

MIKAELA J. DUFUR *Brigham Young University*

NYSSA C. HOWELL *Cascadia Behavioral Healthcare**

DOUGLAS B. DOWNEY *Ohio State University***

JAMES W. AINSWORTH *Georgia State University****

ALICE J. LAPRAY *Brigham Young University†*

Sex Differences in Parenting Behaviors in Single-Mother and Single-Father Households

Research on family structure has led some to claim that sex-based parenting differences exist. But if such differences exist in single-parent families, the absence of a second parent rather than specific sex-typed parenting might explain them. We examine differences in mothering and fathering behavior in single-parent households, where number of parents is held constant, and we describe individualist and structuralist perspectives for potential sex-based parenting behaviors. We compare 3,202 single mothers and 307 single fathers in the Early

Childhood Longitudinal Study (Kindergarten Cohort). Results suggest that, although there are small differences in the parenting behaviors of single mothers and single fathers, differences are sensitive to demographic disparities and do not translate to academic deficits for children in either family type.

The evidence for the persistence of sex-based behavior and attitudes may be strongest in the family, where women continue to provide the majority of child care and household work despite their growing likelihood of working outside of the home (see Sayer, Bianchi, & Robinson, 2004). Women and men typically parent differently, too, with women providing more daily necessities (e.g., clothing, feeding, changing diapers) and men being more likely to engage children in play (Coltrane, 1996; Pleck & Masciadrelli, 2004; Sayer et al., 2004; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001), although it is less clear whether such parenting differences have long-term or detrimental effects on children (Adamsons & Buehler, 2007). We examine parenting behaviors and child outcomes in single-mother and single-father families to test whether sex differences in family work persist in single-parent families. We use the term *sex*

Department of Sociology, 2008 JFSB, Brigham Young University, Provo, UT, 84062 (mikaela_dufur@byu.edu).

*Cascadia Behavioral Healthcare, P.O. Box 8459, Portland, OR, 97207.

**Department of Sociology, 238 Townshend Hall, 1885 Neil Avenue Mall, Ohio State University, Columbus, OH, 43210.

***Department of Sociology, Georgia State University, General Classroom Building, 38 Peachtree Center Avenue, Room 1041, Atlanta, GA, 30303.

†Department of Sociology, 2008 JFSB, Brigham Young University, Provo, UT, 84062.

Key Words: childhood, children, early childhood, single-parent families.

differences purposefully throughout the article to distinguish behaviors that differ between male parents and female parents from behaviors that can be reliably linked to the ways parents enact socially constructed ideas of masculinity and femininity. We describe possible explanations for sex differences in behavior and study parenting differences and child academic achievement in a single-parent setting to examine whether differences between mothering and fathering persist and influence child development in the absence of an opposite-sex parent.

Fathering and Mothering: Different Inputs, Different Outputs?

Although much previous work on families and parenting has indicated that mothers do the lion's share of parenting work (Pleck & Masciadrelli, 2004), a burgeoning body of research suggests both that fathers' contributions to parenting are growing and that parenting cannot be considered a monolith. For example, the ratio of maternal to paternal time expended has decreased over three decades even as mothers' overall time expenditure has increased (Sayer et al., 2004). Mothers often do the majority of day-to-day child-care tasks, but fathers are more likely to participate in recreational behaviors, including high-intensity activities that require considerable commitments of time and interaction (Sayer et al., 2004; Yeung et al., 2001). The growing literature on fathering has suggested that the fact that fathers do not engage in exactly the same child-care behaviors as mothers does not necessarily mean that fathers are not parenting, but rather that mothering and fathering are two separate components of parenting (Coltrane, 1996; Lamb, 2000; Lewis & Lamb, 2003; Marsiglio, Amato, Day, & Lamb, 2000).

Less clear is why differences between mothering and fathering exist and whether such differences affect child development. Some explanations focused on fundamental differences between the sexes, with the key point being that differences in behavior by sex, whether created by biology or by early socialization, were internal to the individual. According to this perspective, women and men are simply different (Popenoe, 1996; Udry, 2000; for critiques of this position, see Risman 1987; Silverstein & Auerbach, 1999); as a consequence, mothering and fathering should be expected to be different explicitly because women do mothering and men do fathering.

An opposing position argued that women's and men's roles are social constructs shaped by context and interaction. Known as structuralist or gendered systems theories (Downey, Ainsworth-Darnell, & Dufur, 1998; Hawkins, Amato, & King, 2006), this perspective argued that gender is not a set of immutable traits linked inextricably to biological sex but that men and women face different expectations throughout life (Cornwall & King, 2005; Risman, 1987; West & Zimmerman, 1987). Rather than being driven by inherent differences, men and women behave differently because of frequent opportunities to "do" gender, or act out socially constructed gendered scripts (West & Zimmerman, 1987). Structuralist theories provided a potential explanation for why differences in mothering and fathering exist, focusing on ways hegemonic femininity and masculinity have been linked to specific parenting tasks. Research showing differences between typical mothering tasks (e.g., bathing, clothing children) and typical fathering tasks (e.g., breadwinning, recreational activities) linked different kinds of parenting to broader societal norms about appropriate behavior (Sayer et al., 2004; Yeung et al., 2001).

Parenting in Single-Mother and Single-Father Families

Comparisons between single mothers and single fathers provided an especially compelling test of individualist and structuralist positions because the two theories predict distinct sets of outcomes. If the individualist position is favored, mothers and fathers should parent very differently because maleness and femaleness are inherent, internal traits; thus, mothers and fathers will enact their sex-specific ways of parenting regardless of context. Single mothers and single fathers will persist in their sex-typed parenting behaviors, the argument goes, acting just as they would if they had a parenting partner, because the immutable characteristics that come with being a man or a woman are not changed merely by virtue of their solo parenting (Casper, 1997; Popenoe, 1996; Pruett, 2000). Evidence that children in single-mother households exhibit more behavioral and academic problems than children with two parents (Duncan et al. 1998; McLanahan & Sandefur, 1994) was sometimes used to support the individualist perspective. Of course, the reason children in single-parent households fare poorly may be because of the lack a father,

but it also may be because they have one rather than two parents.

In contrast to the individualist position, structuralists would predict that single mothers and single fathers parent similarly because, whether female or male, they bear the sole responsibility for providing the resources all children need (e.g., food, shelter, and clothing; financial support; discipline; comfort). Although these parents may have limited their parenting to stereotypically female or male activities when they had a partner with whom they could do gender (West & Zimmerman, 1987), they will take on the responsibilities traditionally acted out by the opposite sex when there is no partner to fill those roles. The structuralist perspective allowed for the possibility that fathers could take on tasks traditionally associated with mothering—and vice versa—when personal interests made them the appropriate caregiver in that situation or when they lacked an opposite-sex partner with whom to do gender, as would be the case in single-parent families.

Previous Examinations Comparing Single Mothers and Single Fathers

One challenge limiting our ability to compare single-mother and single-father households has been the difficulty in locating sufficient numbers of single fathers. Most early work on single fathers was drawn from small, local samples of questionable generalizability (Greif, 1985; Guttman, 1989). In addition, the understanding of the consequences of growing up in a single-mother household has often been limited to studies comparing children in single-mother and mother-father households. This information was of limited use for discerning how single parents may or may not exhibit sex-typed family behaviors, because children in single-mother households may do less well than their counterparts in mother-father households because they lack a second parent, not because mothers' or fathers' sex limits them to certain abilities and behaviors.

Fortunately, scholars have begun to take advantage of the relatively large numbers of single fathers available in nationally representative data sets. For example, Powell and Downey (1997; see also Downey & Powell, 1993) assessed the claim that children in single-parent households fare better when matched with a same-sex parent with three national samples. Across more than 40 indicators of well-being,

the authors concluded that matching parent's and child's sex is inconsequential. Downey et al. (1998) extended this work by asking whether children of either sex are better off living with a single father than a single mother; they found virtually no differences in problem behavior, self-esteem, or relationship quality of the offspring of single mothers and single fathers.

Studies using alternative comparisons also merit consideration. For example, if mothers and fathers parent in substantially different ways, children raised by gay or lesbian parents should experience some of the same predicted shortcomings children in single-mother and single-father families would; in each of these cases, children lack the influence of a parent of a particular sex. In contrast, in their meta-analysis of studies on gay parents, Stacey and Biblarz (2001) found that, although there may be some differences between children raised by married, heterosexual parents and those raised by gay and lesbian couples, these are modest and likely primarily a result of indirect effects (e.g., living in a cosmopolitan area, discrimination) and only partly a function of direct effects of different parenting styles. Taken together, these studies have suggested fluidity in the ways families accomplish tasks typically associated with mothering and fathering when parents do not have an opposite-sex partner with whom to share parenting duties.

It is less clear the degree to which parents without opposite-sex partners engage in parenting differently. Amato (2000) found that, although single fathers reported only small differences in closeness to children compared to single mothers, single fathers' reports were lower than single mothers'. Findings were similar in research on parenting among married couples, demonstrating that fathers are involved with their children but in different ways than mothers are (Hofferth, 2003; Lewis & Lamb, 2003). Other research found that single mothers' and single fathers' behavior was more similar to each other than might be expected from comparison to married parents' behavior (Downey et al., 1998; Hilton & Devall, 1998; Stewart, 1999). This lack of clarity was similar to research on two-parent families, where some studies found distinct differences in the effects of mothering and fathering on developmental outcomes (Tamis-LeMonda, Shannon, Cabrera, & Lamb, 2004) and some found few differences (Davidov & Grusec, 2006).

In addition, if mothering and fathering are unique and must be provided exclusively by women and men, respectively, the development of children lacking access to one or the other will suffer. Conversely, small sex differences in parenting may cause few differences in child outcomes if total investment is more important than the specific type. Downey (1994) found that, although single mothers and single fathers provided slightly different resources for their children, both types of parents made significant investments in their offspring (specifically, single mothers provided greater levels of interpersonal resources to their children, whereas single fathers provided greater economic resources), and offspring were not significantly different in terms of academic or social outcomes. Similarly, children living in single-parent households were about equally as likely to have a highly involved parent, regardless of parental sex (Cooksey & Fondell, 1996; Nord, Brimhall, & West, 1997), a conclusion in keeping with the structuralist perspective.

Extending Past Research

Our study extends past research in several ways. First, recent studies explored the consequences of a single parent's sex for children but often did not provide the more direct test of individualist and structuralist ideas—that single mothers and single fathers behave differently rather than that their children have different outcomes. We explore differences across several parenting dimensions: attitudes, style, activities, and involvement with school. Many of our measures of parenting gauge more traditional mothering behaviors, such as expressing love, establishing consistent meal times, and talking to the child's teacher. Individualists would predict much better parenting in single-mother versus single-father households along the dimensions we measure. Because we believe that the structuralist argument has merit, however, we anticipate that single fathers will rally to engage in these more typically feminine parenting behaviors and that differences between single fathers and single mothers, therefore, will turn out to be modest.

Second, previous work has primarily studied adolescents and adults, but we know less about the consequences of parent's sex for young children. Both child development scholars and judges who have the power to grant custody have suggested that the tender years are the

most important years of life in terms of cementing relationships with caregivers (Artis, 2004). These relationships can provide the foundation for social and intellectual development throughout life (Cavanagh & Huston, 2009). We focus our attention on the consequences of parenting from single mothers and single fathers for children's academic skills in part because skills developed at the beginning of the academic career have long-term consequences for children's lives (Alexander, Entwistle, & Olson, 2007). The kinds of parenting behaviors we measure are related to children's academic skills in a straightforward manner. For example, reading books and telling stories to children were strongly related to cognitive growth (Yucel & Downey, in press). We also expect that parents who have negative feelings about the parenting role will struggle to create a warm environment in which children feel comfortable exploring and learning. In addition, we expect that parents who are highly engaged in their children's lives, through activities, consistent meals, and connection to the child's school and teacher, facilitate children's school-related skills by reinforcing academic content and promoting good work habits. Indeed, parenting attitudes and behaviors generally correlate with children's academic skills in the expected direction.

Third, our models are sensitive to the challenge of isolating the effect of parents' sex. We statistically control for a variety of demographic characteristics on which the two family types might differ. Children in single-father households might perform better in school than children in single-mother households, for example, because they may come from more advantaged backgrounds (Downey et al., 1998). It is possible that any statistical differences we do find between single mothers and single fathers disappear when we control for such demographic and socioeconomic differences. If so, such a result would provide support for the structuralist position, thus suggesting that single mothers and single fathers would parent in similar fashion when operating under similar circumstances.

As a result, we statistically adjust our models for demographic characteristics on which past research has suggested that single fathers are typically advantaged (Downey et al., 1998). We incorporate annual family income, parental education, parental occupational prestige, and parental age in our models. We also include number of child's siblings and variables tapping

residential mobility, including number of places the child has lived and time the child has lived in current home. In addition, we use variables gauging the school's urbanicity and region of the country as a proxy for the family's residential characteristics, as well as the type of school. Finally, our models control for child gender and race because these are not distributed evenly across single-mother and single-father households (Downey & Powell, 1993; Powell & Downey, 1997) and are related to some academic outcomes.

We recognize that additional differences between single mothers and single fathers that we cannot account for in these data likely exist. For example, we are unable to assess how these parents gained custody of their children or how long their children have lived in a single-parent household. Given the young age of the children we study, it is possible they were in families that broke up after only a few years together, which suggests something about how their parents chose to enter a partnership or about the types of stressors their families underwent. These questions are beyond the scope of these data. In addition, there are potentially important differences between never-married, divorced or separated, and widowed single parents that merit attention. For some dependent variables, we have adequate numbers (roughly 100 each) of widowed single mothers and single fathers to provide an additional way to address selectivity problems; partner death may be a more random event than other circumstances that lead to fathers gaining custody. The patterns are similar to those we report below for the total sample. We predict that single fathers and single mothers exhibit small differences in attitudes and behaviors that reflect differences between fathering and mothering; the slightly different resources they provide their children will lead to similar academic performance.

METHOD

To test these questions, we analyzed data from the Early Childhood Longitudinal Study (Kindergarten Cohort) of 1998–1999 (ECLS-K). The ECLS-K contains information from parents, teachers, and school officials for a nationally representative sample of 21,260 children attending kindergarten in the fall of 1998. The data provided indicators of parental involvement with children and children's activities,

as well as parental feelings and approaches to parenting responsibilities and discipline, which allowed us to test how differently single mothers and single fathers parent. Because the children were mostly between 4 and 6 years old, the data allowed for the first comparison of a large number of young children in single-mother and single-father households. The sample produced sufficient numbers of children in single-father (307) and single-mother (3,212) households. We used data from the Fall 1998 wave, gathered as children were entering kindergarten, to capture effects of family structure at a time when children have the most limited exposure to school. We weighted the data using ECLS-K-provided weights that adjusted for differential selection probabilities in presenting descriptive findings; in multivariate analyses, variables used in creating the weights are pertinent to our models, so we used unweighted data and included the relevant variables in the models (Winship & Radbill, 1994).

Measures

Table 1 describes the parenting behaviors and attitudes we examine. We tapped a set of variables that address parental attitudes toward parenting and their children. First, we created a scale that assesses negative feelings about parenting. This scale contained eight items on which higher scores represented more intense negative feelings, including, for example, how often parents were too busy to play with their child, found it difficult to be warm and loving to the child, or felt trapped as a parent (for a complete list of all parental attitudinal and behavioral indicators, see Table 1). The α for the negative feelings about parenting scale was .69. We also examined items asking parents how often they shared warm or close time with their child, felt their child likes them, felt they always showed their child love, and expressed affection for their child. Responses ranged from 1 to 5 and were coded so that higher scores represented more intense feelings. Because no scale representing positive feelings toward parenting emerged from the data (nor did scales for parenting styles—discipline and rules—or parental involvement in school, which we discuss below), we reported these variables as separate items.

We also examined a set of 10 variables tapping parental disciplinary responses to bad

Table 1. Description of Parental Attitudinal and Behavior Indicators: Early Childhood Longitudinal Study, Kindergarten Class of 1998–1999 (ECLS-K)

Variables	Description
Parenting attitudes	
Negative feelings about parenting	Scale including eight variables asking how often parent is too busy to play with child, finds it hard to be warm and loving toward child, finds being a parent is harder than expected, must sacrifice to meet child's needs more than expected, feels angry with child, is bothered by child, feels trapped as a parent, finds child harder to care for than most ($\alpha = .69$; range: 1–5; lower = less often).
Positive feelings about parenting	Individual items asking how often the following statements are true: Child and I have warm close time together, my child likes me, I always show my child love, I express affection with my child (range: 1–5; lower = less often).
Parenting style	
Discipline	Individual items asking, "If child hit you, what would you do?: Spank, hit child back, make fun of child, take away a privilege, yell at child, give a time out, discuss what child did wrong, make child do chores, make child apologize, give child a warning." For each, 1 = <i>yes</i> ; 0 = <i>no</i> .
Rules	Individual items asking, "(a) how restrictive are family rules about how many hours child may watch TV? (b) How many hours of television does child watch on weekends? (Range: 1–5; lower = less restrictive), and (c) How many times in a typical week does the child go to bed at a regularly appointed time?" (range = 0–7).
Parent-child activities	
Play and creative activities	Scale of variables asking, "In a typical week, how often do you or any other family member do the following things with your child?: Read books, tell stories, sing songs, do arts and crafts, involve child in chores, play games or do puzzles, talk about nature or do science projects, build something or play with construction toys, play a sport or exercise together" ($\alpha = .73$; higher scores indicate more contact).
Meals	Individual items asking, "In a typical week, how many days do the following happen?: (a) at least some of the family eats breakfast together, (b) the family eats evening meal together, (c) child eats breakfast at a regular time, (d) child eats dinner at a regular time" (range = 0–7 days).
Parental involvement with school	
Met child's teacher	Have you met your child's teacher? 1 = <i>yes</i> ; 0 = <i>no</i> .
Number of parents you talk to regularly	How many parents in your child's class do you talk to regularly, either in person or on the phone? Continuous variable.
Parent attended conferences	Teacher's report on whether child's parents attended regularly scheduled conferences: 1 = <i>yes</i> ; 0 = <i>no</i> .
Parent involvement in school	Individual items asking, "Since the beginning of the school year, have you done the following?: Attended a PTA meeting, attended a parent-teacher conference, acted as a school volunteer, attended a school open house, attended a school event." For each, 1 = <i>yes</i> ; 0 = <i>no</i> .
Importance of prekindergarten skills on school success	Scale asking how important the following are for kindergarten: Ability to count, share, draw, sit still, communicate well, know letters ($\alpha = .77$).

behavior (as described by hitting), including, for example, discussing what the child did wrong, making the child do chores, and giving the child a warning. We also included variables tapping parental rule making and supervision that asked how restrictive family rules about television watching were (higher scores indicated more restrictive rules) and how many hours of television a child is allowed to watch on the weekends (higher scores indicated more viewing), as well as rules regarding regular bedtimes (0–7 days a week).

We created a scale of parental activities with children that included, for example, singing, reading with the child, playing games or sports and/or exercising together, or building something or playing with toys. Each of these variables measured the amount of participation in a week with higher scores indicating more interaction. The α for this scale was .73. We also used variables asking how often the child experienced regular mealtimes (breakfast and dinner) in a week and how often those mealtimes included the family eating together.

To investigate parental involvement with child's school, we examined a set of dichotomous variables tapping whether, for example, the parent had met the child's teacher, attended a parent-teacher association meeting, or acted as a school volunteer. We also included a teacher report on whether the parent attended regularly scheduled parent-teacher conferences; teachers could respond that parents did or did not attend. In addition, we created a scale asking the parents about the importance of various skills for kindergarten success; this measure tapped parental involvement in school preparation. We examined counting, sharing, drawing, knowing the alphabet, sitting still, and communicating. The α for this scale is .77; higher scores indicated that the parent considered the skill more important to school success.

Finally, we wanted to be able to test whether any differences that emerged between the parenting behaviors of single fathers and single mothers influenced academic achievement. If differences in single-parent mothering and fathering do not lead to deficits, this would provide support for the perspective that, although fathering and mothering may be distinct, it is not the type of social resources so much as the amount that matters. If differences in mothering and fathering behavior did affect child academic achievement, this would help us understand

what resources children may need to have supplemented for adequate development when they lack a parent of a particular sex. To do this, we created a scale examining age-appropriate tests of reading, mathematics, and knowledge of natural science and social studies ($\alpha = .83$).

Analytic Strategy

Do single mothers and single fathers parent differently? To assess this question, we first estimated bivariate tests of means. Our key explanatory variable distinguished between single-mother and single-father families. To isolate the effects of a single parent's sex, we excluded cases in which another adult was in the household, disproportionately single-father households.

Past studies have reported that single-father households enjoy several advantages relative to single-mother households—higher income, higher parental education, fewer siblings (Downey et al., 1998)—and so our initial tests assessed whether the ECLS-K data produced results comparable to those found in past research. We then used regression analyses to examine the relationship between family structure and our outcomes. Models with dichotomous dependent variables employed logistic regression models; all other models employed ordinary least squares (OLS) regression.

We compared parenting behaviors among single mothers and single fathers; another potentially fruitful approach would be to compare single fathers to both single mothers and to married fathers in an attempt to determine whether sex of parent or number of parents is more pertinent (Hawkins et al., 2006). The ECLS intentionally targeted mothers for the parent survey, and so unfortunately, there were few married fathers among the parent respondents, and the questions included did not ask respondents about spousal or other partner or coparent behavior. The data we had on married fathers are inadequate, so we focused on the comparison between single fathers and single mothers.

We also examined a variety of modeling approaches for addressing selectivity issues. These approaches included a simultaneous equation predicting the odds of a particular respondent's inclusion in either the single-mother or single-father group. Where the dependent variable was measured on an appropriate scale, we followed McLanahan and Sandefur

(1994) in running bivariate probit equations in which the equation predicting being in a single-mother or single-father group included a number of family or parental characteristics that potentially delineated differences in who would be in these family types. We also used Heckman’s (2000) two-step correction method, modeling both the selection component (single mother or single father) and the selected component (e.g., having met child’s teacher) of the distribution, including a correction coefficient for selection in the latter model (Hoffmann, 2004). Finally, we used the qualitative and limited dependent variable model (QLIM) procedure, which can support simultaneous modeling of equations predicting group membership and a dependent variable of interest for both binary and ordered logit and probit models using maximum likelihood protocols, which covered most of our dependent variables.

In each of the three conditions, the findings were very similar to those produced by OLS or logistic regressions that did not include the selection equation. Most important, the effects of living in a single-father versus a single-mother family almost never changed across the four types of analysis, which provides confidence in our findings concerning potential differences in single parents, their homes, and their children. Still, for each of the three types of selection tests, the summary statistic (rhos or Heckman statistics) were almost always significant, which suggests important selection effects. This is of little surprise, given the key factors listed above that these data and other data sets like them simply do not provide (most notably, how parents obtained custody). Finally, sophisticated models such as those we employed to test selectivity effects are very sensitive to assumptions about the distribution of unobserved variables (Fu, Winship, & Mare, 2004). The fact that we knew potential important variables, such as the details of custody, were unavailable but that we knew little about the nature and distribution of such variables made the models more suspect given that sensitivity. Given that this violation of assumptions calls the models into question and that the findings across tests (including tests examining only widows and widowers) were very similar, we were confident that the OLS and logistic regression findings we report here are appropriately derived. As is true for any analysis of single-parent data that lack information on how single parents came to be single

parents, findings should be interpreted with these potential selection effects in mind.

FINDINGS

The demographic comparisons between single fathers and single mothers were consistent with previous studies that have suggested that single fathers are advantaged in terms of socioeconomic status (Table 2). Relative to single mothers, single fathers had higher incomes (nearly twice as high as mothers’), were more likely to be White, were slightly older, and were better educated. Children in single-father families had fewer siblings and moved more often than children in single-mother homes but had lived longer at their current residence.

The Effect of Parental Sex

In Model 1 (Table 3), we showed how the sex of single parents affects a variety of parenting behaviors and attitudes (*single father* = 1). Single fathers reported expressing affection to their children less often and having more negative feelings about parenting than did single mothers.

Table 2. Mean Comparisons of Single-Father Families and Single-Mother Families by Characteristics of the Resident Parent and Child

Variables	Single Fathers	Single Mothers
Family income	43,890***	24,398
Parent’s education	12.69*	12.18
Parent’s age	33.57***	30.14
Asian American or Pacific Islander	.02	.01
African American	.11***	.37
Hispanic American	.18	.21
Native American	.01	.03
White	.69***	.38
Number of siblings	1.56***	2.54
Time child has lived in latest home (in months)	26.03***	20.93
Number of places child has lived	2.69*	2.52

Note: Data from Early Childhood Longitudinal Study, Kindergarten Class of 1998–1999 (ECLS-K). Single fathers, *n* = 307; single mothers, *n* = 3,202. Differences between single-father and single-mother families were not significant for parental occupational prestige, child gender, urbanicity, type of school, and region of the country.

* *p* < .05. ** *p* < .01. *** *p* < .001 (two-tailed tests).

Table 3. Regression of Sex of Single Parent on Various Child Outcomes and Parenting Behavior and Attitudes

Dependent Variable	Model 1: Single-Father Coefficient (Bivariate)	Model 2: Single-Father Coefficient (Adjusted Model) ^a
Parenting attitudes		
Negative feelings about parenting	.079** (.027)	.073** (.028)
Warm, close time together	-.051 (.038)	-.094* (.039)
Child likes me	8.064E-03 (.034)	-3.00E-03 (.035)
Always show child love	-4.48E-02 (.052)	-2.07E-02 (.054)
Express affection	-.116*** (.029)	-.145*** (.029)
Parenting style		
If child hit you, would you spank?	-.657*** (.169)	-.335 (.179)
If hit, hit child back	-1.01* (.458)	-.805 (.468)
If hit, yell at child	.098 (.269)	-.044 (.279)
If hit, give time out	.157 (.128)	-.121 (.137)
If hit, discuss what child did wrong	-.159 (.135)	-.296* (.141)
If hit, make child do chores	-.048 (.231)	.189 (.240)
If hit, make child apologize	-.170 (.140)	-.291* (.146)
If hit, give child warning	.204 (.171)	.198 (.180)
Spanked child last week	3.359 (2.280)	.803 (2.313)
Rules for hours of TV (high scores = more restrictive rules)	.027 (.028)	.009 (.019)
Number of hours watch TV - weekends	-.929*** (.253)	-.380 (.254)
Go to bed same time each night	.575** (.215)	.372 (.223)
Parent-child activities		
Weekly play and creative activities with child	-.035 (.028)	-.028 (.028)
Number of days family eats breakfast together	.288 (.150)	.194 (.153)

Table 3. Continued

Dependent Variable	Model 1: Single-Father Coefficient (Bivariate)	Model 2: Single-Father Coefficient (Adjusted Model) ^a
Number of days child eats breakfast at a regular time	.346** (.116)	.258* (.118)
Number of days family eats dinner together	-.046 (.110)	.027 (.112)
Number of days eat dinner at a regular time	.080 (.125)	.175 (.128)
Parental involvement with school		
Met child's teacher	-.800*** (.230)	-1.123*** (.255)
Number of parents of kids in child's class you talk to regularly	-.014 (.158)	-.262 (.159)
Parent attended conferences (teacher evaluation)	.090 (.170)	-.510** (.186)
Attended a PTA meeting	-.270 (.148)	-.244 (.156)
Attended parent-teacher conference	.203 (.150)	-.114 (.169)
Acted as a school volunteer	.098 (.132)	-.175 (.142)
Attended open house	.120 (.130)	-.170 (.139)
Attended school event	.373** (.130)	.055 (.140)
Importance of pre-K skills	.041 (.028)	.048 (.028)

Note: Data from Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999 (ECLS-K). Single fathers, $n = 307$, single mothers, $n = 3, 202$. Standard errors are in parentheses. Models with dichotomous dependent variables employ logistic regression models; all other models employ ordinary least squares regression.

^aAdjusted models control for socioeconomic status (income, parental education, parental occupational prestige), child's gender and race, parent's age, number of siblings, time child has lived in current residence, number of places child has lived, region of country, and location and type of school.

* $p < .05$. ** $p < .01$. *** $p < .001$.

By contrast, single fathers were also less likely to spank or hit their children in response to misbehavior and were stricter about bedtimes, the amount of television children can watch, and that children eat breakfast at a regular time.

Although there was no significant difference in the number of weekly activities single mothers and single fathers do with their children, an examination of the individual activities that make up that scale showed that single fathers were less likely to sing with their children but more likely to do puzzles, talk about nature or do science projects, or play games or sports than were single mothers (full results available on request). These fathers were less likely by their own report to have met their child's teacher but, notably, more likely to report having attended a school event. In the bivariate relationship, then, there was some evidence that these parents seemed to fit the individualist paradigm: Fathers had less intimate and warm relationships with their children but more strictly controlled their time. Overall, though, on 22 of the 32 outcomes, we found no significant differences between single mothers and single fathers.

Structuralists would suggest that when parents of both sexes face similar circumstances (e.g., when single fathers and mothers have similar jobs, incomes, or living situations), they will have similar parenting behaviors. Model 2 reported the single-father coefficient net of income; parental education, occupational prestige, and age; child gender and race; number of moves and time lived in current residence; and school characteristics. Under these conditions, single fathers described their relationships with their children as less warm (an effect that was not significant in the bivariate relationship) and persisted in reporting being less likely to express affection to their children and more likely to have negative feelings about parenting. Controls explained away the fact that single mothers more often reported hitting or spanking their children in response to misbehavior, but their tendency to more often report discussing misbehavior with the child or forcing him or her to apologize became significant in the models. For several variables, the effects of parental sex were very close to nonsignificance; our large sample (more than 3,500 children) may explain why these substantively small effects reach statistical significance.

Children in single-father families remained more likely to eat breakfast at a regular time than

did their counterparts in single-mother homes, but after controlling for income, education, and race, they were no longer more likely to go to bed at a regular time or watch less television on the weekends. In addition, similarities between fathers and mothers in the total weekly activities scale persisted, and the differences that existed in the bivariate relationship on talking about nature or doing science projects were no longer significant after including controls. Differences in singing, doing puzzles, or playing games or sports remained significant, with mothers more likely to sing with their children and fathers more likely to do puzzles or play games or sports (full results on scale items available on request). Single fathers remained less likely to report having met their child's teacher once these controls enter the model, and they were no longer significantly more likely to have attended a school event. Teachers' reports of parental attendance at conferences, by contrast, revealed that single fathers were significantly less likely to have attended regular parent-teacher conferences once controls were included. In both models, several of the effects bordered on nonsignificance, which suggests that, although the effects sometimes do reach conventional levels of statistical significance, those differences were generally small. Although single fathers expressed less satisfaction with parenting and were less likely to have contacted teachers net of controls, on most parenting attitudes and behaviors, differences tended to be idiosyncratic or to not reach statistical significance.

Do Fathering and Mothering Differences Affect Academic Achievement?

A few small differences existed in the parenting behaviors and attitudes of single mothers and single fathers, but do these differences translate into significant differences in child outcomes? To test this, we regressed a scale of test scores on the set of parenting attitudes and behaviors on which single fathers and single mothers differed. (The test scores are provided by NCES and tap age-appropriate measures of skills and knowledge from three different exams concerning social and natural sciences, reading, and mathematics. The number of correct answers on each exam ranges from 20 to 85 out of 100 possible. The alpha for the test score scale is .92.) We then repeated this test, adding the set of demographic

controls described above. Children living with only their fathers had higher test scores than children living with only their mothers (Table 4, Model 1). Model 2 adds the attitudinal and behavioral variables on which single mothers and fathers reported significant differences. Children whose parents reported more expressions of affection scored higher, as did those whose parents responded to misbehavior by discussing the problem with the child or having the child apologize, as well as those who had met their child's teachers and attended school conferences, all of which are variables on which the effect of being a single father was significantly negative. Children whose parents reported more negative feelings about parenting had significantly lower scores on combined test scores. Spending warm, close time together and eating breakfast at a regular time each day did not exert a significant effect in this model. A similar model that included activity scale items on which single mothers and single fathers differed (singing, doing puzzles, playing games and sports) found no significant effects of those variables on child test scores. Although many of these variables exhibited a significant effect on test scores in this model, children raised by single fathers continued to score higher on test scores when they are included; in fact, the coefficient for the single-father effect decreased by only 1% when we included these attitudinal and behavior variables in the model. These findings suggest that small differences between mothers and fathers in attitudes and behaviors do not explain differences in children's academic achievement.

Model 3 of Table 4 added the control variables used previously. With these controls in the model, the effects of both being a single father and most of the parental attitude and behavior variables were no longer significant. Making children apologize for misbehavior and attending parent-teacher conferences (as reported by teachers) exerted significant, positive effects, although the former was close to nonsignificance. The effect of being a single father was reduced by half and was no longer significant. Additional analyses demonstrated that it was controlling for income and race that rendered the effect of living with a single father nonsignificant on test scores. Tests for interactive effects between parental sex and the attitudinal and behavioral variables on which single mothers and fathers were different were not significant, and we do not report them here.

DISCUSSION

By comparing parenting behaviors and attitudes, this study provides a more direct assessment of whether single mothers and single fathers experience the single-parent context similarly and to what extent single parents persist in different mothering and fathering behaviors when they lack an opposite-sex partner. The study contributes to our understanding of how children are faring with single mothers and single fathers. Past research has suggested that there are only modest and inconsistent differences in well-being between children in the two family types but that there is much that we still do not know, including the effects of these differences on very young children. Results from parents of kindergarten children in the ECLS-K suggest similar findings to previous work: Small but inconsistent differences exist between the parenting of single mothers and single fathers. These variations in parental behaviors and attitudes do not translate into differences in offspring's academic outcomes. Instead, children in single-father households produce higher test scores largely because they enjoy socioeconomic advantages.

The findings concerning differences in parental attitudes and behaviors lead to some intriguing conclusions. First, that single mothers are more satisfied parents with few child deficits compared to single fathers could be linked to individualist claims about sex differences in behavior being attributable to reproductive differences, with women possessing natural inclinations that make them better at parenting. Although this conclusion would not lend credence to the notion that fathers make unique contributions to child socialization, it would provide evidence for the idea that sex differences in behavior are intrinsic and will not be changed through social means. Overall, our findings provide more evidence for the structuralist view that single parents of both sexes become more similar when they are required to do most of the parenting (Hawkins et al., 2006). Although single fathers had some advantages at the bivariate level, once we controlled for the parenting context (generally by accounting for the fact that fathers on average made significantly more money than mothers), that advantage largely disappeared.

Just as single mothers are not parenting in the same socioeconomic context as single fathers, single fathers are not parenting in the same

Table 4. Regression of Sex of Single Parent and Parenting Attitudes and Behaviors on Child Academic Achievement

Independent Variables	Model 1: Single-Father Coefficient (Bivariate)	Model 2: Adding Variables on Which Single Mothers and Fathers Differed Significantly	Model 3: Adding Control Variables
Single-father Household	1.703*** (.472)	1.682*** (.466)	.829 (.428)
Variables on which family types differ			
Negative feelings about parenting		-1.009*** (.273)	-.279 (.244)
Express affection		1.238*** (.314)	.521 (.280)
Warm, close time together		.106 (.238)	.086 (.213)
If hit, discuss what child did wrong		.601* (.288)	.233 (.256)
If hit, make child apologize		1.185*** (.282)	.564* (.251)
Number of days child eats breakfast at a regular time		.128 (.068)	-.080 (.061)
Parent attended conferences (teacher report)		.683*** (.082)	.210** (.076)
Met child's teacher		2.241*** (.630)	.729 (.560)
Control variables			
Child gender			-.433* (.219)
Child race—Black			-3.570*** (.282)
Child race—Hispanic			-3.612*** (.317)
Child race—Asian			-.776 (.766)
Child race—Hawaiian or Pacific Islander			-3.747** (1.101)
Child race—American or Alaskan Indian			-6.748*** (.707)
Family income			1.21E-05*** (.001)
Parental education			1.219*** (.083)
Parental occupational prestige			.498*** (.099)
Parental age			.127*** (.019)
Number of siblings			-.741*** (.097)
Number of places lived			.192** (.074)

Table 4. *Continued*

Independent Variables	Model 1: Single-Father Coefficient (Bivariate)	Model 2: Adding Variables on Which Single Mothers and Fathers Differed Significantly	Model 3: Adding Control Variables
Constant	48.571*** (.453)	38.972*** (1.320)	37.291*** (1.385)
<i>R</i> ²	.003	.040	.249

Note: Data from Early Childhood Longitudinal Study, Kindergarten Class of 1998–1999 (ECLS-K). Single fathers, $n = 307$, single mothers, $n = 3,202$. Standard errors are in parentheses. Model 3 also includes nonsignificant controls for parental age, parental occupational prestige, months in current home, urbanicity, region of the country, and school type.

* $p < .05$. ** $p < .01$. *** $p < .001$.

social context as single mothers. The children under study here are still very young and require intensive parenting that makes considerable physical and temporal demands that are more typically defined as mothering. Fathers may not have performed these tasks as frequently when partnered, or they may lack easily accessible models for that kind of parenting. In addition, because of the patterns of how judges grant child custody (Artis, 2004), some of these men may have become single parents in particularly stressful ways. Single fathers are not in exactly the same structural position as partnered fathers because of the necessity of doing tasks generally associated with mothering, but they are not quite in the same position as single mothers, given the expectations of fathering and a perhaps rocky transition to mothering behaviors (Hawkins et al., 2006; Hook & Chalasani, 2008). Future research using these and similar data can help untangle the debate between individualist and structuralist perspectives. If the structuralist perspective better explains the effects of parental sex on family mechanisms and child outcomes, we might expect fathers and mothers to behave more like each other as they spend more time as single parents. For example, although we found that single fathers of young children reported being somewhat less satisfied with their parenting role than did single mothers, they may become more accustomed to and proficient in that role over time, thus leading to levels of satisfaction more similar to those of single mothers. Or, saturated in socially constructed ideas of what a mother is and what a father is, they may remain unsatisfied as mothering tasks move them further away from a masculine ideal of parenting.

Some findings (e.g., those noting that mothers more often sing to their children but fathers

more often play sports) are in line with previous work that found that mothers and fathers provided different resources to teens with similar effects on academic outcomes (Downey, 1994). Future analyses that treat parenting behaviors as predictors of child outcomes may also be able to determine whether small differences in the activities single fathers and single mothers engage in create any long-term effects on child socialization. This work would have implications for the persistent debates over the practical consequences of various family structures. Some of the differences we found, such as fathers being less likely to say that they had met their child's teacher, have no clear, previously established links to either mothering or fathering behaviors. Given that single mothers in these data were more likely to have met teachers, both by their own report and by the teachers', can parent-teacher contact be considered a mothering behavior? Parents' school activities might be similar to other infrequent, scheduled child care that mothers generally handle, such as doctor or dentist appointments. If so, meeting the child's teacher and interacting with the school might fall in the realm of mothering tasks that single fathers have to learn to accomplish.

In the families we studied here, small differences in parenting behaviors that seem linked to mothering and fathering do not cause differences in scores on standardized tests. Our findings suggest that concerns over whether children who lack a particular parent will experience a unique deficit because of that parent's sex may be overblown. Although children in either single-father or single-mother families may, on average, do less well academically than children in two-parent families, this may be linked more to the fact that

two parents can provide greater total resources regardless of their sex. We examined only standardized test scores here. Examinations of teacher reports of child behavior or social outcomes such as internalizing or externalizing behavior problems (of which there are few in the ECLS-K wave we study here) might reveal more substantial differences. Although previous work has found small or few differences on such outcomes across single-father and single-mother families, those studies examined adults and adolescents (Downey et al., 1998); if greater behavioral differences emerge for younger children, concerns about lacking fathering or mothering during the tender years could affect both research and policy, particularly in terms of custody agreements. In addition, it is possible that lacking mothering or fathering inputs adversely affect particular types of social development that introduce interaction across the sexes, such as heterosexual romantic relationships (Nomaguchi, 2008). Although such outcomes were not available in the data we examined, the social nature of those types of development leave open the possibility that parenting behaviors that differ across mothers and fathers socialize children to behave in different ways.

Finally, future research might examine how single parents “do” gender with adults who are not their spouses. For example, nonresidential parents likely remain important influences in their children’s lives. Although recent research suggests that nonresidential mothers spend similar amounts of time as do nonresidential fathers with their children, additional research is needed into how interaction patterns may or may not differ for these parents (Kielty, 2006; Stewart, 1999). For example, does contact with nonresidential mothers mean that single-father families operate more similarly to two-parent families, or that single fathers have many more opportunities to do gender and thus engage in sex-typed parenting behaviors, than do single mothers, or do nonresidential parents of both sexes invest in their children in similar ways? As large, longitudinal data sets such as the one we employ here continue to gather additional waves of data, scholars will be able to follow single parents over time to determine whether they become more alike or whether persistent sex differences lend more support to the idea that essential differences between men and women are enduring.

NOTE

We thank John P. Hoffmann for his helpful comments and suggestions. We also thank Mark Wilson and the Family, Home, and Social Sciences College Research Support Center at Brigham Young University for help with the QLM analysis.

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