



Comparisons of levels and predictors of mothers' and fathers' engagement with their preschool-aged children

Sarah J. Schoppe-Sullivan , Letitia E. Kotila , Rongfang Jia , Sarah N. Lang & Daniel J. Bower

To cite this article: Sarah J. Schoppe-Sullivan , Letitia E. Kotila , Rongfang Jia , Sarah N. Lang & Daniel J. Bower (2013) Comparisons of levels and predictors of mothers' and fathers' engagement with their preschool-aged children, *Early Child Development and Care*, 183:3-4, 498-514, DOI: [10.1080/03004430.2012.711596](https://doi.org/10.1080/03004430.2012.711596)

To link to this article: <https://doi.org/10.1080/03004430.2012.711596>



Published online: 03 Sep 2012.



Submit your article to this journal [↗](#)



Article views: 1110



View related articles [↗](#)



Citing articles: 17 View citing articles [↗](#)

Comparisons of levels and predictors of mothers' and fathers' engagement with their preschool-aged children

Sarah J. Schoppe-Sullivan*, Letitia E. Kotila, Rongfang Jia, Sarah N. Lang and Daniel J. Bower

Human Development and Family Science, The Ohio State University, Columbus, OH, USA

(Received 9 December 2011; final version received 30 March 2012)

Self-report data from 112 two-parent families were used to compare levels and predictors of four types of mothers' and fathers' engagement with their preschool-aged children: socialisation, didactic, caregiving, and physical play. Mothers were more involved than fathers in socialisation, didactic, and caregiving, whereas fathers were more involved than mothers in physical play. Mothers' greatest engagement was in caregiving, whereas fathers were about equally engaged in didactic, caregiving, and physical play. Mothers who contributed more to family income were less engaged in socialisation and caregiving, whereas fathers with non-traditional beliefs about their roles were more engaged in didactic and caregiving. Children with greater temperamental effortful control received more didactic and physical play engagement from mothers. Fathers were more likely to engage in socialisation activities with earlier-born children, whereas mothers were more likely to engage in socialisation with girls high in effortful control. Mothers were more likely to engage in physical play with boys and with later-born children.

Keywords: father engagement; mother engagement; child temperament; child gender; birth order; caregiving; physical play

Developmentally appropriate engagement by mothers and fathers has been linked to positive outcomes for children (Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008). In the past 30–40 years fathers' engagement with their children has increased (Pleck & Masciadrelli, 2004); however, there is still significant variability in fathers' engagement with young children, even in families headed by married parents (Yeung, Sandberg, Davis-Kean, & Hofferth, 2001). Fathers are no less capable than mothers at providing children with sensitive, responsive care (Lamb, 1997), yet mothers are most often the primary caregivers for children regardless of employment status (Bianchi, Robinson, & Milkie, 2006).

This distinction has shaped the ways in which research has examined mothers' and fathers' parenting. Whereas research on mothers' parenting has primarily focused on the quality of maternal behaviour, research on fathers' parenting has focused more on the quantity of involvement (Adamsons & Buehler, 2007). Relatively rare are quantitative comparisons of maternal and paternal engagement, using parents from the same families (LaFlamme, Pomerleau, & Malcuit, 2002; McBride & Mills, 1993), even

*Corresponding author. Email: schoppe-sullivan.1@osu.edu

though fathers' and mothers' interactions with children are necessarily intertwined (Pleck & Hofferth, 2008).

The use of qualitatively distinct conceptualisations and measures of maternal and paternal parenting has made comparisons within and across studies difficult. As a result, we have a limited understanding of the ways in which mothers and fathers interact with their children, and the extent to which patterns and predictors of engagement are similar or different. Understanding the patterns and predictors of mothers' and fathers' engagement with their children is critical to informing the continued development of theoretical models about parenting and fathering, and important to the design of educational programmes intended to promote positive parental engagement. Thus, the purpose of this study was to compare mothers' and fathers' involvement in four types of engagement with their preschool-aged children: socialisation, didactic, caregiving, and physical play, as well as to examine parent and child characteristics as predictors of mothers' and fathers' engagement in these domains.

Conceptualisation of parental engagement

Lamb, Pleck, Charnov, and Levine (1985) identified three domains of involvement: engagement, responsibility, and accessibility. Engagement is most often a focus of research due to its strong associations with child outcomes (Tamis-LeMonda, Shannon, Cabrera, & Lamb, 2004). In their research on non-resident father involvement, Cabrera et al. (2004) distinguished four subtypes of meaningful engagement activities: socialisation (e.g. taking the child to family, community, or social events), didactic (e.g. reading or singing with the child), caregiving (e.g. assisting the child with eating or other physical care activities), and physical play (e.g. playing outside with the child).

The socialisation aspect of engagement involves the roles of parents in linking children with the outside world (Parke & Ladd, 1992). Some have argued that fathers may play a special role in child socialisation (Paquette, 2004). Fathers provide children with new experiences, companionship during these experiences, and knowledge and advice about them (Hewlett, 1992). In families with infants, however, Laflamme et al. (2002) found that mothers were more involved than fathers in taking children on 'outings' in the neighbourhood and community. Nonetheless, comparisons of parental participation in family and community activities with preschool children are unknown.

Didactic interactions are those in which parents encourage children to engage in and understand their environments, as well as providing the opportunity to observe, learn, and imitate behaviours (Bornstein, 2002). Although didactic interactions between father and child have shown the strongest links with positive child development (Bianchi et al., 2006; Yeung et al., 2001), most research has focused on didactic interactions between mother and child, and studies comparing parents' involvement in this domain are rare. In an exception, Yeung et al. (2001) compared mothers' and fathers' time with children in various activities and found that fathers spent 1/3 of the time that mothers did in didactic activities such as reading, educational play, and studying with children ages 0–9.

Engagement in childcare activities is somewhat different from the other types of engagement, because these interactions may be more task- and routine-oriented, and are arguably less 'elective' than other forms of parent engagement. Yet, even routine childcare tasks performed by parents are important for children. When fathers are more involved in caregiving activities such as feeding, bathing, and putting their

child to bed, they have more opportunities to get to know their children and develop confidence in their parenting (Barry, Smith, Deutsch, & Perry-Jenkins, 2011), thereby promoting the formation and maintenance of the close relationships with children that facilitate their socio-emotional development.

Whereas mothers are believed to specialise in caregiving, popular notions suggest that fathers spend the majority of their time in ‘play’ activities with their children, and most findings indicate that fathers do spend a greater proportion of time in physical play with their children than mothers (Paquette, 2004; Yeung et al., 2001). Parent–child physical play peaks during the preschool years, a period during which most children rapidly develop perceptual, motor, cognitive, emotional, and social functioning (Paquette, Carbonneau, Dubeau, Bigras, & Tremblay, 2003), and provides important opportunities for children to build skills important for peer competence (Carson & Parke, 1996; MacDonald & Parke, 1984).

Predictors of parental engagement

Two frameworks were used to identify key potential predictors of mothers’ and fathers’ engagement with their children: the Lamb–Pleck model of the determinants of father involvement (Lamb, Pleck, Charnov, & Levine, 1987) and Belsky’s (1984) process model of parenting. The Lamb–Pleck model proposed four categories of influence on father involvement: (1) motivation (e.g. fathers’ desire for involvement), (2) skills and self-confidence (e.g. parenting self-efficacy), (3) social supports and stresses (e.g. marital relationships), and (4) institutional factors (e.g. workplace policies). Belsky’s (1984) process model described three categories of influence on parenting behaviours: (1) parent characteristics (e.g. personality), (2) child characteristics (e.g. temperament, age, and gender), and (3) contextual sources of stress and support (e.g. marital relationships). In this study, we focused on parent and child characteristics – specifically, mothers’ contributions to family income and parents’ beliefs about fathers’ roles, couple relationship satisfaction, and child effortful control, gender, and birth order.

Parent characteristics

According to a set of perspectives described as the ‘relative resources hypothesis’ (Coltrane, 2000, p. 1214), partners use resources that they bring to the relationship to negotiate lighter workloads at home. This hypothesis has been supported by research on household labour (Coltrane, 2000); when women contribute more to family income their divisions of household labour with their partners are more equal. Part of the move towards equality when mothers contribute greater resources is due to greater father involvement in childrearing (Pleck & Masciadrelli, 2004). But, it is not necessarily clear that mothers with greater relative earnings reduce their involvement in child-rearing, as they may be unable or unwilling to do so (Craig & Mullan, 2011).

Parents’ beliefs about fathers’ roles, a key component of the motivation factor of the Lamb–Pleck (Lamb et al., 1987) model, have also been linked to levels of paternal involvement with children. Fathers with more non-traditional beliefs about their roles are more engaged with their children (Beitel & Parke, 1998; Freeman, Newland, & Coyl, 2008). Moreover, mothers’ non-traditional beliefs about fathers’ roles have been linked to greater paternal engagement as well (Fagan & Barnett, 2003),

whereas mothers who view the paternal role as surrogate to the maternal role have partners who are less involved (Beitel & Parke, 1998).

Fathers' parenting has been described as especially sensitive to the family context (Doherty, Kouneski, & Erickson, 1998), and in particular affected by the quality of the father's relationship with the child's mother. However, the quality of the marital relationship also figures prominently in Belsky's (1984) model, which was developed primarily based on research with mothers. Indeed, greater marital satisfaction has been linked to mother as well as to father involvement (Carlson, Pilkauskas, McLanahan, & Brooks-Gunn, 2011; Mehall, Spinrad, Eisenberg, & Gaertner, 2009).

Child characteristics

Effortful control is the ability to voluntarily focus and shift attention and to initiate or inhibit behaviours that emerges in infancy, develops rapidly during the toddler years, and plays an important role in the regulation and control of early emotional reactions and behaviours (Rothbart & Bates, 2006). Children with higher levels of effortful control, who can better control their emotions and behaviour, may make parental engagement more rewarding, thereby strengthening parents' motivation for further engagement. To our knowledge, studies of child effortful control and parental engagement are absent in the literature, but a few relevant studies have found prospective associations between poorer child attentional and behavioural regulation and poorer parenting quality (Bridgett et al., 2009; Eisenberg et al., 1999).

Research has also suggested associations of child birth order and child gender with parental involvement. When differences are found, parent involvement is greater with first-born than with later-born children (Bègue & Roché, 2005; Price, 2008). Differences by child gender are not always found, but when they are, child gender is associated more closely with father than with mother involvement, and fathers of sons are more involved than fathers of daughters (Lundberg, McLanahan, & Rose, 2007; Raley & Bianchi, 2006). Child gender and birth order may also interact. Yoshida (2012) reported that fathers were more involved in physical care when there was a young male child (less than five years old) in the family, but that the presence of older, school-aged children reduced fathers' involvement.

The present study

The data used were drawn from a study of preschool-aged children in 112 two-parent families. Our first goal was to examine mothers' and fathers' involvement in four types of engagement: socialisation, didactic, caregiving, and physical play. Consistent with research reviewed above, we hypothesised that mothers would be more frequently engaged in didactic and caregiving activities with children than fathers, whereas fathers would be more frequently engaged in physical play activities with children than mothers. We did not advance a hypothesis with respect to parent gender differences in socialisation. We further expected that relative to their engagement in other domains, mothers would be most frequently engaged in caregiving activities and least frequently engaged in physical play, whereas fathers would be more frequently engaged in physical play relative to other types of engagement.

Our second goal was to examine the contributions of parent and child characteristics to maternal and paternal engagement. Consistent with theory and prior research, we expected that when mothers made a greater contribution to family income they

would be less frequently engaged in caregiving (but not necessarily other) activities but fathers would be more frequently engaged in caregiving. When mothers and fathers held more non-traditional beliefs about fathers' roles, we anticipated that fathers would be more frequently engaged in activities with their children – especially in caregiving, which has been traditionally associated with the maternal role. We also hypothesised that both fathers and mothers would be more engaged across domains when couples reported greater relationship satisfaction.

With respect to child characteristics, we anticipated that parents would be more frequently engaged in activities with their children – especially socialisation, didactic, and physical play, which are arguably more 'elective' than caregiving – when children had higher temperamental effortful control. Consistent with the vast majority of the literature, we also expected that parents would be more frequently engaged in activities with first-born children than with later-born children, and that child gender would be associated with fathers' but not mothers' engagement, with differences in father engagement in favour of sons.

Finally, we also tested child gender as a moderator of associations of other parent and child characteristics with parental engagement. Consistent with the notion that father involvement is especially sensitive to contextual factors (Doherty et al., 1998), McBride, Schoppe, and Rane (2002) found that less sociable female children had less involved fathers, but sociability was not associated with father involvement with sons. In contrast, mothers' involvement was not associated with child temperament or gender. Thus, we expected that father engagement with sons would be more robust to contextual influences than father engagement with daughters, but that there would be no moderating effects of child gender for mothers.

Method

Participants

One-hundred and twelve families consisting of mothers, fathers, and a preschool-aged focal child ($M = 4.12$ years; $SD = 0.52$; 58 boys, 54 girls) were recruited to participate through local preschools, advertisements, and participant referrals in a large Midwestern metropolitan area. Mothers' average age was 36.03 years ($SD = 5.26$), and fathers' average age was 37.73 years ($SD = 5.74$). Eighty-three percent of mothers and 81% percent of fathers had obtained at least a college degree (Range = some high school to Ph.D.). Family income ranged from less than \$10,000 to over \$100,000 per year ($Mdn = \$71,000$ –\$80,000). Seventy-seven percent of children were White, non-Hispanic, 9% African American, 1% Hispanic, 1% Asian, and 13% multiracial/multiethnic. Sixty percent of focal children were first-born, 27% were second-born, and 14% were third- or later-born. Families had 2.23 children on average ($SD = 0.98$; Range = 1–7). Thirty-six percent of mothers were working full time (31+ hours per week), 23% were working part time (<10–30 hours per week), and 42% were not employed outside the home. Eighty-seven percent of fathers were working full time, 8% part time, and 6% were not employed. On average, mothers contributed 25.51% of the family income ($SD = 27.71\%$).

Measures

Mothers and fathers each reported their own level of engagement with their preschool age child using the Activities with Child Scale created for the Early Head Start

Research and Evaluation Project and the Early Childhood Longitudinal Birth Cohort (Cabrera et al., 2004). Parents indicated the frequency of their involvement (1 = *not at all*; 6 = *more than once a day*) in 30 activities with their child within the last month. These items can be divided into 5 subscales (see Cabrera & Mitchell, 2009): socialisation (9 items; e.g. 'Visit friends with child'; $\alpha = 0.64$ for mothers and $\alpha = 0.65$ for fathers), management (3 items; e.g. 'Take child to doctor'; $\alpha = 0.55$ for mothers and $\alpha = 0.38$ for fathers), didactic (5 items; e.g. 'Play with building toys with child'; $\alpha = 0.71$ for both mothers and fathers), physical play (6 items; e.g. 'Play chasing games with child'; $\alpha = 0.68$ for mothers and $\alpha = 0.71$ for fathers), and caregiving (7 items; e.g. 'Put child to bed'; $\alpha = 0.63$ for mothers and $\alpha = 0.70$ for fathers). Because of very low reliability, the management component of parental engagement was not considered further.

Each parent completed the What Is a Father? (WIAF) questionnaire (Schoppe, 2001), a 15-item measure adapted from Palkovitz's (1984) Role of the Father Questionnaire. Items on the WIAF ask respondents to rate statements concerning fathers and fathering from 1 = *strongly disagree* to 5 = *strongly agree*. Five items tap non-traditional beliefs (e.g. 'Fathers are just as sensitive in caring for children as mothers are'), and five items tap traditional beliefs (e.g. 'The father's role is to provide for his family, not babysit the children'). Ratings on the five traditional items were reverse-scored and averaged with ratings on the five non-traditional items. Thus, higher scores indicated the presence of more non-traditional beliefs about fathers and the absence of more traditional beliefs. Cronbach's alpha for mothers was 0.66 and for fathers 0.60.

Mothers and fathers reported on their relationship satisfaction using the 32-item Dyadic Adjustment Scale (Spanier, 1976), a widely-used, reliable, and valid measure of relationship satisfaction. Summary scores were created for mothers ($\alpha = 0.92$) and fathers ($\alpha = 0.91$), and a couple-level score was created by averaging parents' reports, which were strongly correlated, $r = 0.59$, $p < 0.01$.

Parents reported on their child's temperament using the 36-item Very Short Form of the Children's Behavior Questionnaire, appropriate for child children aged 3–8 (Putnam & Rothbart, 2006). The questionnaire contains statements about children that parents rate on a scale from 1 = *extremely untrue of my child* to 7 = *extremely true of my child*. Parents' ratings of child effortful control (12 items; e.g. 'When drawing or coloring in a book, shows strong concentration' 'Is good at following instructions') were the focus of this study ($\alpha = 0.73$ for mothers and $\alpha = 0.72$ for fathers). Parents' ratings were significantly and moderately correlated, $r = 0.42$, $p < 0.01$, and thus averaged.

Mothers and fathers reported demographic information for themselves and their families on a questionnaire created for the study. We focused on mothers' reports of their percent contribution to the family income, child gender (0 = boy; 1 = girl), and child birth order (higher scores indicated that the focal child was later-born).

Results

Comparisons of mothers' vs. fathers' engagement

Mean levels of the four aspects of engagement for mothers and fathers are reported in Table 1. Parents reported engaging in socialisation activities approximately a few times per month, didactic activities a few times a week to about once a day, caregiving

Table 1. Means and standard deviations of study variables.

	<i>M</i>	<i>SD</i>	Range
<i>Parental engagement</i>			
M Socialisation	3.20	0.42	2.00–4.44
F Socialisation	2.81	0.42	1.25–3.78
M Didactic	4.25	0.75	2.60–5.80
F Didactic	3.83	0.76	1.80–5.60
M Caregiving	4.67	0.61	2.71–5.86
F Caregiving	4.04	0.64	2.14–5.57
M Physical Play	3.41	0.71	1.83–5.33
F Physical Play	3.79	0.69	2.33–5.50
<i>Predictors</i>			
M Income	25.51	27.71	0.00–100.00
Birth order	1.59	0.91	1.00–6.00
Effortful control	5.39	0.57	3.25–6.55
M non-traditional	3.56	0.48	2.00–4.90
F non-traditional	3.50	0.43	2.20–4.70
Relationship satisfaction	3.58	0.38	2.39–4.52

Note: M, Mother; F, Father.

activities a few times a week to about once a day, and physical play a few times a month to a few times a week. Paired samples *t*-tests revealed that mothers and fathers differed significantly on all four aspects of engagement (Figure 1). Mothers engaged in greater socialisation, $t(110) = 8.19, p < 0.01$, Cohen's $d = 0.78$, didactic, $t(110) = 4.37, p < 0.01$, Cohen's $d = 0.41$, and caregiving, $t(110) = 8.08, p < 0.01$, Cohen's $d = 0.77$, than fathers. Fathers engaged in greater physical play than mothers, $t(110) = -4.64, p < 0.01$, Cohen's $d = 0.44$.

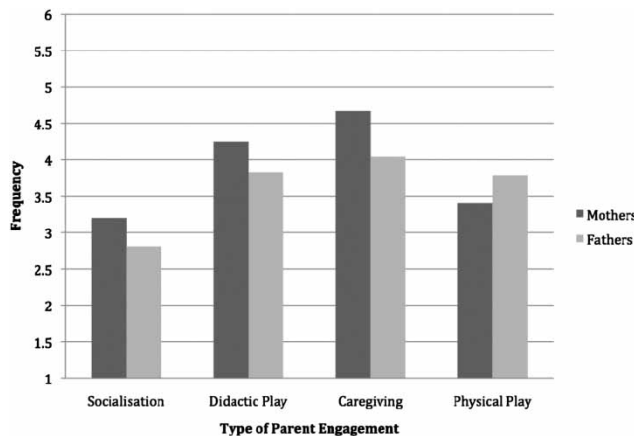


Figure 1. Comparisons of mothers' vs. fathers' mean levels of engagement.

No aspects of mothers' or fathers' engagement differed by child gender. Correlations among the four aspects of engagement for mothers and fathers (see Table 2) revealed that when parents were more involved in one aspect of engagement, they tended to be more involved in the other aspects as well. Within families, mothers' and fathers' engagement in socialisation and physical play were significantly and positively correlated, but there were no significant correlations for didactic or caregiving.

A within-subjects ANOVA with parent gender and engagement type as within-subjects factors was used to further test whether the distributions of mothers' and fathers' involvement across the four types of engagement differed. There was a main effect of parent gender, $F(1, 110) = 21.98, p < 0.01$, and of engagement type, $F(1, 108) = 258.42, p < 0.01$. These main effects were qualified by a significant parent gender \times engagement type interaction, $F(1, 108) = 53.81, p < 0.01$. Thus, the patterns of mothers' and fathers' involvement across engagement types differed, such that mothers were most frequently engaged in caregiving activities, with the least frequent engagement in physical play, whereas fathers were about equally involved in didactic, caregiving, and physical play.

Predictors of mothers' and fathers' engagement

Correlations among the predictor variables and between the predictors and the four aspects of engagement for mothers and fathers are shown in Table 2. Hierarchical regression analyses were used to further examine the relative contributions of parent and child predictors of mothers' and fathers' engagement in these four types of activities. Eight equations were computed – four predicting the types of engagement for mothers and four predicting the types of engagement for fathers. In each equation, mothers' contributions to the family income and the corresponding type of involvement by the other parent were entered together on the first step, followed by the three child predictors on the second step: child gender, birth order, and effortful control. Mothers' and fathers' progressive and traditional beliefs about fathers' roles and relationship satisfaction were entered together on the third step. On the fourth step, the birth order \times child gender and effortful control \times child gender interactions were entered. Finally, on the fifth step, the three remaining two-way interactions between child gender and each of the parent predictors (mothers' and fathers' non-traditional beliefs and relationship satisfaction) were entered. Continuous variables were mean-centered prior to the computation of product terms. Results for mothers and fathers are shown in Tables 3 and 4, respectively. Significant interactions were probed using an SPSS macro created by Hayes and Matthes (2009).

Mothers' engagement

The more mothers contributed to family income, the less involved they were in socialisation activities with their children, $\beta = -0.22, p < 0.05$. Mothers were more engaged in socialisation when fathers were more engaged in socialisation, $\beta = 0.36, p < 0.01$. None of the child or parent characteristics explained significant variance in mothers' engagement in socialisation on steps 2 or 3. However, the interaction between effortful control and child gender ($\beta = 0.37, p < 0.01$) was significant on step 4. Post hoc probing of this interaction revealed that greater effortful control was associated with greater maternal engagement in socialisation for mothers of daughters, $b = 0.39, p < 0.01$, but not for mothers of sons, $b = -0.05, p = 0.57$. None of the

Table 2. Correlations between parental engagement and parent and child characteristics.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. M Socialisation	1.00	0.32**	0.46**	-0.04	0.10	-0.06	0.42**	0.04	-0.20*	0.05	0.16	-0.13	-0.06	0.03
2. F Socialisation		1.00	0.11	0.35**	-0.04	0.23*	0.08	0.29**	0.07	-0.25**	0.21*	-0.03	0.07	0.14
3. M Didactic			1.00	0.09	0.24**	0.10	0.54**	0.23*	-0.07	-0.02	0.31**	0.02	-0.02	0.13
4. F Didactic				1.00	0.01	0.41**	-0.02	0.58**	0.16	-0.17	0.14	0.06	0.23*	0.09
5. M Caregiving					1.00	0.12	0.30**	0.04	-0.21*	-0.01	0.10	-0.10	-0.08	-0.06
6. F Caregiving						1.00	0.08	0.33**	0.06	-0.19*	-0.06	0.17	0.25**	0.03
7. M Physical Play							1.00	0.26**	-0.05	0.19*	0.25**	-0.14	-0.07	0.03
8. F Physical Play								1.00	0.07	-0.05	0.07	-0.08	0.01	-0.01
9. M income									1.00	-0.15	0.10	0.32**	0.16	-0.12
10. Birth order										1.00	-0.07	-0.10	-0.07	0.09
11. Effortful control											1.00	0.02	0.06	0.15
12. M non-traditional												1.00	0.48**	0.00
13. F non-traditional													1.00	0.03
14. Relationship satisfaction														1.00

Note: M, Mother; F, Father.

* $p < 0.05$; ** $p < 0.01$.

Table 3. Hierarchical regression predicting mothers' engagement.

Predictor	Mother socialisation			Mother didactic			Mother Caregiving			Mother physical play		
	β	ΔR^2	ΔF	β	ΔR^2	ΔF	β	ΔR^2	ΔF	β	ΔR^2	ΔF
<i>Step 1</i>												
% Income by M	-0.22*	0.17	10.35**	-0.08	0.01	0.63	-0.22*	0.06	3.15*	-0.07	0.05	2.87 [†]
F Engagement	0.36**			0.08			0.10			0.22*		
<i>Step 2</i>												
Child gender	0.00	0.04	1.49	-0.13	0.11	4.18**	-0.08	0.02	0.73	-0.20*	0.14	6.08**
Birthord	0.09			0.01			-0.01			0.24*		
Effortful	0.14			0.36**			0.15			0.31**		
<i>Step 3</i>												
M NTrad	-0.02	0.00	0.10	0.13	0.02	0.69	-0.01	0.03	0.91	0.03	0.02	1.03
F NTrad	-0.04			-0.09			-0.06			-0.16		
Satisf	-0.08			0.08			-0.15			-0.06		
<i>Step 4</i>												
BirthOrd \times Gen	0.15	0.08	5.26**	0.20 [†]	0.03	1.75	-0.04	0.00	0.10	0.03	0.01	0.81
Effortful \times Gen	0.37**			0.11			-0.04			0.16		
<i>Step 5</i>												
Satisf \times Gen	0.13	0.03	1.07	-0.22	0.03	1.35	0.04	0.08	3.12*	0.19	0.02	0.68
M NTrad \times Gen	0.05			0.19			-0.27 [†]			0.01		
F NTrad \times Gen	0.09			0.00			0.52**			0.08		

Note: M, Mother; F, Father; BirthOrd, Birth order; Effortful, Child's effortful control; NTrad, Non-traditional beliefs regarding fathers; Satisf, Couple relationship satisfaction; Gen, Child gender.

[†] $p < 0.10$; * $p < 0.05$; ** $p < 0.01$.

Table 4. Hierarchical regression predicting fathers' engagement.

Predictor	Father socialisation			Father didactic			Father caregiving			Father physical play		
	β	ΔR^2	ΔF	β	ΔR^2	ΔF	β	ΔR^2	ΔF	β	ΔR^2	ΔF
<i>Step 1</i>												
% Income by M	0.15	0.14	8.29**	0.16	0.03	1.63	0.08	0.02	0.79	0.08	0.05	2.96 [†]
M Engagement	0.37**			0.08			0.11			0.22*		
<i>Step 2</i>												
Child Gender	-0.12	0.06	2.64 [†]	0.13	0.05	1.82	-0.04	0.04	1.35	-0.03	0.01	0.17
BirthOrd	-0.20*			-0.15			-0.16			-0.06		
Effortful	0.15			0.07			-0.10			0.00		
<i>Step 3</i>												
M NTrad	-0.06	0.04	1.64	-0.12	0.05	1.92	0.07	0.08	2.97*	-0.11	0.01	0.36
F NTrad	0.08			0.24*			0.25*			0.09		
Satisf	0.18*			0.08			0.01			0.00		
<i>Step 4</i>												
BirthOrd \times Gen	0.17	0.02	1.35	0.06	0.03	1.49	-0.05	0.01	0.36	-0.10	0.02	0.81
Effortful \times Gen	-0.05			-0.21			0.09			-0.14		
<i>Step 5</i>												
Satisf \times Gen	0.18	0.01	0.52	-0.02	0.01	0.29	-0.10	0.02	0.72	-0.24	0.03	0.87
M NTrad \times Gen	0.02			0.10			0.13			0.07		
F NTrad \times Gen	-0.03			-0.15			-0.23			-0.07		

Note: M, Mother; F, Father; BirthOrd, Birth order; Effortful, Child's effortful control; NTrad, Non-traditional beliefs regarding fathers; Satisf, Couple relationship satisfaction; Gen, Child gender.

[†] $p < 0.10$; * $p < 0.05$; ** $p < 0.01$.

interactions between parent characteristics and child gender entered on step 5 reached statistical significance.

Mothers were more involved in didactic activities when the focal child was higher on effortful control, $\beta = 0.36, p < 0.01$. None of the other predictors explained significant variance in mothers' engagement in didactic activities. Mothers reported greater engagement in caregiving activities when they made less of a contribution to family income, $\beta = -0.22, p < 0.05$. There were no significant simple effects of child or parent characteristics, nor were interactions among child characteristics significant. However, on step 5, the interaction between fathers' non-traditional beliefs and child gender explained significant variance in mothers' engagement in caregiving, $\beta = 0.52, p < 0.01$. This interaction indicated that mothers of boys, $b = -0.64, p < 0.05$, but not mothers of girls, $b = 0.30, p = 0.14$, were less engaged in caregiving when their partners held more progressive beliefs about fathers' roles.

With respect to physical play, mothers were more involved in this aspect of engagement when their partners were more involved in physical play, $\beta = 0.22, p < 0.05$, and when they were the parents of boys, $\beta = -0.20, p < 0.05$, later-born children, $\beta = 0.24, p < 0.05$, and/or children with high levels of effortful control, $\beta = 0.31, p < 0.01$. No parent characteristics or interactions of child and parent characteristics with child gender explained significant variance in mothers' engagement in physical play.

Fathers' engagement

When predicting fathers' engagement in socialisation activities, mothers' engagement was a significant predictor, $\beta = 0.37, p < 0.01$. On the second step, child birth order was a significant predictor, $\beta = -0.20, p < 0.05$, indicating that fathers were more involved in socialisation activities with earlier-born children. Fathers were also more involved in socialisation activities when parents reported higher levels of relationship satisfaction, $\beta = 0.18, p < 0.05$ (although the F -change associated with this step was not statistically significant). None of the interactions between parent or child characteristics and child gender was associated with fathers' involvement in socialisation.

The analysis of predictors of fathers' engagement in didactic and caregiving interactions revealed only one significant predictor in both equations – fathers' non-traditional beliefs about fathers' roles, $\beta = 0.24, p < 0.05$ for didactic and $\beta = 0.25, p < 0.05$ for caregiving. In other words, fathers were more engaged in didactic and caregiving with their children when they held more non-traditional beliefs about fathers' roles. With the exception of mothers' involvement in physical play, $\beta = 0.22, p < 0.05$, no other predictors explained significant variance in fathers' engagement in physical play.

Discussion

Overall, the parents in this study were highly engaged with their children. But, even among a group of families with highly motivated fathers, mothers were still more involved than fathers in three out of the four aspects of engagement examined in this study: socialisation, didactic, and caregiving. Differences for socialisation and caregiving in favour of mothers were medium to large. Fathers only reported more frequent engagement than mothers in physical play. These differences are particularly striking, given that mothers and fathers each reported on their own involvement, which reduced the bias toward finding differences in favour of mothers that may be problematic in

studies that have relied solely on mothers' reports of parental involvement (Coley & Morris, 2004). The distributions of mothers' and fathers' engagement also differed, with mothers most frequently engaged in caregiving activities and least frequently engaged in physical play, and with fathers about equally engaged in didactic, caregiving, and physical play. These results were generally consistent with our expectations and with prior research (Laflamme et al., 2002; McBride & Mills, 1993; Yeung et al., 2001).

Next, we attempted to understand individual differences among mothers and fathers in the four types of engagement. Parent characteristics played an important role. When mothers contributed more to the family's income they were less frequently engaged in socialisation and caregiving activities. This is consistent with the relative resources hypothesis that women who contribute more to family income have the power to 'buy out' of family work (Coltrane, 2000). However, mothers' contributions to family income were not associated with their engagement in didactic or physical play, indicating that regardless of their resources, mothers did not use them to 'buy out' of what they may have perceived as the most important aspects of their engagement (Craig & Mullan, 2011). Moreover, mothers' contributions to family income were not associated with any aspect of fathers' engagement. Thus, in this study, it does not appear that fathers compensated for lower levels of involvement in socialisation and caregiving by mothers who made a greater contribution to family income. Perhaps others (e.g. child care providers and grandparents) compensated for lower frequency of engagement by mothers who contributed more to family income, and future research should investigate this possibility.

Fathers', but not mothers' non-traditional beliefs about fathers' roles were also related to several aspects of parental engagement. When fathers held more non-traditional beliefs, they were more frequently engaged in didactic and caregiving activities with their children. This is consistent with the Lamb–Pleck model (Lamb et al., 1987) and with a number of other studies (Beitel & Parke, 1998; Freeman et al., 2008). In contrast, mothers' non-traditional beliefs about fathers were not associated with fathers' engagement, nor were mothers' beliefs about fathers associated with lower engagement on the part of mothers. Fathers' greater non-traditional beliefs were associated with less frequent maternal engagement in caregiving, but only in families with sons. Thus, in families in which fathers have non-traditional beliefs, fathers are more likely to engage in caregiving of boys and girls, whereas mothers of boys were less likely to engage in caregiving. Perhaps mothers are willing to reduce their involvement in caregiving for boys when their partner is more involved, but not willing to reduce their involvement in caregiving for girls. Or, caregiving of preschool-aged girls may involve activities (e.g. bathing) that parents do not feel comfortable assigning to the male parent (Yoshida, 2012).

Child characteristics also proved to be important for individual differences in parental engagement – especially for mothers. Thus, our hypothesis that contextual factors would be more closely related to fathers' involvement with girls than with boys (and that child gender should not moderate associations between predictors and maternal involvement) was not supported. For mothers, greater child effortful control was associated with greater engagement in didactic and physical play, and also greater engagement in socialisation, if the focal child was female. Mothers may enjoy these types of activities more (and choose to engage in them more often) when their children are higher in effortful control, or better able to control their emotions and behaviour. For socialisation activities, which involve interactions in contexts outside of the home,

mothers may have higher expectations for their daughters' regulatory abilities or anticipate that others in social settings may have higher expectations for girls. The maxim 'boys will be boys' may excuse the behaviour of preschool-aged boys at church or at a museum, but girls' out of control behaviour may not be so readily overlooked. Mothers' engagement in caregiving, however, was not associated with child effortful control. Thus, as expected, effortful control appeared to matter for parents' involvement in arguably more 'elective' aspects of parenting.

Child birth order and child gender were also relevant to understanding parental engagement. Fathers were more likely to engage in socialisation activities with earlier-born children. Some have argued that it is the father's role to introduce the child to the outside world (Paquette, 2004), and previous research has suggested higher levels of father involvement for first-born children (Bègue & Roché, 2005; Price, 2008); thus, fathers may be especially likely to provide opportunities for their earlier-born children to engage in social interactions in contexts outside the home. Mothers were more likely to engage in physical play with boys and with later-born children. Mothers may show more frequent engagement with later-born children, because if they have more children, they may engage in play with children as a group. That mothers were also more likely to engage in physical play with boys may be due to gendered expectations for children.

Another important predictor of parent engagement was the engagement of the other parent, at least for socialisation and physical play forms of engagement. These forms of engagement may be more likely to involve both parents simultaneously, or parents may model each other's involvement (Pleck & Hofferth, 2008), whereas parent engagement in caregiving and didactic activities may be complementary. Besides mothers' engagement in physical play, none of the other parent and child variables that we considered predicted fathers' engagement in physical play. Although we recognise that conclusions drawn from null findings must be tentative, one possible interpretation of our lack of success in predicting this aspect of engagement is that physical play is ingrained in the father role (Paquette, 2004), and thus is most robust to contextual influences. However, it is certainly possible that other factors that we did not examine in this study explain individual differences in engagement in physical play – for instance, father characteristics such as personality or subjective health and well-being. Future research considering these factors and others will be necessary to understand correlates of fathers' engagement in physical play.

Couple relationship satisfaction was less important than anticipated in explaining parents' engagement with their children – greater satisfaction was only associated with greater father involvement in socialisation activities. These results may seem surprising, given that prior research has found associations between marital satisfaction and mother as well as father involvement (Carlson et al., 2011; Mehall et al., 2009). It is true that the couples in the present study were on average quite satisfied in their relationships. Thus, a lack of variability in marital satisfaction may explain these null findings. However, it is also possible that marital adjustment is a less important predictor of parental engagement for families headed by married parents with preschool age children, especially when compared with other factors such as children's own characteristics.

Limitations of this research should be acknowledged. This was a cross-sectional study, which makes it especially difficult to argue that certain parent and child factors caused individual differences in parental engagement. For instance, although we have argued that children's temperamental effortful control affects the extent of

maternal engagement, it is equally possible that greater maternal engagement has helped children learn to better regulate their emotions and behaviour. Longitudinal research is needed to uncover the likely reciprocal patterns of those associations. Our sample was mostly white, highly educated, relatively wealthy, and married, and thus our results may not apply to other populations of mothers and fathers. Moreover, self-report frequency measures may not be the best way to tap parental engagement. Time use measures such as time diaries may provide more objective and accurate information regarding parental engagement (Yeung et al., 2001). Finally, our focus in this study was on quantity of parental engagement in developmentally appropriate activities; however, the quality of parental engagement may be just as if not more important for child development. Future studies would do well to include observational measures of the quality of parental engagement in addition to quantitative measures.

As the benefits of involved parenting continue to mount, practitioners' and policy-makers' interest in fostering parental engagement will endure, and as expectations for fathers' involvement in parenting increase, parents will keep on struggling to meet these expectations. Headway in encouraging and supporting parental engagement – especially that of fathers – can only be made with a thorough understanding of where we are at and where we need to go and the multiple factors that underlie individual differences in maternal and paternal engagement.

Acknowledgements

This research was supported by an NICHD grant (R03 HD050235) to the first author. We express our gratitude to the parents and children who participated in this study and the students who assisted with data collection, especially Catherine Buckley.

Notes on contributors

Sarah J. Schoppe-Sullivan is an associate professor of human development and family science at The Ohio State University. Her research interests include co-parenting relationships, fathering behaviour, and the transition to parenthood.

Letitia E. Kotila is a doctoral student in human development and family science at The Ohio State University. Her research focuses on fathering, especially among unmarried, at-risk men.

Rongfang Jia is a doctoral student in human development and family science at The Ohio State University. Her research focuses on the development of mother– and father–child relationships and implications for child functioning.

Sarah N. Lang is a doctoral student in human development and family science at The Ohio State University. Her research interests include caregiver–child relationships in the home and in childcare contexts.

Daniel J. Bower is a doctoral student in human development and family science at The Ohio State University. His research interests include the effects of individual psychological characteristics on couple relationships.

References

- Adamsons, K., & Buehler, C. (2007). Mothering versus fathering versus parenting: Measurement equivalence in parenting measures. *Parenting: Science and Practice*, 7, 271–303.

- Barry, A.A., Smith, J.Z., Deutsch, F.M., & Perry-Jenkins, M. (2011). Fathers' involvement in child care and perceptions of parenting skill over the transition to parenthood. *Journal of Family Issues*, 32, 1500–1521.
- Bègue, L., & Roché, S. (2005). Birth order and youth delinquent behavior: Testing the differential parental control hypothesis in a French representative sample. *Psychology, Crime & Law*, 11, 73–85.
- Beitel, A.H., & Parke, R.D. (1998). Paternal involvement in infancy: The role of maternal and paternal attitudes. *Journal of Family Psychology*, 12, 268–288.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development*, 55, 83–96. Retrieved from <http://www.jstor.org/stable/1129836>
- Bianchi, S.M., Robinson, J.P., & Milkie, M.A. (2006). *Changing rhythms of American family life*. New York: Russell Sage Foundation.
- Bornstein, M. (Ed.). (2002). *Handbook of parenting, Vol. 1: Children and parenting* (2nd ed.). Mahwah, NJ: Erlbaum.
- Bridgett, D.J., Gartstein, M.A., Putnam, S.P., McKay, T., Iddins, E., Robertson, C., . . . Rittmueller, A. (2009). Maternal and contextual influences and the effect of temperament development during infancy on parenting in toddlerhood. *Infant Behavior and Development*, 32, 103–116.
- Cabrera, N.J., & Mitchell, S. (2009). An exploratory study of fathers' parenting stress and toddlers' social development in low-income African American families. *Fathering*, 7, 201–225.
- Cabrera, N.J., Ryan, R.M., Shannon, J.D., Brooks-Gunn, J., Vogel, C., Raikes, H., & Cohen, R. (2004). Low-income fathers' involvement in their toddlers' lives: Biological fathers from the early head start research and evaluation study. *Fathering*, 2, 5–36.
- Carlson, M.J., Pilkauskas, N.V., McLanahan, S.S., & Brooks-Gunn, J. (2011). Couples as partners and parents over children's early years. *Journal of Marriage and Family*, 73, 317–334.
- Carson, J., & Parke, R.D. (1996). Reciprocal negative affect in parent child interactions and children's peer competency. *Child Development*, 67, 22–26.
- Coley, R.L., & Morris, J.E. (2004). Comparing father and mother reports of father involvement among low-income minority families. *Journal of Marriage and Family*, 64, 982–997.
- Coltrane, S. (2000). Research on household labor: Modeling and measuring the social embeddedness of routine family work. *Journal of Marriage and Family*, 62, 1208–1233. Retrieved from <http://www.jstor.org/stable/1566732>
- Craig, L., & Mullan, K. (2011). How mothers and fathers share childcare: A cross-national time-use comparison. *American Sociological Review*, 76, 834–861.
- Doherty, W.J., Kouneski, E.F., & Erickson, M.F. (1998). Responsible fathering: An overview and conceptual framework. *Journal of Marriage and the Family*, 60, 277–292. Retrieved from <http://www.jstor.org/stable/353848>
- Eisenberg, N., Fabes, R.A., Shepard, S.A., Guthrie, I.K., Murphy, B.C., & Reiser, M. (1999). Parental reactions to children's negative emotions: Longitudinal relations to quality of children's social functioning. *Child Development*, 70, 513–534.
- Fagan, J., & Barnett, M. (2003). The relationship between maternal gatekeeping, paternal competence, mothers' attitudes about the father role, and father involvement. *Journal of Family Issues*, 24, 1020–1043.
- Freeman, H., Newland, L.A., & Coyl, D.D. (2008). Father beliefs as a mediator between contextual barriers and father involvement. *Early Child Development and Care*, 178, 803–819.
- Hayes, A.F., & Matthes, J. (2009). Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. *Behavior Research Methods*, 41, 924–936.
- Hewlett, B. (Ed.). (1992). *Father-child relations: Cultural and biosocial contexts*. New York: Aldine de Gruyter.
- Laflamme, D., Pomerleau, A., & Malcuit, G. (2002). A comparison of fathers' and mothers' involvement in childcare and stimulation behaviors during free-play with their infants at 9 and 15 months. *Sex Roles*, 47, 507–518.
- Lamb, M. (Ed.). (1997). *The role of the father in child development* (3rd ed.). New York: Wiley.
- Lamb, M.E., Pleck, J.H., Charnov, E.L., & Levine, J.A. (1985). Paternal behavior in humans. *American Zoologist*, 25, 883–894. Retrieved from <http://www.jstor.org/stable/3883043>

- Lamb, M.E., Pleck, J.H., Charnov, E.L., & Levine, J.A. (1987). A biosocial perspective on paternal behavior and involvement. In J.B. Lancaster, J. Altman, A.S. Rossi, & L.R. Sherroa (Eds.), *Parenting across the lifespan: Biosocial dimensions* (pp. 111–142). New York: Aldine de Gruyter.
- Lundberg, S., McLanahan, S., & Rose, E. (2007). Child gender and father involvement in fragile families. *Demography*, 44, 79–92.
- MacDonald, K., & Parke, R.D. (1984). Bridging the gap: Parent child play interaction and peer interactive competence. *Child Development*, 55, 1265–1277. Retrieved from <http://www.jstor.org/stable/1129996>
- McBride, B.A., & Mills, G. (1993). A comparison of mother and father involvement with their preschool age children. *Early Childhood Research Quarterly*, 8, 457–477.
- McBride, B.A., Schoppe, S.J., & Rane, T.R. (2002). Child characteristics, parenting stress, and parental involvement: Fathers versus mothers. *Journal of Marriage and Family*, 64, 998–1011.
- Mehall, K.G., Spinrad, T.L., Eisenberg, N., & Gaertner, B.M. (2009). Examining the relations of infant temperament and couples' marital satisfaction to mother and father involvement: A longitudinal study. *Fathering*, 7, 23–48.
- Palkovitz, R. (1984). Parental attitudes and fathers' interactions with their 5-month-old infants. *Developmental Psychology*, 20, 1054–1060.
- Paquette, D. (2004). Theorizing the father–child relationship: Mechanisms and developmental outcomes. *Human Development*, 47, 193–219.
- Paquette, D., Carboneau, R., Dubeau, D., Bigras, M., & Tremblay, R.E. (2003). Prevalence of father–child rough-and-tumble-play and physical aggression in preschool children. *European Journal of Psychology of Education*, 18, 171–189.
- Parke, R.D., & Ladd, G.W. (1992). *Family–peer relations: Modes of linkage*. Hillsdale, NJ: Erlbaum.
- Pleck, J.H., & Hofferth, S.L. (2008). Mother involvement as an influence on father involvement with early adolescents. *Fathering*, 6, 267–286.
- Pleck, J.H., & Masciadrelli, B.P. (2004). Parental involvement by U.S. residential fathers: Levels, sources, and consequences. In M.E. Lamb (Ed.), *The role of the father in child development* (4th ed., pp. 222–271). New York: Wiley.
- Price, J. (2008). Parent–child quality time: Does birth order matter? *Journal of Human Resources*, 43, 240–265.
- Putnam, S.P., & Rothbart, M.K. (2006). Development of short and very short forms of the Children's Behavior Questionnaire. *Journal of Personality Assessment*, 87, 102–112.
- Raley, S., & Bianchi, S. (2006). Sons, daughters, and family processes: Does gender of children matter? *Annual Review of Sociology*, 32, 401–421.
- Rothbart, M.K., & Bates, J.E. (2006). Temperament. In N. Eisenberg, W. Damon, & R.M. Lerner (Eds.), *Handbook of child psychology: Vol 3. Social, emotional, and personality development* (pp. 99–166). Hoboken, NJ: Wiley.
- Sarkadi, A., Kristiansson, R., Oberklaid, F., & Bremberg, S. (2008). Fathers' involvement and children's developmental outcomes: A systematic review of longitudinal studies. *Acta Paediatrica*, 97, 153–158.
- Schoppe, S.J. (2001). *What is a father?* Unpublished manuscript, University of Illinois at Urbana-Champaign.
- Spanier, G. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*, 38, 15–28. Retrieved from <http://www.jstor.org/stable/350547>
- Tamis-LeMonda, C.S., Shannon, J.D., Cabrera, N.J., & Lamb, M.E. (2004). Fathers and mothers at play with their 2- and 3-year olds: Contributions to language and cognitive development. *Child Development*, 75, 1806–1820.
- Yeung, W.J., Sandberg, J.F., Davis-Kean, P.A., & Hofferth, S.A. (2001). Children's time with fathers in intact families. *Journal of Marriage and Family*, 63, 136–154.
- Yoshida, A. (2012). Dads who do diapers: Factors affecting care of young children by fathers. *Journal of Family Issues*, 33, 451–477.