantages. The findings reported here are consistent with this hypothesis, in that mothers' reports of monitoring were found to be associated with early family ecological factors as a set, as well as with individual background characteristics, that is, with higher SES and intact marital status. Adolescents' reports of monitoring were related to background characteristics as a set but not with any individual background characteristic.

The link between mother reports of monitoring and family ecological characteristics may reflect a cultural norm regarding the "appropriateness" of this kind of parental behavior (i.e., that middle-class mothers in conventional families may be more apt to acknowledge the desirability of supervising their children and tracking their whereabouts, whereas lower SES mothers may consider it less important to do so). The empirical link between monitoring and family background also could reflect a maternal stressor effect whereby mothers in more affluent and maritally intact families, where stress is presumably less severe and less likely to color perceptions, describe their parenting in more positive ways. Conversely, in economically disadvantaged, single-parent families, where greater stress may engender pervasively negative perceptions, mothers may report their own parenting in more negative ways (Wahler & Dumas, 1989). Family ecological characteristics were not predictive of mothers' (or adolescents') reports of psychological control, however, which casts some doubt on the biased-perception interpretation. It may simply be that low-SES, single-parent mothers find it more challenging to track and supervise the whereabouts of their children (Pettit et al., 1999).

We advanced two predictions with respect to the antecedents of psychological control: first, that it would be associated with earlier harsh parenting, and second, that it would be predicted by mothers' earlier reports of their children's externalizing behavior problems. Both predictions were supported by mothers' reports of psychological control; only the prediction for earlier harsh discipline was supported by adolescents' reports. Barber and Harmon (in press) has argued that psychological control is a marker of a hostile and dysfunctional parent–child relationship, and as such it might be expected to be rooted in historical patterns of parent–child negativity. In the present context, mothers who were harsh and punitive in disciplinary encounters in early childhood were more likely to be psychologically intrusive and manipulative in the early adolescent years. This cross-time connection suggests that, consistent with Barber and Harmon's (in press) arguments, in some families there is an enduring undercurrent of hostility and lack of respect for autonomy that may span the early childhood to early adolescent years. It is not clear whether it is the harsh and restrictive discipline style that contributes to later conflict about autonomy issues in adolescence, or whether parenting attributes that accompany harsh discipline (e.g., rejection or ineffective and coercive control) set the stage for the later conflict (Baumrind, 1989; Patterson et al., 1992). That coercive parents might be viewed as psychologically controlling years later is understandable if the parents' intrusions and overmanaging of behavior and autonomy continued through the childhood years.

The question remains as to why the measure of harsh discipline used here—which has been found to be consistently associated with externalizing problems (Dodge et al., 1994; Pettit et al., 1997)—forecasts the later use of a parental-control strategy that predicts anxious/depressed behavior more strongly than it predicts delinquent behavior. Two possibilities might be considered as explanations of this effect. The first is that some of the parents who engage in early harsh discipline are intent on controlling not just their children's overt behavior but their children's budding psychological autonomy as well. This subset of harshly disciplining parents may later become psychologically controlling parents. A related possibility is that the hostility that may be present in both harsh discipline and psychological control may have a differing impact on child adjustment depending on the age of the child. In early childhood, when compliance issues are paramount, the likely outcome of such hostility might be noncompliance, resistance, and other externalizing-type behaviors (Patterson et al., 1992). In early adolescence, when autonomy and individuation issues are in ascendance, parental hostility and related psychological intrusions might be expected to lead to withdrawal, insecurity, and other internalizing kinds of behaviors (Steinberg, 1990).

Mother-reported psychological control was predicted by both an early proactive parenting style and mothers' ratings of their children's externalizing problems. It should be noted that proactive parenting and psychological control were not significantly related at the bivariate level, which suggests the possibility that proactive parenting emerged as a significant predictor in the regression analyses because of a suppressor effect. Interpretation of such an effect should be made with caution. In the discussion that follows, the predicted (and found) relation between psychological control and mothers' earlier reports of their children's behavior problems is highlighted, and a highly speculative account of a possible link between early proactive parenting and later psychological control is offered.

If mothers' ratings of externalizing problems in early childhood mark their judgments about their children's manageability, and if such judgments covary with a harsh, coercive discipline style, then a prediction of later psychological control might be expected, along the lines described earlier. This interpretation implies that mothers' characteristics (e.g., a coercive style) are the driving force behind this cross-time prediction. Clearly, however, child characteristics may figure prominently in this longitudinal connection, with difficult-to-manage youngsters eliciting harsher parental treatment, which then contributes to the

development of even higher levels of child problem behavior (Bates, Pettit, Dodge, & Ridge, 1998; Patterson et al., 1992).

The regression results that showed a significant association between early proactive parenting and later psychological control were unexpected and in some ways would seem to run counter to previous research showing that a proactive orientation forecasts fewer behavioral adjustment problems in childhood and adolescence (e.g., Pettit et al., 1997). It is speculated that what may link proactive, preventive parenting in early childhood with psychologically controlling parenting in early adolescence is consistency over time of a tendency to overmanage (or show undue concern for) children's expressions of assertiveness and independence. That is, some mothers may make use of a prevention-oriented style when there is little reason to do so; that is, their children rarely engage in misbehavior or test the limits imposed by their parents. Proactive teaching in such a context might be viewed as an intrusive form of behavior management. As noted earlier, intrusiveness has been considered by some to be a key indicator of psychological control (Barber and Harmon, in press). Thus, under certain conditions (i.e., in the absence of apparent need), proactive involvement may link up with later psychological control because each is concerned, at least in part, with overmanaging the child and restricting the development of autonomy and personal responsibility.

Central to this formulation are the contexts or conditions within which proactive parenting is applied. Such a contextual perspective was recently used as a guide in an analysis of moderators of associations between parenting in early childhood and parenting in early adolescence (Pettit & Laird, in press). Mothers' perceptions of their children's behavioral adjustment were found to moderate the relation between proactive parenting and later parental control: Among those mothers who rated their children as high in externalizing problems, proactive parenting was significantly associated with later monitoring but not with later psychological control. For the group of mothers who rated their children as low in externalizing problems, proactive parenting significantly predicted later psychological control but not later monitoring. These findings provide preliminary support for the proposition that connections between early and later parenting are conditional, that is, that the direction and magnitude of such relations varies as a function of the broader social and ecological contexts of family life (Pettit & Laird, in press).

Do Parental Monitoring and Psychological Control Have Distinct Behavior-Problem Correlates?

Consistent with prior research (e.g., Barber, 1996; Herman et al., 1997), the bivariate correlations showed that absence of monitoring—whether reported by mothers or adolescents—was associated more strongly with delinquent behavior problems than with anxiety/depression. The magnitude of these relations was comparable for mother-reported, teacher-reported, and adolescent self-reported delinquent behavior. There was one modest but significant negative correlation between mother reports of monitoring and mother reports of adolescent anxiety/depression. This study joins with many others (e.g., see Dishion & McMahon, 1998) in highlighting lack of monitoring as a risk factor in children's development of delinquent, antisocial behavior problems.

Also consistent with past research (e.g., Barber, 1996; Conger et al., 1997), the bivariate correlations indicated that mothers' use of psychological control was associated with both anxiety/depression and delinquent behavior problems, as reported by mothers and by adolescents themselves. Teacher-rated anxiety was unrelated to any parenting variable, which probably attests to the difficulty of detecting—or even noticing—anxious behaviors in middle-school settings (Achenbach et al., 1987). Further evidence of teachers' difficulty in rating anxiety/depression is suggested by the very modest cross-year composite internal consistency for teachers' ratings of anxiety/depression.

Although the bivariate correlations suggest predictive overlap between psychological control and both types of behavior problems, the regression analyses—in which the covariation among problem behaviors, as well as the alternate form of parenting, were controlled—indicated that anxiety/depression was uniquely predicted by psychological control but not by monitoring. This is consistent with the Barber et al. (1994) interpretation that parents' use of psychologically manipulative control strategies may undermine their adolescents' developing autonomy and sense of self, and contribute to fearfulness, insecurity, and other anxious behaviors. Alternatively, it may be that increasingly anxious children tend to elicit more highly critical parenting.

With respect to gender differences in these patterns of relations, mothers' monitoring was associated with fewer mother-reported delinquent behavior problems among girls than among boys, after controlling for preadolescent delinquent problems. Likewise, girls' perceptions of high levels of psychological control were associated with higher levels of mother-reported anxiety and delinquent behavior (again, after controlling for analogous preadolescent problems). These findings suggest two possibilities: that girls who perceive their mothers as psychologically controlling may react in ways that lead their mothers to judge them as being more antisocial, or, taking a more bidirectional view, that as girls increasingly show signs of behavior problems, their mothers' use of psychologically controlling strategies escalates, which in turn encourages the development of more problem behaviors.

Why might girls be particularly sensitive to their mothers' controlling behaviors? We might speculate that because girls tend to be monitored more closely than boys (e.g., Pettit et al., 1999), it is possible that through increased vigilance, mothers become aware of girls' incipient behavioral problems and modify their monitoring and supervision strategies accordingly. Because delinquent behavior is comparatively more "normative" for boys than for girls, mothers may grant boys more leeway and work less hard (in the sense of monitoring and supervising) to alter their boys' behavior. On the other hand, girls show higher levels of anxious behaviors than do boys, on average, and girls' anxiety may be especially vulnerable to exploitation by psychologically manipulative parenting (Conger et al., 1997).

This study also sought to identify whether links between mothers' monitoring and psychological control and early adolescent behavior problems were conditional in the sense that patterns of relations differed as a function of preadolescent adjustment. Higher levels of parental monitoring were associated with lower levels of delinquent behavior both for children who previously had exhibited higher levels, as well as those who had exhibited lower levels, of delinquent behavior. Links between psychological control and behavioral adjustment did vary according to the adolescents' adjustment history, however. Specifically, high levels of psychological control were associated with more teacher-reported delinquent behaviors among teens who exhibited fewer delinquent behaviors prior to adolescence, and with more teacher-reported anxiety/depression among anxiety-prone adolescents. It is unclear from these results whether mothers' use of psychological control in some way alters the course of development of behavior problems, or whether mothers adjust their parenting in response to adolescent adjustment problems. Of course, in all likelihood, bidirectional processes are operating whereby teens "pull" certain behaviors from their parents and parents "push" their adolescents in particular ways.

Conclusions, Limitations, and Future Directions

The data presented here suggest that the constructs of monitoring and psychological control have distinct patterns of early childhood antecedents and behavior-problem outcomes. Moreover, the data suggest that the antecedent patterns differ somewhat as a function of which family member—mother or teen—provides the parenting information, and that the outcomes differ depending on whether boys' or girls' problem behaviors are being considered, as well

as whether the teens previously had displayed relatively high or low patterns of adjustment in middle childhood. Informant differences were most evident for psychological control, which might be expected, given its presumably more subjective nature. Gender differences in outcomes were evident for both monitoring and psychological control, with both forms of control showing stronger (relatively speaking) links with girls' adjustment than with boys' adjustment. Finally, prior adjustment moderated relations between psychological control (but not monitoring) and adjustment outcomes.

The empirical links between the early childhood antecedents and the early adolescent parenting scores were uniformly of modest magnitudes. Given that the 9-year predictive span of the study overlapped two major developmental transitions—that of preschool to school-age and that of school-age to early adolescence—one probably should not expect to account for large variations in the later parenting measures. It also is important to acknowledge the modest reliabilities of some of the parenting measures, most notably proactive parenting. Constraints imposed by these reliabilities may have attenuated the predictive relations between earlier and later parenting orientations. The small portions of variance accounted for in mothers' monitoring and psychological control of their early adolescents, however, also suggest that it might be fruitful to consider a broader array of early parenting and social experience predictors. In so doing, it should be possible to outline more clearly the parameters—and limits—of the differential- antecedents framework.

In summary, the findings from the current prospective study suggest that mothers' monitoring practices in early adolescence were anteceded by a proactive parenting style and by advantageous family background characteristics. Mothers' psychological control in adolescence was anteceded by mothers' harsh, restrictive discipline and by earlier reports of child externalizing problems. Early adolescents (especially girls) whose mothers provided high levels of monitoring had fewer delinquent behaviors in middle childhood and adolescence, and early adolescents (especially girls) whose mothers used psychologically controlling strategies had higher levels of anxiety/depression and delinquent behaviors in middle childhood and adolescence.

ACKNOWLEDGMENTS

This investigation was supported by grants from the National Institute of Child Health and Human Development (HD 30572) and the National Institute of Mental Health (MH 42498 and MH 57095) awarded to Gregory S. Pettit, John E. Bates, and Kenneth A. Dodge. The many important contributions of the Child Development Project research staff are gratefully appreciated.

REFERENCES

Achenbach, TM. Integrative guide for the 1991 CBCL 14–18, YSR, and TRF Profiles. Burlington: University of Vermont, Department of Psychiatry; 1991.

Achenbach TM, McConaughey SH, Howell CT. Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. Psychological Bulletin 1987;101:213–232. [PubMed: 3562706]

Barber BK. Parental psychological control: Revisiting a neglected construct. Child Development 1996;67:3296–3319. [PubMed: 9071782]

Barber, BK.; Harmon, E. Violating the self: Parental psychological control of children and adolescents. In: Barber, BK., editor. Parental psychological control of children and adolescents. Washington, D.C: American Psychological Association Press; (in press).

Barber BK, Olsen JE, Shagle SC. Associations between parental psychological and behavioral control and youth internalized and externalized behaviors. Child Development 1994;65:1120–1136. [PubMed: 7956469]

Bates JE, Pettit GS, Dodge KA, Ridge B. The interaction of temperamental resistance to control and restrictive parental discipline in the development of externalizing problems. Developmental Psychology 1998;34:982–995. [PubMed: 9779744]

Baumrind D. Child care practices anteceding three patterns of preschool behavior. Genetic Psychology Monographs 1967;75:43–88. [PubMed: 6032134]

Baumrind, D. Rearing competent children. In: Damon, W., editor. Child development today and tomorrow. San Francisco: Jossey-Bass; 1989. p. 349-368.

Belsky J. The determinants of parenting: A process model. Child Development 1984;55:83–96. [PubMed: 6705636]

Bogenschneider K, Small SA, Tsay JC. Child, parent, and contextual influences on perceived parenting competence among parents of adolescents. Journal of Marriage and the Family 1997;59:345–362.

Brown BB, Mounts N, Lamborn SD, Steinberg L. Parenting practices and peer group affiliation in adolescence. Child Development 1993;64:467–482. [PubMed: 8477629]

Colder CR, Lochman JE, Wells KC. The moderating effects of children's fear and activity level on relations between parenting practices and childhood symptomatology. Journal of Abnormal Child Psychology 1997;25:251–263. [PubMed: 9212377]

Conger KJ, Conger RD, Scaramella LV. Parents, siblings, psychological control, and adolescent adjustment. Journal of Adolescent Research 1997;12:113–138.

Darling N, Steinberg L. Parenting style as context: An integrative model. Psychological Bulletin 1993;113:487–496.

Dishion TJ, McMahon RJ. Parental monitoring and the prevention of child adolescent problem behavior: A conceptual and empirical foundation. Clinical Child and Family Psychology Review 1998;1:61–75. [PubMed: 11324078]

Dishion TJ, Patterson GR, Stoolmiller M, Skinner ML. Family, school, and behavioral antecedents to early adolescent involvement with antisocial peers. Developmental Psychology 1991;27:172–180.

Dodge KA, Pettit GS, Bates JE. Socialization mediators of the relation between socioeconomic status and child conduct problems. Child Development 1994;65:649–665. [PubMed: 8013245]

Herman MR, Dornbusch SM, Herron MC, Herting JR. The influence of family regulation, connection, and psychological autonomy on six measures of adolescent functioning. Journal of Adolescent Research 1997;12:34–67.

Hollingshead, W. The Hollingshead Four Factor Index of Socioeconomic Status. New Haven, CT: Unpublished manuscript, Yale University; 1979.

Jaccard, J.; Turrisi, R.; Wan, CK. Interaction effects in multiple regression. Newbury Park, CA: Sage; 1990.

Kandel, DB.; Wu, P. Disentangling mother–child effects in the development of antisocial behavior. In: McCord, J., editor. Coercion and punishment in long-term perspectives. New York: Cambridge University Press; 1995. p. 106-123.

Patterson, GR. Coercive family processes. Eugene, OR: Castilia; 1982.

Patterson, GR.; Reid, J.; Dishion, TJ. Antisocial boys. Eugene, OR: Castilia; 1992.

Pettit GS, Bates JE. Family interaction patterns and children's behavior problems from infancy to 4 years. Developmental Psychology 1989;25:413–420.

Pettit GS, Bates JE, Dodge KA. Supportive parenting, ecological context, and children's adjustment: A seven-year longitudinal study. Child Development 1997;68:908–923.

Pettit GS, Bates JE, Dodge KA, Meece D. The impact of after-school peer contact on early adolescent externalizing problems is moderated by parental monitoring, perceived neighborhood safety, and prior adjustment. Child Development 1999;70:768–778. [PubMed: 10368921]

Pettit, GS.; Laird, RD. Psychological control and monitoring in early adolescence: The role of parental involvement and prior child adjustment. In: Barber, BK., editor. Parental psychological control of children and adolescents. Washington, D.C: American Psychological Association Press.; (in press).

Rowe DC, Vazsonyi AT, Flannery DJ. No more than skin deep: Ethnic and racial similarity in developmental process. Psychological Review 1994;101:396–413.

Russell A, Russell G. Positive parenting and boys' and girls' misbehavior during a home observation. International Journal of Behavioral Development 1996;19:291–307.

Schaefer ES. A configurational analysis of children's reports of parent behavior. Journal of Consulting Psychology 1965;29:552–557. [PubMed: 5846126]

Steinberg, L. Interdependence in the family: Autonomy, conflict, and harmony in the parent–adolescent relationship. In: Feldman, SS.; Elliott, GR., editors. At the threshold: The developing adolescent. Cambridge, MA: Harvard University Press; 1990. p. 255-276.

Steinberg L, Elmen JD, Mounts NS. Authoritative parenting, psychological maturity, and academic success among adolescents. Child Development 1989;60:1424–1436. [PubMed: 2612251]

Wahler RG, Dumas JE. Attentional problems in dysfunctional mother–child interactions: An interbehavioral model. Psychological Bulletin 1989;105:116–130. [PubMed: 2648437]

Widaman KF. Hierarchically tested covariance structure models for multitrait–multimethod data. Applied Psychological Measurement 1985;9:1–26.

Table 1

Summary of Assessment Domains, Informants, Waves, and Constructs

Category	Informant	WaveConstruct
1. Early childhood antecedents	Mother	1Harsh discipline
	Mother	1Proactive teaching
	Mother	1Socioeconomic status
	Mother	1Marital status
	Mother	1Externalizing behavior
2. Behavioral and psychological adjustment in late middle childhood	Teacher	4–6Delinquent behavior
	Teacher	4–6Anxiety/depression
3. Monitoring and psychological control	Mother	9Monitoring
	Adolescent	9Monitoring
	Mother	9Psychological control
	Adolescent	9Psychological control
4. Early adolescent adjustment	Teacher	10Delinquent behavior
	Mother	9Delinquent behavior
	Adolescent	10Delinquent behavior
	Teacher	10Anxiety/depression
	Mother	9Anxiety/depression
	Adolescent	10Anxiety/depression

Table 2

Bivariate Correlations among Monitoring, Psychological Control, and Behavior Problems

	Monitoring		Psychological Control	
	Adolescent-Reported	Mother-Reported	Adolescent-Reported	Mother-Reported
Mother-reported monitoring	.26***			
Adolescent-reported psychological control	−.31***	−.13**		
Mother-reported psychological control	−.05	−.24***	.19***	
Adolescent delinquent behavior problems				
Mother-reported	−.24***	−.47***	.20***	.27***
Teacher-reported	−.25***	−.32***	.18***	.05
Adolescent-reported	−.36***	−.20***	.22***	.06
Adolescent anxiety/depression				
Mother-reported	−.03	−.14*	.18***	.33***
Teacher-reported	−.08	−.10	.08	.01
Adolescent-reported	−.13	−.06	.20***	.06
Preadolescent delinquent behavior problems				
Mother-reported	−.15***	−.30***	.10*	−.15***
Teacher-reported	−.24***	−.26***	.14**	.01
Preadolescent anxiety/depression				
Mother-reported	.05	−.14***	.07	.05
Teacher-reported	.01	−.02	.03	−.04

Note: *n*s = 376 to 437.

* $p < .05$

** $p < .01$

*** $p < .001$.

Table 3

Hierarchical Regression Analyses Predicting Early Adolescent Anxiety/Depression and Delinquent Behavior from Parenting and Preadolescent Behavior Problems

	Delinquent Behavior			Anxiety/Depression		
	Adolescent (*n* = 369)	**Mother (*n* = 386)**	**Teacher (*n* = 359)**	**Adolescent (*n* = 369)**	**Mother (*n* = 386)**	**Teacher (*n* = 359)**
Main effects (simultaneous)						
Alternate behavior score[a]	.35***	.20***	.26***	.38***	.22***	.38***
Preadolescent score[b]		.40***	.44***		.53***	.18***
Adolescent gender[c]	−.05	.08*	−.01	.18***	.04	.07
Adolescent-reported monitoring	−.28***	−.09*	−.07	.03	.04	.03
Mother-reported monitoring	−.09	−.29***	−.16***	.02	.07	.01
Adolescent-reported psychological control	−.01	.06	−.02	.13**	.11**	.01
Mother-reported psychological control	.03	.06	.04	.03	.13***	.02
Interactions with gender						
Adolescent-reported monitoring	−.06	−.18***	.01	−.01	−.05	−.01
Mother-reported monitoring	.07	−.13*	−.06	−.01	.02	.08
Adolescent-reported psychological control	.03	.11*	−.03	−.02	.14*	.07
Mother-reported psychological control	−.03	.07	.08	.09	−.05	−.11
Interactions with preadolescent behavior problems						
Adolescent-reported monitoring		.01	.05		−.01	.09
Mother-reported monitoring		−.01	−.06		.04	−.03
Adolescent-reported psychological control		.01	−.12**		.05	−.01
Mother-reported psychological control		.02	−.09*		−.03	.12*
R^2 change						
Monitoring main effects	.09***	.09***	.03***	.01	.01	.01
Psychological control main effects	.01	.01	.01	.02*	.03***	.01

Note: All measurements are standard βs.

[a]The same-source (i.e., adolescent, mother, or teacher) adolescent anxiety score was the alternate behavior problem score for adolescent delinquent behavior, and the adolescent delinquent behavior score was the alternate behavior problem score for adolescent anxiety.

[b]The preadolescent same-source (i.e., mother or teacher) delinquent behavior score was included in the delinquent behavior analysis for that source, and the preadolescent same-source anxiety score was included in the anxiety behavior analysis for that source.

[c]Coded as 0 = male, 1 = female.

*$p < .05$

**$p < .01$

***$p < .001$.

Table 4

Bivariate Correlations among Early Childhood Antecedent Variables and Monitoring and Psychological Control in Early Adolescence

	Monitoring		Psychological Control	
	Adolescent-Reported	Mother-Reported	Adolescent-Reported	Mother-Reported
Family background characteristics				
Socioeconomic status[a]	.09	.18***	.00	.04
Child gender[b]	.05	.14**	−.02	−.02
Marital status[c]	−.09	−.17***	.00	−.03
Early parenting				
Proactive involvement	.11*	.15**	.01	.07
Harsh discipline	−.03	−.11*	.13**	.12*
Early child adjustment				
Externalizing behavior	−.04	−.18***	.08	.22***

Note: *n*s = 424 to 437.

[a] Assessed prekindergarten.

[b] Coded as 0 = male, 1 = female.

[c] Coded as 0 = two-parent family, 1 = single-mother family.

* $p < .05$

** $p < .01$

*** $p < .001$.

Table 5

Hierarchical Regressions Predicting Mother and Adolescent Report of Monitoring (Grade 8)

	Monitoring			
	Mother-Reported (*n* = 414)		Adolescent-Reported (*n* = 413)	
Predictor	**Standard β**	**ΔR^2**	**Standard β**	**ΔR^2**
Step 1		.05***		.09***
Psychological control[a]	−.22***		−.30***	
Step 2		.08***		.02*
Socioeconomic status[b]	.16**		.07	
Child gender[c]	.18***		.06	
Marital status[b,d]	−.14**		−.08	
Step 3		.02*		.01*
Proactive involvement[b]	.14**		.12*	
Harsh discipline[b]	−.01		.03	
Step 4		.01		.00*
Externalizing behavior[e]	−.08		.01	

[a] When predicting mother-reported monitoring, mother-reported psychological control was entered first. When predicting adolescent-reported monitoring, adolescent-reported psychological control was entered first.

[b] Assessed prekindergarten.

[c] Coded as 0 = male, 1 = female.

[d] Coded as 0 = two-parent family, 1 = single-mother family.

[e] Prekindergarten mother report of child externalizing behavior.

* $p < .05$

** $p < .01$

*** $p < .001$.

Table 6

Hierarchical Regressions Predicting Mother and Adolescent Report of Psychological Control (Grade 8)

	Psychological Control			
	Mother-Reported (*n* = 414)		Adolescent-Reported (*n* = 413)	
Predictor	**Standard β**	**ΔR^2**	**Standard β**	**ΔR^2**
Step 1		.05***		.09***
Monitoring[a]	−.22***		−.30***	
Step 2		.01		.00
Socioeconomic status[b]	.08		.04	
Child gender[c]	.03		−.02	
Marital status[b,d]	−.03		.00	
Step 3		.02*		.01*
Proactive involvement[b]	.10*		.04	
Harsh discipline[b]	.11*		.12*	
Step 4		.04***		.00
Externalizing behavior[e]	.21***		.05	

[a] When predicting mother-reported psychological control, mother-reported monitoring was entered first. When predicting adolescent-reported psychological control, adolescent-reported monitoring was entered first.

[b] Assessed prekindergarten.

[c] Coded as 0 = male, 1 = female.

[d] Coded as 0 = two-parent family, 1 = single-mother family.

[e] Prekindergarten mother report of child externalizing behavior.

* $p < .05$

*** $p < .001$.