

## Conditions underlying parents' knowledge of children's daily lives in middle childhood: Between and within family comparisons

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### **Abstract:**

This study examined the correlates of mothers' and fathers' knowledge about the daily experiences of their firstborn ( $M = 10.9$  years) and secondborn ( $M = 8.3$  years) children in 198 nondivorced, predominantly dual-earner families. Results revealed between- and within-family differences in knowledge as a function of mothers' work involvement, sibship composition (i.e., sex, birth order), children's personal qualities (e.g., temperament), and parents' personal qualities (e.g., education, gender role attitudes). Mothers' knowledge did not vary as a function of how much they worked outside the home, but fathers knew more about their children's activities, whereabouts, and companions when their wives worked longer hours. Parents knew more about their younger than their older offspring. Both mothers and fathers knew more about offspring of the same sex than about opposite-sex children, leading to greater within-family differences in families with mixed-sex siblings. Perhaps because parental involvement and monitoring are more "scripted" for mothers than fathers, fathers' knowledge was more consistently related to their children's characteristics than was mothers.'

**Keywords:** birth order | parenting | children

### **Article:**

## **INTRODUCTION**

In middle childhood, as children move through elementary school, explore new extracurricular activities, and spend increasing amounts of time with peers, it is important for parents to be informed about their children's activities, whereabouts, and companions (Collins, Harris, & Susman, 1995). One way in which parents acquire this information is to "monitor" their

children's daily experiences. Most research on the process of parental monitoring has conceptualized it as a dimension of parenting behavior akin to supervision and control but with the added connotation of tracking the child's behavior from a distance. During the school-age years, low levels of parental monitoring have been linked to low school achievement, diminished feelings of scholastic competence, high levels of conduct problems, and initiation of drug use, particularly in boys (Chilcoat & Anthony, 1996; Crouter, MacDermid, McHale, & Perry-Jenkins, 1990; Patterson, Bank, & Stoolmiller, 1990). Similarly, in adolescence, low parental monitoring is a correlate of delinquency, substance use, and teenage pregnancy (Hogan & Kitagawa, 1985; Mekos, Hetherington, & Reiss, 1996; Metzler, Noell, Biglan, Ary, & Smolkowski, 1994; Patterson & Stouthamer-Loeber, 1984; Reiss et al., 1995; Steinberg, Fletcher, & Darling, 1994).

When parents monitor their offspring, one of their goals is to acquire knowledge about their children's daily activities, whereabouts, and companions, knowledge that presumably will help them calibrate how well their children are doing and assess whether parental intervention is needed. There are other routes to parental knowledge, however, besides deliberate, conscious parental monitoring. Conversations or joint activities between parents and children may give parents information about their children's immediate experiences. A parent may learn about the child's experiences from the other parent or from a knowledgeable person outside the family such as a teacher or the parent of a friend. Finally, children themselves may shape parental knowledge by volunteering information about the day's events or by reporting on a sibling's experiences or behavior.

The purpose of this study was to look closely at parents' knowledge of their children's daily lives in middle childhood and to investigate some of the individual, familial, and extrafamilial conditions that may underlie parental knowledge. To do this, we designed a study that encompassed some of the complexity of family life that is often overlooked in developmental studies of families. Traditionally, developmental research on socialization in the family has focused on a single "target child" in a family (Hoffman, 1991) and relied heavily on information provided by mothers, two strategies that oversimplify children's family circumstances. In this study, we extended our research design to pay equal attention to *two* school-age children in each family, opening up the possibility that the same parent will react differently to siblings with different personal qualities and positions in the family. Furthermore, we compared mothers' and fathers' knowledge of their children's daily experiences, moving beyond mother-father comparisons to consider the role of parents' own personal qualities in shaping how much they know about their children's daily lives. This study investigated the conditions under which parents are knowledgeable about the ongoing events that characterize their children's lives—a "between-family" question—as well as the conditions under which parents are differentially knowledgeable about their two offspring—a "within-family" question.

What conditions might give rise to parental knowledge of their children's daily experiences? Two relevant literatures provide clues: the first literature focuses on "between-family" differences, the second on "within-family" differences. Rooted in the ecological perspective on human development (Bronfenbrenner, 1979), the literature on the determinants of parenting focuses attention on the context surrounding the family (e.g., parents' work circumstances, neighborhood, and social network characteristics), which can be a source of both stress and support for parents, as well as on the individual dispositions and psychological resources that

parents and children bring to their interactions with one another (Belsky, 1984). In contrast, the literature on the family as a “nonshared environment” draws attention to differences in the experiences of children growing up in the same family (Dunn & Plomin, 1990; Hetherington, Reiss, & Plomin, 1994; Mekos et al., 1996). Nonshared family experiences, such as parental differential treatment, help to explain why siblings’ personalities and behavior patterns can be as different from each other as they are from unrelated individuals (Plomin & Daniels, 1987). Our study joins a handful of investigations that have examined the *conditions* under which siblings receive similar or different treatment from parents (e.g., Harris & Morgan, 1991; McHale & Pawletko, 1992; Mekos et al., 1996), a focus that unites the literatures on the determinants of parenting with the literature on sibling differential treatment.

We drew selectively from these literatures, focusing on four levels of possible influence: (1) the extrafamilial environment, specifically the extent to which parents’ employment makes mothers and fathers more or less available to their children; (2) sibship composition (i.e., birth order and sex of the two siblings); (3) siblings’ personal qualities that might encourage or discourage parents from learning about their children’s daily activities (e.g., temperament); and (4) parents’ personal qualities that might predispose them to take an interest in their children’s daily lives (i.e., expressiveness, educational level, attitudes about gender roles).

What evidence indicates that these levels of influence might be important? Given the possible significance of parents’ temporal availability, we might assume that longer work hours would be associated with lower levels of parental knowledge, but findings to date are not conclusive. Crouter et al. (1990) divided their sample of school-aged children into three groups on the basis of mothers’ work hours (full-time, part-time, and homemaker) and found no association between maternal work hours and either mothers’ or fathers’ knowledge. Longitudinal data on the same sample, however, revealed that, while parents’ knowledge was not related to mothers’ work hours during the school year, fathers’ knowledge was linked to their wives’ work hours during the summer (Crouter & McHale, 1993). When wives cut back on their work hours during the summer, their husbands knew less than they had during the school year; in contrast, when wives maintained high involvement in work during the summer, their spouses maintained higher levels of daily knowledge. In other words, maternal employment *enhanced* fathers’ knowledge about their children’s lives.

In this study, we were interested not only in the direct association between parents’ work hours and parental knowledge, but also in whether variations in parental work hours had implications for other possible correlates of parental knowledge. As Bronfenbrenner emphasizes, “In ecological research, the principal main effects are likely to be interactions,” (1979, p. 38). For example, when wives work fewer hours, they may be equally knowledgeable about sociable and less sociable children because they are available to exert the extra effort it takes to draw out less forthcoming children. Mothers who work longer hours, in contrast, may know more about sociable children than less sociable children because sociable children may volunteer more information. Thus, we built parental work hours into our analyses and examined interactions between contextual and personal characteristics in terms of their implications for parental knowledge.

We know of no studies that have compared parents' knowledge of firstborn and secondborn children; there is some research, however, on differential parental monitoring, a related construct. For example, Mekos et al.'s (1996) study of parental treatment of adolescent siblings in nondivorced and remarried families revealed no differences in parental monitoring/control as a function of birth order. The design of this study did not control for ordinal position in the sibship as a whole, however: not all older siblings were firstborns, nor were all younger siblings secondborns. In addition, Mekos et al. (1996) studied adolescents. It is possible that birth order or age may be especially important in middle childhood, when parental monitoring is emerging as an important parenting process (Collins et al., 1995), and may become less important as children move into and through adolescence.

Given the pioneering role in the family that firstborns play (Hoffman, 1991) and the tendency for firstborns to identify with parental authority more than laterborns (Sulloway, 1996), parents may know more about firstborn children than laterborns. It is also possible, however, that because younger siblings are more home-based than their older siblings, it is easier for parents to be knowledgeable about what secondborn offspring are doing. For siblings, age and birth order are confounded. If we find systematic differences in parental knowledge of firstborns versus secondborns, we will examine age differences among firstborns and among secondborns to try to ascertain whether ordinal position or developmental level is a better explanation of the results.

Because there is so little research on parental knowledge, it is unclear whether mothers and fathers are equally knowledgeable about sons and daughters. The largest study to date on siblings' shared and nonshared family experiences, which included a measure of parental monitoring, focused exclusively on same-sex adolescent siblings, overlooking the possibility that the combination of birth order and sex may shape parenting in important ways (Mekos et al., 1996; Reiss et al., 1994, 1995). In a review of the literature on mothers' and fathers' treatment of sons and daughters, Siegal (1987) concluded that boys and girls tend to be treated more differently by fathers than by mothers but noted the paucity of socialization studies that use within-family designs.

Crouter et al. (1990) found no differences in mothers' and fathers' knowledge about boys' versus girls' daily experiences. The target children in their study, however, were all firstborns. It is possible that studying *brothers and sisters* would reveal systematic within-family differences. For example, mothers and fathers with two children of the opposite sex may pay more attention to the activities of the child of their own sex, resulting in a sex-typed family pattern of parental knowledge. Evidence for the importance of children's sex for within-family patterns of parental involvement come from a study of father involvement by Harris and Morgan (1991) that analyzed data on sibling pairs from the National Survey of Children. They found that, in mixed-sex sibling pairs, boys were more likely than their sisters to report that they did things with their fathers that they enjoyed. The number of sons in a family also mattered. Sons were always favored over daughters but were most likely to report such positive father-son involvement when they were the only son. In contrast, the more brothers daughters had, the more paternal attention they received.

Aside from sex, what personal qualities in children might lead to more parental knowledge? Temperament and personality may play a role. In a review of the literature on child temperament

and parenting, Sanson and Rothbart (1995) noted, “The adaptable, easy to soothe, or sociable child may elicit warm and responsive parenting, whereas the irritable, demanding, or withdrawing child may elicit parental irritation and withdrawal of contact or stimulation” (p. 304). In this study, we focus on three personal qualities: activity level and sociability, both dimensions of temperament, and expressiveness, a measure of children’s sex-typed feminine qualities (e.g., sensitive to others’ needs, considerate; see Auhagen & Hinde, 1997, for a discussion of the importance of masculine/feminine qualities of participants in relations). We expected that, regardless of birth order or sex, parents would know more about highly expressive and sociable children and would know less about children who are highly active.

In his review of the determinants of parenting, Belsky (1984) noted the importance of parents’ personality as an influence on the quality of care they provide. We focused on qualities that we thought might predispose parents to want to learn more about their children’s lives. We examined parents’ feminine qualities or expressiveness, with the hypothesis that parents who described themselves as more expressive would take a greater interest in their children’s daily activities and therefore would be more knowledgeable (Auhagen & Hinde, 1997; Feather, 1984). We were also interested in the role of parents’ educational background, anticipating that better-educated parents would be more knowledgeable about “best practices” in child-rearing and therefore would be more attentive than less well-educated parents. Finally, we included parents’ attitudes toward women’s roles. Some studies have found that fathers with less traditional attitudes take a more active role in parenting, although the empirical literature on the connection between fathers’ sex role attitudes and paternal involvement presents an inconclusive picture (Parke, 1995). Because parenting is more “scripted” for mothers than for fathers (Harris & Morgan, 1991; Parke, 1995), we were less certain whether mothers’ attitudes about gender roles would be related to their knowledge.

In sum, we studied conditions that may give rise to or hamper parental knowledge of children’s daily lives. To identify these conditions, we made comparisons both between and within families. We asked three questions: (1) How does parents’ involvement in paid work outside their home relate to their knowledge vis-à-vis their school-aged sons and daughters? (2) Are children’s sex and birth order linked to between- and within-family differences in mothers’ and fathers’ knowledge? (3) How is parental knowledge related to children’s and parents’ personal qualities? Where possible, we investigated whether parental work involvement moderated the extent to which personal qualities have implications for how much parents know about their children’s daily activities, whereabouts, and companions.

## **METHOD**

### **Participants**

The data were drawn from the first phase of a longitudinal study that explored the interconnections among parents’ work circumstances, family dynamics, and the psychosocial functioning of siblings in middle childhood. The 203 nondivorced, predominantly dual-earner families were recruited via letters sent home to the families of fourth and fifth graders in 16 school districts in central Pennsylvania. The letter to families described the research effort in general terms, indicated that families would receive a \$100 honorarium for each phase of

participation in the 3-year longitudinal study, listed the criteria for participation, and asked families to return a self-addressed, stamped postcard to the project if they met the criteria and were interested. The criteria were as follows: (1) the family had to be maritally intact, (2) the eldest child in the family had to be in the fourth or fifth grade, and (3) there had to be at least one sibling 1–4 years younger. We tried to include as many families as possible in which both parents were employed at least part-time because we were interested in parental work as an influence on family dynamics. Of the 203 families in the sample, we omitted five from the analyses reported here. Two families had older children living in the home, despite our recruitment screening procedure. Three families had incomplete parental knowledge data.

We sought approximately equal numbers of the four possible sibling sex combinations. The sample included 49 older-sister/younger-sister pairs, 48 older-sister/younger-brother pairs, 55 older-brother/younger-sister pairs, and 46 older-brother/younger-brother pairs. The families in the sample were mostly working and middle-class (see Table 1). With the exception of two adopted Asian American children, all participants were White. They resided in small cities, towns, and rural areas. In 181 families, both parents were employed at least part-time; in 17 families, fathers held paid jobs, and mothers worked as homemakers. The 181 dual-earner families included four families in which mothers were students. Because we were interested in work as a temporal demand on parents, we equated time spent at school with time spent at work for those four women. Occupations for fathers included policeman, small-business owner, forklift operator, and sales representative. Mothers' jobs included nurse, teacher's aide, factory worker, and lawyer.

**Table 1.** Sample Characteristics ( $N = 198$ )

	<i>M</i>	<i>SD</i>	<i>R</i>
Age (in years)			
Mothers	36.66	3.95	28–49
Fathers	38.86	5.03	29–66
Firstborns	10.87	.54	9–13
Secondborns	8.25	.92	6–10
Education (in years)			
Mothers	14.59	2.15	12–20
Fathers	14.67	2.43	10–20
Firstborns	4.77	.54	4–6
Secondborns	2.07	.96	0–4
Work hours			
Mothers	29.62	15.35	0–70
Fathers	47.82	10.99	12–99
Job prestige			
Mothers	48.16	13.23	22.30–74.77
Fathers	49.33	12.71	22.33–74.77
Income			
Mothers	\$17,679	\$14,987	\$0–93,000
Fathers	\$40,264	\$23,428	\$5,000–175,000
Family size	4.54	.75	4–7
Marriage duration	13.57	2.42	4–24

*Note:* Two mothers and seven fathers refused to report their annual income. Job prestige is missing for 21 mothers who were not employed outside the home (full-time homemakers and students).

## Procedures

Data were gathered using two procedures. First, in home interviews that averaged 2–3 hours in duration, mothers, fathers, firstborn, and secondborn children were interviewed separately. These interviews all took place during the second half of the school year. Parents completed questionnaires about themselves, their family relationships, their views of their two children, and their work experiences. Children completed measures describing themselves and their family relationships. Where literacy was a problem, items were read to the respondent. The home interviews were the source of information about children's and parents' personal qualities, as well as parents' work hours.

In a second procedure, families were telephoned on seven different evenings, five week nights and two weekend nights, during the 2–3 weeks following the home interviews. Both children were interviewed every night. Mothers were interviewed on two week nights and one weekend night, fathers were interviewed on two week nights and one weekend night, and one call (always a week night) included separate interviews with both parents. The telephone interviews focused on parents' and children's daily activities, as well as the extent to which parents were knowledgeable about their children's daily activities, whereabouts, and companions.

#### Home Interview Measures

*Work hours.* Mothers and fathers reported the number of hours per week they worked at their paid jobs (*Mdn* = 31 hrs for mothers; 45 for fathers).

*Education.* Mothers and fathers reported the number of years of education they had received (*Mdn* = 14 for both parents).

*Parents' expressive qualities.* Mothers and fathers completed the Bem Sex Role Inventory (Bem, 1974), a 60-item measure in which respondents rate how well various personality descriptors describe them on a scale, ranging from 1 ("never or almost never true") to 7 ("always or almost always true"). Twenty items tapped feminine or expressive qualities (e.g., warm, sensitive to others, sympathetic). Cronbach's  $\alpha$ s for expressiveness for this sample were .69 and .75 for mothers and fathers, respectively (*Mdns* for averaged items = 5.1 and 4.6 for mothers and fathers, respectively).

*Parents' gender role attitudes.* Mothers and fathers completed Spence and Helmreich's (1972) Attitudes toward Women Scale. On this 15-item questionnaire respondents are asked to agree or disagree with a variety of statements about women's roles in society. Response options range from 1 ("strongly agree") to 4 ("strongly disagree"). High scores indicate more traditional attitudes. Cronbach's  $\alpha$ s for this sample were .81 and .73 for mothers and fathers, respectively (*Mdn* = 25 for mothers; 27 for fathers).

*Children's expressive qualities.* Firstborn and secondborn children completed the Antill Trait Questionnaire (Antill, Russell, Goodnow, & Cotton, 1993), a 12-item measure on which children indicated how well various sex-typed personality qualities described them on a five-point scale. Six of the items referred to feminine or expressive qualities (e.g., sensitive to others' needs,

considerate). In this sample, Cronbach's  $\alpha$ s were .79 and .74 for firstborns and secondborns, respectively ( $Mdn = 22$  for firstborns; 24 for secondborns).

*Children's sociability and activity level.* Parents completed the EAS Temperament Survey (Buss & Plomin, 1984) twice, once in regard to the firstborn and once in regard to the secondborn. The EAS includes three subscales, two of which tap sociability and activity level. Parents were asked to indicate how well each item applied to the child in question on a five-point scale, with 1 indicating "not characteristic or typical" and 5 indicating "very characteristic of my child." Correlations between mothers' and fathers' reports of firstborns' and secondborns' sociability and activity levels ranged from  $r = .43$  to  $.59$ ,  $p < .01$ . While these coefficients suggested that parents were similar in terms of how they interpreted their children's dispositions, they were not high enough to indicate that they were measuring the same thing. Thus, rather than computing an average and using that score in the analysis, we relied on mothers' reports, with the rationale that mothers typically are more involved in childcare and, therefore, may be better able to describe their children more accurately than fathers. The sociability scale usually includes five items (e.g., "Child likes to be with people"); we omitted one item (i.e., "When alone, child feels isolated") because doing so improved the reliability of the measure, Cronbach's  $\alpha = .63$  and  $.68$ , for firstborn and secondborn children, respectively ( $Mdn = 15$  for firstborns and secondborns). The activity scale included five items (e.g., "Child is always on the go"). Cronbach's  $\alpha$ s were .75 and .82 for mothers' reports of their firstborn and secondborn children's activity levels, respectively ( $Mdn = 18$  for firstborns; 20 for secondborns).

#### Measures Derived from Telephone Interviews

*Parental knowledge.* To measure parental knowledge, we adapted the procedure developed by Crouter et al. (1990), which initially was adapted from Patterson and Stouthamer-Loeber (1984). Crouter et al.'s measure included 20 items, asked in separate sets across four telephone interviews. We removed items that were almost always answered correctly by parents because they did not discriminate well and added new items. Each evening we asked parents and children separately, having ascertained that they were out of earshot of one another, a series of six questions about the child's day that the parent presumably could only answer correctly if he or she had been keeping track of the child's experiences. Parents were asked the questions twice: once about the firstborn and again about the secondborn. The questions were not repeated across a parent's calls, and mothers and fathers were asked questions in different sequences so that they could not prepare ahead for them. We omitted weekend data here because we were interested in how parental employment was related to parental knowledge and therefore selected week days in which tracking, supervision, and involvement would most likely be constrained by parents' work (see Table 2).

Questions were scored from 0 to 2 to index the match between the parent's and child's reports. Each question included a follow-up probe for details. Parents received a score of 2 if the entire answer matched the child's, a score of 1 if the initial answer matched but the probe did not, and a score of 0 if there was no match. To assess intercoder reliability, coders and the coding supervisor independently coded 100 telephone interviews (600 items). The percent agreement was calculated to be 96.5%. Total knowledge scores were calculated as the percent of matching



answers across all 18 weekday items. High scores indicate that parents knew a great deal about the child's experiences.

**Table 2.** Weekday Parental Knowledge Items

1. Did (sibling's name) have any concerns or worries at school today? In what subject(s)?
2. Did (sibling's name) do anything fun with friends today? What?
3. Did (sibling's name) have a disagreement or argument with a sister/brother today? What happened?
4. Did (sibling's name) have English homework today? What was the assignment?
5. Did (sibling's name) watch TV, videos, or movies at home today? What?
6. Did (sibling's name) have any special academic successes in school today? In what subject?
7. Did (sibling's name) have a test, paper, or project due today? What was it on?
8. Did (sibling's name) follow any current events today? What event?
9. Did (sibling's name) talk to any friends on the phone today? Which friend?
10. Did (sibling's name) have any conflicts or disagreements with a friend today? Which friend?
11. Did (sibling's name) misbehave at school? What happened?
12. Did (sibling's name) have math homework today? What was the assignment?
13. Did (sibling's name) have any academic difficulties today? What happened?
14. Did (sibling's name) participate in any sports or club activities today? What activity?
15. Is (sibling's name) currently working on a term paper or a long-term project for school? What is the topic?
16. Did anything fun or special happen for (sibling's name) at school today? What happened?
17. Did (sibling's name) disobey you today? What happened?
18. Was (sibling's name) outside the home at 4 p.m. today? Where was he/she?

## RESULTS

### Preliminary Analyses

We began by examining the pattern of correlations for mothers' and fathers' knowledge of their two children's daily experiences. The within-parent correlation indicates how consistent the parent was in knowing about his or her two children's daily lives. High correlations suggest that parent characteristics may be antecedents of knowledge or the possibility of contextual influences. These correlations were  $r = .41, p < .001$ , and  $r = .65, p < .001$ , for mothers and fathers, respectively, indicating considerable within-parent consistency (between siblings). We also examined the correlations between mothers' and fathers' knowledge of individual children. High correlations may mean that children's characteristics promote similar levels of knowledge by both parents. These correlations were modest,  $r = .10, ns$ , and  $r = .19, p < .01$ , for firstborns and secondborns, respectively. Further remaining analyses focused on exploring some of the conditions that may give rise to differences in parental knowledge between and within families.

Our analysis plan called for a series of mixed model analyses of variance with mothers' and fathers' knowledge of their two children's daily experiences as the dependent variables. Using parent and sibling as within-group factors has several important advantages. First, it increases statistical power because mothers' and fathers' knowledge of their older and younger children are examined in one analysis. Second, we can examine two distinct issues. Between participants effects indicate patterns of knowledge that cut across parents and children. Interactions with parent or sibling indicate potentially important within-family differences in the way in which mothers versus fathers respond to the conditions in question, differences in knowledge about firstborns versus secondborns, or both. In all analyses, except those pertaining to parent characteristics, we included parents' work hours as a factor because we were interested in

whether work involvement moderated the association between other family and individual conditions and parents' knowledge. Cell-size consideration precluded including parents' work hours in analyses focused on parent characteristics. Because cell sizes were unequal, we examined type III sums of squares (Lewis & Kiren, 1977). Significant interactions were followed up with Tukey tests.

### The Role of the Extrafamilial and Familial Context

Initially we were interested in the role of both parents' work hours in shaping patterns of parental knowledge. Analyses revealed, however, that while mothers' work hours appeared to be important in several interesting ways, fathers' work hours were not. Thus, the analyses that follow include only mothers' work hours. We divided mothers' hours at the median (all medians are reported in the measures section) and performed a 2 (work group)  $\times$  2 (firstborn sex)  $\times$  2 (secondborn sex)  $\times$  2 (sibling)  $\times$  2 (parent) ANOVA, with "sibling" and "parent" as repeated measures and parental knowledge scores as the dependent variable. A significant main effect was found for parent,  $F(1, 190) = 74.57, p < .001$ ; consistent with earlier research (e.g., Crouter et al., 1990), mothers were much more knowledgeable ( $M = 76.01$ , averaged across firstborns and secondborns) than were fathers ( $M = 66.6$ ). We also found a significant main effect for sibling,  $F(1, 190) = 15.40, p < .001$ ; parents knew more about secondborns ( $M = 72.6$ , averaged across mothers and fathers) than about older siblings ( $M = 69.9$ ). In addition, a significant effect for work group emerged,  $F(1, 190) = 3.95, p < .05$ ; parents knew more about their children's experiences when mothers worked more hours ( $M = 72.6$ , averaged across parents and children in the high maternal work group;  $M = 70.0$  for the low work group).<sup>1</sup>

These main effects were qualified by several interactions. A parent  $\times$  work group interaction,  $F(1, 190) = 9.64, p < .01$ , suggested that, while mothers maintained the same level of knowledge regardless of their involvement in work ( $M = 76.6$  for low work involvement;  $M = 75.4$  for high work involvement, averaged across firstborns and secondborns), fathers knew more about their children when their wives worked longer hours ( $M = 63.6$  for low work involvement group;  $M = 69.7$  for high work involvement group, averaged across firstborns and secondborns). Two significant interactions indicated that siblings' sex made a difference: A parent  $\times$  sibling  $\times$  firstborn sex interaction,  $F(1, 190) = 3.97, p < .05$ , and a parent  $\times$  sibling  $\times$  secondborn sex interaction,  $F(1, 190) = 5.93, p < .05$ . As can be seen in Table 3, mothers knew more about secondborns than firstborns consistently, regardless of the sex of the firstborn. Fathers, on the other hand, displayed greater differential knowledge—in favor of the secondborn—when the older child was a girl. A different pattern was evident in parents' knowledge about secondborns (see Table 4). The tendency to know more about secondborns than about firstborns was accentuated for mothers when the secondborn was a daughter and for fathers when the secondborn was a son. In sum, these complex interactions indicate that the tendencies for parents to be more knowledgeable about secondborns than firstborns and children of their own sex more

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<sup>1</sup> To test whether parents with only two children to keep track of were more knowledgeable about them than parents with larger families, we divided the sample into two-child families ( $n = 117$ ) and families with three or more children ( $n = 81$ ) and performed a 2 (family size)  $\times$  2 (firstborn sex)  $\times$  2 (secondborn sex)  $\times$  2 (sibling)  $\times$  2 (parent) ANOVA, essentially substituting "family size" for "work group" in the findings reported above. The between-participants effect for family size was not significant, meaning that parents were *not* more knowledgeable when they had fewer children,  $F(1, 190) = .70, ns$ .

than children of the opposite sex lead to differential parental knowledge about the two siblings as a function of birth order and the sex composition of the sibship.

**Table 3.** Mothers' and Fathers' Knowledge as a Function of Firstborns' Sex

Sex of Firstborns	Mothers' Knowledge of Firstborns		Mothers' Knowledge of Secondborns		Difference <sup>a</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Girls ( <i>n</i> = 104)	75.9	11.5	78.8	10.9	-2.9
Boys ( <i>n</i> = 94)	73.3	10.4	75.8	12.1	-2.5
Sex of Firstborns	Fathers' Knowledge of Firstborns		Fathers' Knowledge of Secondborns		Difference <sup>a</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Girls ( <i>n</i> = 104)	63.8	15.5	69.0	15.8	-5.2
Boys ( <i>n</i> = 94)	66.7	15.0	66.5	15.4	.2

<sup>a</sup> Difference = Mothers' score minus fathers' score.

**Table 4.** Mothers' and Fathers' Knowledge as a Function of Secondborns' Sex

Sex of Secondborns	Mothers' Knowledge of Firstborns		Mothers' Knowledge of Secondborns		Difference <sup>a</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Girls ( <i>n</i> = 97)	74.3	10.1	78.8	12.0	-4.5
Boys ( <i>n</i> = 101)	75.1	11.9	76.0	11.1	-.9
Sex of Secondborns	Fathers' Knowledge of Firstborns		Fathers' Knowledge of Secondborns		Difference <sup>a</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Girls ( <i>n</i> = 97)	66.4	15.6	67.8	15.5	-1.4
Boys ( <i>n</i> = 101)	64.0	15.0	67.8	15.8	-3.8

<sup>a</sup> Difference = Mothers' score minus fathers' score.

Age and birth order are confounded in cross-sectional sibling studies such as this one. To further explore whether age—or developmental level—might better account for the within-family differences observed here, we correlated children's ages with parental knowledge. Firstborns' ages were not related to knowledge,  $r = -.01$ , *ns* and  $r = -.03$ , *ns*, for mothers and fathers, respectively. Parents' knowledge of secondborns' daily activities, whereabouts, and companions, however, declined with age,  $r = -.33$ ,  $p < .01$ , and  $r = -.22$ ,  $p < .01$ , for mothers and fathers, respectively. This suggests that the birth order findings probably reflect developmental level. The lack of age-related findings for firstborns may reflect either the possibility that developmental differences are more important earlier than later in middle childhood or, more likely, the fact that firstborns' ages were simply more constrained in this sample than were secondborns'.

### The Role of Child Effects

We were interested in three characteristics of children—their expressiveness, sociability, and activity level—as possible correlates of parental knowledge. We performed these analyses separately for firstborns and secondborns so that each child's own personal characteristics were examined in connection to how much the child's mother and father knew about him or her. Thus, to examine the role of expressiveness, we focused first on firstborns, dividing them at the median for expressiveness and performing a 2 (work group) × 2 (expressiveness) × 2 (sex) × 2 (parent) ANOVA. The only new finding that did not replicate results reported above was a parent × expressiveness trend,  $F(1, 190) = 3.47$ ,  $p < .07$ . While mothers did not differ in their knowledge of children high ( $M = 74.2$ ) and low ( $M = 75.3$ ) on expressive qualities, fathers knew more about firstborn children who were highly expressive ( $M = 66.6$ ) than about less expressive children ( $M = 63.6$ ). We performed the same analysis for secondborns. A significant between-participants

main effect emerged for expressiveness,  $F(1, 190) = 4.14, p < .05$ ; parents knew more about highly expressive secondborns than their less expressive counterparts.

The analyses focused on children's sociability revealed no new findings for firstborns. For secondborns, however, a significant work group  $\times$  sociability interaction was found,  $F(1, 190) = 6.55, p < .05$ . Follow-up tests revealed that parents were more knowledgeable when their children were highly sociable and when mothers worked longer hours ( $M = 76.8$ , averaged across mothers and fathers) than were other parents ( $M = 72.0$  for less sociable children/low maternal work;  $M = 70.6$  for more sociable children/low maternal work;  $M = 70.8$  for less sociable children/low maternal work, averaged across mothers and fathers). We also found a significant parent  $\times$  sociability interaction,  $F(1, 190) = 4.00, p < .05$ , qualified by a parent  $\times$  sociability  $\times$  sex interaction,  $F(1, 190) = 5.12, p < .05$ . Follow-up tests revealed that the difference in mothers' versus fathers' level of knowledge was smaller when the secondborn was a highly sociable boy. In other words, when fathers had sociable young sons, they were as knowledgeable as mothers were about their sons' daily experiences (see Table 5).

**Table 5.** Mothers' and Fathers' Knowledge of Secondborns as a Function of Secondborns' Sex and Sociability

	Mothers		Fathers		Difference <sup>a</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Low sociability					
Girls ( $n = 48$ )	78.0	12.6	67.3	16.6	10.7
Boys ( $n = 52$ )	77.1	10.5	63.7	16.7	13.4
High sociability					
Girls ( $n = 48$ )	79.6	11.4	68.3	14.5	11.3
Boys ( $n = 52$ )	74.8	11.7	72.3	13.6	2.5

<sup>a</sup> Difference = Mothers' score minus fathers' score.

Do children's activity levels make a difference? The analyses for firstborns revealed no new findings involving activity level. In the analyses on the secondborn siblings, however, a between-participants main effect for activity level indicated that parents of more active secondborns were *more* knowledgeable than parents of less active children,  $F(1, 190) = 4.23, p < .05$ . This was qualified by a significant work  $\times$  activity level  $\times$  sex interaction,  $F(1, 190) = 7.35, p < .01$ . As can be seen in Table 6, parents' levels of knowledge about more active secondborn boys differed as a function of how involved mothers were in work. When mothers worked fewer hours, parents of more active boys knew the *least*; in contrast, when mothers worked more hours, parents of more active boys knew the most. Comparison of means within the two groups defined by mothers' work involvement indicated that in the low-involvement group, parents of more active boys knew significantly less than parents of more active girls. Knowledge levels of less active boys and girls fell in between these two extremes and were not significantly different from them. In the high work involvement group, parents of more active boys were more knowledgeable than parents of less active boys. The means for parents of girls fell between the means of parents of boys and were not significantly different from them. Another way to look at these data is that when mothers were less involved in work, parents were most knowledgeable about highly active girls, but when mothers were more involved in work, they were most knowledgeable about highly active boys.

**Table 6.** Parents' Knowledge of Secondborns as a Function of Mothers' Involvement in Work and Secondborns' Sex and Activity Level

	Mothers		Fathers		<i>M</i> <sup>a</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Low maternal work hours					
Less active girls ( <i>n</i> = 32)	78.6	10.4	63.6	19.0	71.1
More active girls ( <i>n</i> = 20)	81.4	12.06	72.1	16.0	76.7
Less active boys ( <i>n</i> = 23)	78.5	8.8	62.1	15.0	70.3
More active boys ( <i>n</i> = 28)	73.7	12.4	63.6	14.6	68.7
High maternal work hours					
Less active girls ( <i>n</i> = 26)	77.5	13.6	69.4	11.9	73.5
More active girls ( <i>n</i> = 19)	78.2	12.5	68.0	11.9	73.1
Less active boys ( <i>n</i> = 21)	72.2	10.7	66.8	18.3	69.5
More active boys ( <i>n</i> = 29)	78.8	10.8	77.2	11.0	78.0

<sup>a</sup> Scores represent the average of mothers' and fathers' knowledge.

### The Role of Parents' Personal Qualities

We were interested in three qualities of parents: expressiveness, level of education, and attitudes about gender. To be consistent with prior analyses, ideally we would have utilized a 2 (work group) × 2 (parent's personal quality) × 2 (firstborn sex) × 2 (secondborn sex) × 2 (sibling) design, dividing the personal quality into "high" and "low" at the median, and conducting the analyses separately for mothers and fathers. This strategy produces 16 cells for each sibling. The smallest cell size in any analysis, however, was 7, quite marginal in terms of power. Thus, we omitted mothers' work involvement as a factor in these analyses.

For fathers, the only significant results pertained to their level of education. The analyses revealed a trend for education; better-educated fathers were more knowledgeable about their children's lives ( $M = 67.8$ , averaged across both children) than were their less-educated counterparts,  $M = 62.5$ ,  $F(1, 190) = 3.35$ ,  $p < .07$ . This was qualified by a significant education × secondborn sex interaction,  $F(1, 190) = 4.00$ ,  $p < .05$ . When fathers had younger sons, their knowledge did not differ as a function of their level of education. In contrast, when fathers had younger daughters, less-educated fathers knew less about their children ( $M = 63.6$ , averaged across both children) than did better-educated fathers ( $M = 71.1$ ). This interaction was further qualified by a sibling × education × secondborn sex trend,  $F(1, 190) = 3.32$ ,  $p = .07$ . Less well-educated fathers with younger sons displayed more differential knowledge (in favor of the secondborn) than did any other group (see Table 7). The difference between the two siblings was significantly greater in that group than in families with less-educated fathers and younger girls and families with more-educated fathers and younger boys.

**Table 7.** Fathers' Knowledge as a Function of Paternal Education and Secondborns' Sex

	Mothers		Fathers		Difference <sup>a</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Less educated					
Secondborn girls ( <i>n</i> = 51)	63.1	15.0	64.1	15.2	-1.0
Secondborn boys ( <i>n</i> = 44)	62.1	14.9	69.6	16.3	-7.5
Better education					
Secondborn girls ( <i>n</i> = 46)	70.2	15.5	71.9	14.9	-1.7
Secondborn boys ( <i>n</i> = 57)	65.4	15.1	66.5	15.4	-1.1

<sup>a</sup> Difference = Firstborns' score minus secondborns' score.

For mothers, no new findings emerged in relation to expressiveness, but complex patterns emerged for education and gender role attitudes. The analyses focused on maternal education revealed a significant sibling  $\times$  education  $\times$  firstborn sex  $\times$  secondborn sex interaction,  $F(1, 190) = 6.01, p < .02$ . As can be seen in Table 8, there were no significant differences in the within-family patterns in mothers' knowledge in the less-educated group; these mothers consistently knew more about their secondborn children than their firstborns. In the more-educated group, however, the within-family difference was significantly different for mothers of older-brother/younger-brother dyads versus older-brother/younger-sister pairs. Mothers' tendency to know more about secondborns than firstborns was most pronounced in older-brother/younger-sister pairs and actually was reversed in older-brother/younger-brother pairs. Indeed, the younger brothers in the latter dyad stood out in terms of the low levels of maternal knowledge about their daily experiences.

**Table 8.** Mothers' Knowledge as a Function of Maternal Education and Firstborns' and Secondborns' Sex

	Firstborns		Secondborns		Difference <sup>a</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Less educated					
Older sisters/younger sisters ( $n = 27$ )	74.9	10.7	81.4	10.9	-6.5
Older sisters/younger brothers ( $n = 22$ )	77.3	12.8	78.0	11.0	-.7
Older brothers/younger sisters ( $n = 27$ )	74.1	8.7	75.5	10.0	-1.4
Older brothers/younger brothers ( $n = 24$ )	70.9	9.5	74.9	10.5	-4.0
Better education					
Older sisters/younger sisters ( $n = 22$ )	74.9	11.8	77.9	10.9	-3.0
Older sisters/younger brothers ( $n = 33$ )	76.4	11.3	77.7	11.0	-1.3
Older brothers/younger sisters ( $n = 21$ )	73.0	9.8	80.6	15.8	-7.6
Older brothers/younger brothers ( $n = 22$ )	75.4	13.7	72.5	11.4	2.9

<sup>a</sup> Difference = Firstborns' score minus secondborns' score.

**Table 9.** Maternal Knowledge as a Function of Mothers' Gender Role Attitudes and Firstborns' and Secondborns' Sex

	Firstborns		Secondborns		Difference <sup>a</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
More traditional					
Older sisters/younger sisters ( $n = 22$ )	78.3	9.0	79.7	10.3	-1.4
Older sisters/younger brothers ( $n = 23$ )	75.2	14.2	74.1	12.7	1.1
Older brothers/younger sisters ( $n = 21$ )	73.9	10.1	72.9	12.1	-1.0
Older brothers/younger brothers ( $n = 22$ )	71.6	12.1	76.3	9.9	-4.7
Less traditional					
Older sisters/younger sisters ( $n = 27$ )	71.9	12.1	79.9	11.7	-8.0
Older sisters/younger brothers ( $n = 22$ )	77.9	9.9	80.5	8.6	-2.6
Older brothers/younger sisters ( $n = 27$ )	73.4	8.4	81.5	12.6	-8.1
Older brothers/younger brothers ( $n = 24$ )	74.8	11.5	70.6	11.5	4.2

<sup>a</sup> Difference = Firstborns' score minus secondborns' score.

The analyses focused on mothers' gender role attitudes paralleled the findings for maternal education, revealing a significant attitude  $\times$  firstborn sex  $\times$  secondborn sex interaction,  $F(1, 190) = 5.74, p < .02$ , qualified by a significant sibling  $\times$  attitude  $\times$  firstborn sex  $\times$  secondborn sex interaction,  $F(1, 190) = 4.98, p < .05$ . As can be seen in Table 9, there were no significant differences in within-family patterns of maternal knowledge in families in which mothers held

more traditional attitudes about gender roles. When mothers held less traditional attitudes, however, the pattern in older-brother/younger-brother pairs deviated from that of the other sibling sex constellations; paralleling the findings for maternal education, less traditional mothers (who were also better-educated) knew more about older sons than about their younger brothers. Moreover, mothers in these families knew less about secondborns' daily lives than any other group of mothers.

We followed up on these findings to see whether other variables could account for this pattern. Were well-educated (less traditional) mothers of two sons unusual in terms of educational level, attitudes, or work involvement? Did fathers in these families compensate by making sure they knew more about their children's daily activities? Did firstborns or secondborns in these families stand out in terms of age? We divided maternal education at the median and conducted 2 (education)  $\times$  2 (firstborn sex)  $\times$  2 (secondborn sex) ANOVAS with mother's sex role attitudes, mother's work hours, father's knowledge, firstborn's age, and secondborn's age as dependent variables. We then repeated the process, this time dividing the sample as a function of mothers' gender role attitudes instead of education. We found nothing to suggest that the families of well-educated (or less traditional) mothers with two sons stood out in an unusual way.

## DISCUSSION

There has been little attention paid to the conditions that give rise to parental knowledge of school-age children's daily lives, our focus here. We took an approach that examined the family in its complexity, comparing the knowledge of mothers and fathers in relation to their older and younger school-aged children with an eye to how parental knowledge is shaped by the personal characteristics of parents and children, as well as by the familial and extrafamilial context. Findings from this study reveal that within-family differences in parental knowledge are as apparent, and as substantively interesting, as between-family differences. Our concluding remarks focus on four issues: (1) maternal work as a mechanism that pulls fathers into parenting; (2) nonshared characteristics of the family environment; (3) parental knowledge in relation to gender role socialization in the family; and (4) the role of family members' personal qualities in shaping parental knowledge.

### Maternal Work Involvement and Parental Involvement in the Family

We found that longer work hours on the part of mothers did not interfere with parental knowledge. Indeed, although mothers' knowledge about their children's daily experiences did not vary as a function of their level of work involvement, fathers knew *more* about their children when their wives worked longer hours. As a result, children whose mothers worked longer hours had more knowledgeable parents overall than did children whose mothers worked fewer hours, an optimistic finding given the tendency for research on maternal employment to focus on negative family and child outcomes (Gottfried, Gottfried, & Bathurst, 1995). This finding is consistent with Crouter and McHale's (1993) seasonal study in which they found that fathers maintained high levels of knowledge when their wives' work hours remained high in the summer, as well as other research indicating that fathers increase their overall involvement in childcare when mothers are employed (see reviews by Coltrane, 1996; Parke, 1995).

## Nonshared Characteristics of the Family Environment

A strength of the present study was the ability to make within-family comparisons of mothers' and fathers' knowledge of their firstborn and secondborn offspring. Although examination of the consistency of parents' knowledge of their two children revealed significant positive correlations, these correlations were low enough to suggest that siblings' experiences are, to a large extent, nonshared.

We found that, on average, parents tended to know more about secondborn children than firstborn children. The firstborns and secondborns in these families were about 11- and 8-years-old, respectively; thus, as is true in families in real life, birth order and age were confounded in this study. Nonetheless, by correlating parents' knowledge with children's ages, we found that, at least for secondborns, knowledge was inversely related to age. This suggests that as children move through middle childhood and become increasingly involved in contexts outside the family, it becomes harder for parents to know all the details of their daily lives. The design of our study means that, at the third year of measurement, many of the secondborn children will be the same ages that their older siblings were at time 1, enabling us to compare parental knowledge of the two children's lives when they share the same chronological age, analyses that will allow us to further disentangle age and birth order effects.

## Parental Knowledge in Relation to Gender Role Socialization in the Family

A striking theme throughout the results is the gendered nature of parental knowledge. Knowing about children's daily lives is clearly the job of mothers. They generally know much more than fathers, regardless of their work involvement. Parental knowledge, like other aspects of child rearing, can be thought of as "scripted" for mothers, but not for fathers (Harris & Morgan, 1991; Parke, 1995).

Both parents, however, exhibited a strong tendency to know more about children of their own sex. This tendency may reflect patterns of joint activity in the family; time together and shared interests may give parents more knowledge about their children's experiences. Mothers and fathers also may simply be more interested in the daily experiences of children of the same sex. They may be more likely to engage these children in conversation, to ask questions about their day, and so on. Given the dyadic nature of parent-child relationships, children may also be more likely to confide in the parent of the same sex. The tendency for mothers to know more about daughters than sons and for fathers to be more knowledgeable about sons than daughters can be seen as a "nonshared" feature of the siblings' family lives.

## Children's and Parents' Personal Qualities in Relation to Parental Knowledge

Studies of socialization frequently pay lip service to the notion of "child effects," but rarely address the issue head-on. A goal of this study was to examine whether qualities of children might elicit greater knowledge from parents or keep parents from learning about their children's daily experiences. We also were interested in whether parents' own qualities might predispose them to pay closer attention to their children's daily experiences. We found evidence for both ideas.



For firstborns, the only characteristic for which we found significant results was expressiveness. Mothers' knowledge did not vary as a function of their older children's expressiveness, but fathers knew more about the daily experiences of highly expressive than less expressive firstborn children. Our findings on secondborn children revealed this same pattern for expressiveness as well as similar findings for sociability. These results imply that (1) fathers are drawn to sociable and expressive younger children and pay more attention to their daily experiences, (2) that these children volunteer more information, or (3) that both of these are the case. Activity level also proved to be a personal characteristic that discriminated among secondborns in terms of parental knowledge, albeit in a complex way. We will discuss that finding in more detail subsequently.

Why did we find more results for secondborns' personal qualities than for firstborns? One possibility is that, as children grow up, there is less variability in the attributes of individuality that we examined. While the median level of sociability was the same for firstborns and secondborns, secondborns had higher cutoffs on expressiveness and activity level than did firstborns. Perhaps being "high" on these personal attributes was a more meaningful indicator for secondborns than for firstborns.

Our data also suggest that fathers' knowledge about children is more influenced by their children's characteristics than is mothers'. This is consistent with the idea that parenting is more "scripted" for mothers than for fathers (Parke, 1995). Given the optional nature of paternal involvement, fathers appear to "tune in" to their children's daily activities and experiences when their children's personal qualities predispose them to do so.

Although we found some evidence for the effects of parents' characteristics, the patterns were complex and will need to be replicated. We examined three characteristics: expressiveness, educational level, and attitudes about gender roles. Parents' expressive qualities were not related to their knowledge of their children's daily lives. Education and gender role attitudes were related to parental knowledge, albeit in complex ways. Education appeared to promote fathers' knowledge, especially when they had daughters, and to counteract fathers' usual tendencies to focus on boys more than girls. Education operated differently for mothers. Less-educated mothers displayed the typical pattern of knowing more about their younger than their older children. Better-educated mothers did, too, with one puzzling exception. When better-educated mothers had two sons, they favored the firstborn over the secondborn. Indeed, mothers in this family type knew less about their younger sons than did other mothers. The same pattern emerged in the analysis of maternal gender role attitudes: mothers with less traditional attitudes knew more about firstborns than secondborns when they had older-son/younger-son pairs. Post hoc analyses failed to identify a confounding variable that might account for this finding. It is possible that better-educated mothers with less traditional sex role attitudes are especially interested in daughters and do not pay quite as much attention to their children's ongoing daily experiences when they have two sons. We plan to pursue this issue by examining other dimensions of parenting (e.g., involvement, acceptance) and by examining patterns of parental knowledge over time.

In several analyses, the association between child characteristics and parental knowledge varied as a function of mothers' involvement in work, an example of person-context interactions in

Bronfenbrenner's ecological framework (Bronfenbrenner & Crouter, 1983). One such finding pertained to younger siblings' levels of activity. Recall that parents in families in which mothers were less involved in work were most knowledgeable about active girls, whereas parents in families in which mothers worked longer hours were most knowledgeable about active boys. Parents in families in which mothers work fewer hours may have more traditional notions about boys' and girls' behavior. Active boys in these families may receive less monitoring because "boys will be boys," while active daughters may be seen as nonnormative and therefore in need of vigilant attention. On the other hand, families in which mothers work longer hours may be quite different contexts in which the behavior of active young boys may be seen as more aversive (see Bronfenbrenner, Alvarez, & Henderson, 1984; but also see Greenberger & O'Neil, 1992) and hence deserving of attention. In addition, to the extent that parents may be aware that lower levels of parental monitoring in busy, dual-earner contexts may be associated with higher levels of problem behavior in vulnerable children (Crouter et al., 1990), they may pay particular attention to the daily experiences of their active sons. Our longitudinal analyses will enable us to track how stable this differential pattern is and to investigate whether parents become more knowledgeable about highly active boys' daily experiences when mothers' work hours increase.

A strength of this study was the inclusion of two school-age children in each family, a design feature that illuminates family patterns linked to age and sex that remain unexplored in studies that focus on a single, target child per family. Moreover, we went beyond the usual practice of sampling exclusively same-sex sibling dyads. Inclusion of opposite-sex sibling pairs revealed striking within-family differences as a function of parents' and children's sex. More research is needed, however, that takes advantage of between- and within-family comparisons in the study of minority families, single-parent families, and families facing more challenging economic circumstances than the middle- and working-class families that participated in this research. Furthermore, while a strength of the present study was the inclusion of two siblings in each family, many families in the sample had more than two children. Thus, we were not able to compare parental knowledge about all siblings' experiences. Finally, as mentioned, these data were cross-sectional and capture only a snapshot of dynamic family processes.

## **CONCLUSION**

This study underscores how much we can learn about family socialization when we build within-family comparisons of parents and siblings into our research designs. Research designs that direct attention to the perspectives of multiple family members can transform traditional notions about parental socialization by demonstrating that parental influence on offspring is not a one-way process. Our finding that parents, especially fathers, are differentially knowledgeable about their children as a function of what their children are like provides evidence for the active role children may play in shaping their own development. Our results also suggest that parents' and children's sex plays an important role in shaping family dynamics. The study of siblings promises to reveal new insights about gender socialization in the context of the family.

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## REFERENCES

- Auhagen, A. E., & Hinde, R. A. (1997). Individual characteristics and personal relationships. *Personal Relationships, 4*, 63–84.
- Antill, J. K., Russell, G., Goodnow, J. J., & Cotton, S. (1993). Measures of children's sex-typing in middle childhood. *Australian Journal of Psychology, 45*, 25–33.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55*(1), 83–96.
- Bem, S. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*, 155–162.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U., Alvarez, W. F., & Henderson, C. R. (1984). Working and watching: Maternal employment status and parents' perceptions of their three-year-old children. *Child Development, 55*(4), 1362–1378.
- Bronfenbrenner, U., & Crouter, A. C. (1983). The evolution of environmental models in developmental research. In P. Mussen (Ed.), *Handbook of child psychology* (pp. 358–414). New York: Wiley.
- Buss, A. H., & Plomin, R. (1984). Theory and measurement of EAS. Chapter in *Temperament: Early developing personality traits* (pp. 92–104). Hillsdale, NJ: Lawrence Erlbaum.
- Chilcoat, H. D., & Anthony, J. C. (1996). Impact of parental monitoring on initiation of drug use through late childhood. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*, 91–100.

Collins, W. A., Harris, M. L., & Susman, A. (1995). Parenting during middle childhood. In M. Bornstein (Ed.), *Handbook of parenting* (Vol. 1). Mahwah, NJ: Lawrence Erlbaum.

Coltrane, S. (1996). *Family man: Fatherhood housework, and gender equity*. NY: Oxford University Press.

Crouter, A. C., MacDermid, S. M., McHale, S. M., & Perry-Jenkins, M. (1990). Parental monitoring and perceptions of children's school performance and conduct in dual-earner and single-earner families. *Developmental Psychology*, 26, 649–657.

Crouter, A. C., & McHale, S. M. (1993). Temporal rhythms in family life: Seasonal variation in the relation between parental work and family processes. *Developmental Psychology*, 29(2), 198–205.

Dunn, J., & Plomin, R. (1990). *Separate lives: Why siblings are so different*. New York: Basic Books.

Feather, N. T. (1984). Masculinity, femininity, psychological androgyny and the structure of values. *Journal of Personality and Social Psychology*, 47, 604–620.

Gottfried, A. E., Gottfried, A. W., & Bathurst, K. (1995). Maternal and dual-earner employment status and parenting. In M. Bornstein (Ed.), *Handbook of parenting* (Vol. 2, pp. 139–160). Mahwah, NJ: Lawrence Erlbaum.

Greenberger, E., & O'Neil, R. (1992). Maternal employment and perceptions of young children: Bronfenbrenner et al. revisited. *Child Development*, 63, 431–448.

Harris, K. M., & Morgan, S. P. (1991). Fathers, sons, and daughters: Differential paternal involvement in parenting. *Journal of Marriage and the Family*, 53, 531–544.

Hetherington, E. M., Reiss, D., & Plomin, R. (1994). *Separate social worlds of siblings: The impact of nonshared environment on development*. Hillsdale, NJ: Lawrence Erlbaum.

Hoffman, L. W. (1991). The influence of the family environment on personality: Accounting for sibling differences. *Psychological Bulletin*, 110, 187–203.

Hogan, D. P., & Kitagawa, E. (1985). The impact of social status, family structure, and neighborhood on the fertility of black adolescents. *American Journal of Sociology*, 90, 825–855.

Lewis, C., & Kiren, G. (1977). You can't have your cake and eat it too: Some considerations of the error term. *Psychological Bulletin*, 84, 1150–1154.

McHale, S. M., & Crouter, A. C. (1996). The family contexts of sibling relationships. In G. Brody (Ed.), *Sibling relationships: Their causes and consequences*. Norwood, NJ: Ablex.

- McHale, S. M., & Pawletko, T. M. (1992). Differential treatment of siblings in two family contexts. *Child Development, 63*, 68–81.
- Mekos, D., Hetherington, E. M., & Reiss, D. (1996). Sibling differences in problem behavior and parental treatment in nondivorced and remarried families. *Child Development, 67*, 2148–2165.
- Metzler, C. W., Noell, J., Biglan, A., Ary, D., & Smolkowski, K. (1994). The social context of risky sexual behavior among adolescents. *Journal of Behavioral Medicine, 17*, 419–438.
- Parke, R. D. (1995). Fathers and families. In M. Bornstein (Ed.), *Handbook of parenting* (Vol. 3). Mahwah, NJ: Lawrence Erlbaum.
- Patterson, G. R., Bank, L., & Stoolmiller, M. (1990). The preadolescent's contributions to disrupted family process. In R. Montemayor, G. R. Adams & T. P. Gullotta (Eds.), *From childhood to adolescence: A transitional period* (pp. 107–133). Newbury Park: Sage.
- Patterson, G. R., & Stouthamer-Loeber, M. (1984). The correlation of family management practices and delinquency. *Child Development, 55*, 1299–1307.
- Plomin, R., & Daniels, D. (1987). Why are children in the same family so different from each other? *The Behavioral and Brain Sciences, 10*, 1–16.
- Reiss, D., Hetherington, E. M., Plomin, R., Howe, G., Simmens, S. J., Henderson, S. H., O'Connor, T. J., Bussell, D. A., Anderson, E. R., & Law, T. (1995). Genetic questions for environmental studies: Differential parenting and psychopathology in adolescence. *Archives of General Psychiatry, 52*, 925–936.
- Reiss, D., Plomin, R., Hetherington, E. M., Howe, G., Rovine, M., Tryon, A., & Hagan, M. (1994). The separate worlds of teenage siblings. In E. M. Hetherington, D. Reiss, & R. Plomin (Eds.), *Separate social worlds of siblings: Impact of nonshared environment on development* (pp. 63–109). Hillsdale, NJ: Erlbaum.
- Sanson, A., & Rothbart, M. K. (1995). Child temperament and parenting. In M. Bornstein (Eds.), *Handbook of parenting* (Vol. 4, pp. 299–321). Mahwah, NJ: Erlbaum.
- Siegal, M. (1987). Are sons and daughters treated more differently by fathers than by mothers? *Developmental Review, 7*, 183–209.
- Spence, J. T., & Helmreich, R. L. (1972). The attitudes toward women scale: An objective instrument to measure attitudes toward the rights and roles of women in contemporary society. *JSAS Catalog of Selected Documents in Psychology, 2*, 153.
- Steinberg, L., Fletcher, A., & Darling, N. (1994). Parental monitoring and peer influences on adolescent substance use. *Pediatrics, 93*, 1–5.

Sulloway, F. J. (1996). *Born to rebel: Birth order, family dynamics, and creative lives*. New York: Pantheon Books.