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Predictors of Parenting: Family-Wide and Child-Specific Factors

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SYNOPSIS

Objective. The goal of the study was to identify determinants of child perceptions of parenting. ***Design.*** By using two children per family, the current study predicted siblings' (106 pairs) perceptions of mothering and fathering at ages 9–13 from children's perceptions of parenting and parent ratings of child difficulty, parental emotionality, and household organization, when the children were 4–8 years old. Multi-level modeling was used to differentiate between- and within-family variation. ***Results.*** Stability in child perceptions was moderate, and this stability was due to family-wide parenting shared by siblings. Conversely, the majority of variance in the 9- to 13-year-olds' perceptions indicated differential, rather than similar, parental treatment. Maternal anger predicted maternal hostility. In contrast, household chaos predicted paternal hostility. ***Conclusions.*** Relationships between individuals in the family are part of a larger system, and children are equally as likely as parents to reap the benefits of services or interventions directed toward enhancing maternal well-being.

INTRODUCTION

Parental responsiveness and warmth have a powerful influence on children's behavior and development (Sroufe, 1997), and harsh parenting can have substantial effects on child maladjustment (Balge & Milner, 2000; Deater-Deckard & Dodge, 1997; Mammen, Kolko, & Pilkonis, 2002; Rodriguez & Green, 1997). As such, understanding the antecedents of parenting quality is an important area of enquiry (Belsky & Jaffee, 2006). The current study extends previous research by including two children per family, thereby addressing both family-wide and child-specific predictors across time for both fathers and mothers. The focus of the current study is children's perceptions of parenting. To place the current study in context, a focused review of determinants of parenting and family-wide versus child-specific parenting follows.

Determinants of Parenting

An influential theoretical framework for considering predictors of parenting was formulated by Belsky (1984). Reviewing research from abusive families, Belsky postulated that child characteristics, personal resources of parents, and contextual factors are all important determinants of parenting. A review by Belsky and Jaffee (2006) outlined the factors that have demonstrated the strongest links with parenting quality: child temperament/difficulty, parental mental health, personality and developmental history, the marital relationship, and neighborhood. The current study focuses on two of these

factors—child difficulty and parental personality (specifically proneness to anger)—as well as household organization. This selection was guided by theory and research, as outlined below, as well as being empirically based on the strongest correlates of parenting among the families during middle childhood (Pike, Coldwell, & Dunn, 2006).

The inclusion of child characteristics in the model emphasizes the bi-directional nature of parenting first highlighted by Bell in 1968. Bell contended that parents not only influence their children, but children's behavior also has an effect on parental behavior. Research indicates that more adaptable, sociable, or easy to soothe children enjoy warmer and more responsive parenting, whereas challenging child behavior is consistently linked with parenting stress and harsh parenting behavior (Balge & Milner, 2000; Deater-Deckard & Dodge, 1997; Gershoff, 2002; Mammen et al., 2002; Rodriguez & Green, 1997). In line with previous research, the present cross-sectional investigation found that 4- to 8-year-old children were most at risk for increased hostility and decreased warmth from their parents if they were highly emotional, and/or displayed high levels of problem behaviors (Pike, Coldwell, et al., 2006). Sameroff and Chandler's (1975) transactional model emphasizes the need to study parent and child characteristics in the development of parent–child interactions over time. The current study addresses the more often neglected child → parent component of the transaction by testing for the prediction of parenting by child difficulty, while taking into account stability in parenting from middle childhood to early adolescence.

Aspects of parental personality also consistently, though modestly, relate to parenting quality. A review (Belsky & Jaffee, 2006) and meta-analysis (Prinzie, Stams, Dekovic, Reijntjes, & Belsky, 2009) as well as individual studies (e.g., Koenig, Barry, & Kochanska, 2010) show robust associations with the Big 5 personality traits (McCrae & Costa, 1999). Specifically, more open, agreeable, conscientious, and extraverted parents display more warmth toward their children, and, of most relevance to the present study, more neurotic parents tend to be less warm. Neuroticism, however, is a multi-faceted construct consisting of depression, anxiety, angry hostility, self-consciousness, and impulsiveness (Costa & McCrae, 1992). The current study used an assessment of proneness to anger, devoid of internalizing aspects, such as depression or anxiety. Depressive symptoms are a well-established risk factor for non-optimal parenting (Lovejoy, Graczyk, O'Hare, & Neuman, 2000), whereas the focus of this study fell on the externalizing propensity to react in a hostile, angry manner. Parenting young children is a stressor particularly likely to highlight individual differences in proneness to anger (Atzaba-Poria, Deater-Deckard, & Bell, 2014; Belsky & Barends, 2002; Deater-Deckard, 2004) and was moderately associated with parenting quality in the current sample during middle childhood (Pike, Coldwell, et al., 2006).

Finally, the authors focus on a key contextual feature of the family—household chaos. Chaos describes an environment that is high in noise and low in regularity and routines (Wachs, 2005). Routines and organization are linked to lower stress levels and well-being in adults generally (Wachs & Camli, 1991) and lower parenting stress in particular (Ostberg & Hagekull, 2000). Corapci and Wachs (2002) found that parents in more chaotic households reported lower levels of parenting self-efficacy. Among preschool and school-aged children, household chaos has been associated with caregivers who are more likely to use physical punishment, less likely to monitor children's activities, and more likely to use inconsistent discipline (Wachs, 2005). The authors also found evidence that this contextual measure—more than any other—was associated with more negative and less positive parenting (Pike, Coldwell, et al., 2006).

Family-Wide Versus Child-Specific Parenting

Studies of families and parenting have received a major challenge from the field of behavioral genetics (Pike, 2012). For many child and adolescent outcomes (e.g., personality, psychopathology, and cognitive ability), growing up within the same family makes siblings no more similar than two children taken at random from the population (Dunn & Plomin, 1990; Plomin, 2011). This research indicates that the *key* influences for individual differences are child-specific rather than family-wide. In other words, processes operating *within* families are effective in making children from the same family different from another, rather than similar.

To more fully understand the determinants of parenting, behavior toward more than a single child in the family should be assessed. Including more than a single child provides the necessary leverage to identify the relative contributions of family-wide determinants, such as parental personality and the household environment, in contrast to child-specific characteristics, such as child difficulty. Given the transactional nature of the parent–child relationship, no parent would be expected to treat two different children in exactly the same manner (Sameroff, 2010). Assessing more than one child per family enables quantitative estimates of child-specific parenting, often termed "parental differential treatment" (PDT). Research has shown that both parents and children perceive PDT (Brody & Stoneman, 1990; Daniels, Dunn, Furstenberg, & Plomin, 1985; Solmeyer, Killoren, McHale, & Updegraff, 2011). The authors focus on children's perceptions of parenting for two reasons. First, parents tend to over-estimate their parental consistency (Pike, Reiss, Hetherington, & Plomin, 1996) when compared to objective ratings. Second, children's perceptions of PDT relate to children's adjustment (Dunn, Stocker, & Plomin, 1990; Feinberg & Hetherington, 2001; McHale & Pawletko, 1992; Shebloski, Conger, & Widaman, 2005). Kowal and Kramer's (1997) study highlighted that it is not just the objective presence of PDT that should be considered, but that children's perceptions are key.

In recent years the use of multi-level modeling (MLM) with family data has provided the necessary tool to address statistically sophisticated questions about family-wide versus child-specific family processes (Jenkins et al., 2009). However, to date, the authors are aware of only three articles describing the prediction of parenting using MLM. The first of these used data from a large Canadian cohort study of children aged 4–11 years (Jenkins, Rasbash, & O'Connor, 2003), using maternal reports of their own parenting. Both positive and negative parenting were predicted by child age, child negative affectivity, marital dissatisfaction, family size, and gender of the siblings. The second article again used data from families of children aged 4–11 (O'Connor, Dunn, Jenkins, & Rasbash, 2006), although this study was based in the United Kingdom. This time, parent interviews augmented parent questionnaires. The focus of the study was on different family types and parent–child dyads of differing genetic relatedness. These demographic factors were important determinants of parenting, in that genetic relatedness of the family members was a strong predictor of parental quality. This factor seems to have drowned out the usual effects of child, parent, and contextual determinants. The third article described a population-based study of Ontario families with young children (average ages 1.60 and 4.76 years; Browne, Meunier, O'Connor, & Jenkins, 2012). Observations of parenting as well as parental reports were considered. The most robust predictors were child age, child inattention, child conduct problems, and parental agreeableness. However, the focus of interpretation in all three studies was the prediction of

PDT; that is, these articles identify parents at risk of excessive differential treatment of children within families. Instead, the focus of the present study is to use MLM to predict direct parenting scores, as is the case in the determinants of parenting literature reviewed above.

The Current Study

The current study is novel in its focus on the prediction of child perceptions of parenting from two children per family within a longitudinal design. An additional methodological strength was the use of parent reports of three key determinants of parenting, thus avoiding shared method variance. Three hypotheses were addressed:

(1) Based on findings from older children (e.g., Reiss, Neiderhiser, Hetherington, & Plomin, 2000), it was hypothesized that some stability in child perceptions of parenting would emerge over the course of 4–5 years, from middle childhood to the dawn of adolescence.
(2) The child-specific factor of child difficulty would predict parenting once stability in parenting was taken into account.
(3) The family-wide predictors of parental anger and household chaos would predict parenting once stability in parenting was taken into account.

METHOD

Sample

Participants were from the Sisters and Brothers Study, a longitudinal study of children from 4 to 12 years old and their families (Pike, Coldwell, et al., 2006). Initial recruitment took place in 2002–2003. Schools in the south of England were approached and asked to send letters to parents of children in reception (4- to 5-years-old) and Year 1 classes (5- to 6-years-old) who had an older brother or sister aged 8 years or younger. However, many schools were unable (or unwilling) to target specific children and sent letters home to all children in these classes. In addition, letters were sent home via the children; therefore, there was no guarantee that parents received the letters. Because of this opt-in procedure, it was not possible to estimate refusal rates accurately. One hundred seventy-three families were recruited in the initial wave of the study. The second wave of the study was carried out in 2007. One hundred six of the original families were successfully recruited to participate again 4–5 years later (the majority of attrition was due to failure to trace families rather than refusal to participate). Families were more likely to participate at the second time point if both parents were present in the children's home, $t(171) = 2.27, p < .05$, if fathers worked full time, $t(171) = 2.75, p < .05$, and if mothers were older at the birth of their first child, $t(171) = 1.98, p < .05$.

The longitudinal sample comprised 28 boy-boy, 30 boy-girl, 22 girl-girl, and 26 girl-boy sibling pairs. The older siblings had a mean age of 7.45 years (standard deviation [SD] = .80) at T1, and were 12.03 years ($SD = 1.07$) at T2; the younger siblings' mean age was 5.19 years ($SD = .64$) at T1, and 9.77 years ($SD = .92$) at T2. Twenty-three percent of families were single-parent households. Families came from a mix of working- and middle-class backgrounds, and there was a wide range of educational attainment among

the families. The families were almost exclusively Causasian British (95%), reflecting the population from which this sample was drawn.

Procedure

At both time points, two researchers visited families at home where children and parents were interviewed separately and completed questionnaires. All visits lasted approximately 1.5–2 hours.

Measures

Apart from child perceptions of parenting (as noted below), all of the measures were taken at the first time point.

Children's Reports of Parenting: Time 1. The Berkeley Puppet Interview (BPI; Ablow & Measelle, 1993) is a technique that obtains questionnaire type data from young children using interview questions from two puppets. During the audiotaped interview, two identical puppets make opposing statements about a member of their family (e.g., "My mum is nice to me," "My mum is not nice to me") and then ask the child about themselves (e.g., "How about your mum?"). Children's responses were subsequently coded on a 7-point scale where 1 is the most negative score and 7 the most positive. When a child chooses a response option as expressed by the puppet a code 2 (for a negative response—"My mum is not nice to me") or a code 6 (for a positive response—"My mum is nice to me too") is used. When a child amplifies a statement (e.g., "My mum is horrible to me" or "My mum is really nice to me") a code 1 (*negative*) or 7 (*positive*) is used. A code 3 or 5 indicates a response that is qualified in some way (e.g., "My mum isn't nice to me most of the time" or "My mum is nice to me most of the time"). Finally, a code 4 is used when a child indicates that both response options apply. The interview was composed of 2 subscales related to the parent–child relationship (warmth and hostility), each containing six items. The warmth subscale includes items such as "My mum is nice to me" versus "My mum is not nice to me," and the hostility subscale contains items such as "My mum is mean to me" versus "My mum is not mean to me." Twenty percent of the interviews were double-coded; inter-rater reliability for all items was excellent ($r > .90$). After initial coding, scores were calculated such that higher scores indicate more hostility and warmth respectively. Note that children's reports about their fathers were only collected from those residing in two-parent families.

Children's Reports of Parenting: Time 2. At the second time point, the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1992) was used to measure several dimensions of relationship quality. For the present study the items assessing companionship ("How often do you go places and do enjoyable things with your mum?"), intimacy (e.g., "How much do you share your secrets and private feelings with your mum?"), affection ("How much does your mum really care about you?"), conflict ("How much do you and your mum disagree or quarrel?"), and antagonism ("How much do you and your mum get on each other's nerves?") were used to index warmth and hostility. Children answered the NRI for both parents on 5-point scales ranging from 1 = *never* to 5 = *most of the time*. Alpha coefficients were good for all of the sub-scales (ranging from .82–.93 for older siblings and .79–.91 for younger siblings). Note that children's reports about their fathers were only collected from those residing in two-parent families.

Household Chaos. The degree of chaos in the home was assessed using the short version of the Confusion, Hubbub, and Order Scale (CHAOS; Matheny, Wachs, Ludwig, & Phillips, 1995). The scale consists of six items rated on a 5-point scale (where 1 = *definitely untrue* and 5 = *definitely true*) including "You can't hear yourself think in our home." and "We are usually able to stay on top of things." Total chaos scores were generated by summing the items. Internal reliabilities of the resulting scales were reasonable ($\alpha = .57$ and .56 for mothers and fathers, respectively), taking into account the small number of items, and the effect this has on alpha values (Field, 2004). This version of the CHAOS scale has been used extensively, with demonstrated inter-rater reliability (Hart, Petrill, Deckard, & Thompson, 2007) as well as predictive validity (Pike, Iervolino, Eley, Price, & Plomin, 2006). The correlation between mothers' and fathers' ratings was $r = .52$; due to this substantial overlap, combined parental ratings were used when both parents' reports were available.

Parental Anger. The measure of parental anger was taken from the Emotionality, Activity, and Sociability (EAS) Temperament Survey (Buss & Plomin, 1984). This self-report measure lists a number of characteristics that are rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The emotional anger subscale consists of 5 items ($\alpha = .63$) including "There are many things that annoy me." and "I yell and scream more than most people my age."

Child Difficulty. The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) asks parents to indicate how true different statements of behaviors are about their child within the last 6 months, using a 3-point scale ranging from *not true* (1) through *sometimes true* (2) to *certainly true* (3). The total difficulties (adjustment) scale is formed by items measuring 4 scales: hyperactivity (5 items: e.g., "restless, overactive, cannot stay still for long"); emotional symptoms (5 items: e.g., "many worries, often seems worried"); conduct problems (5 items: e.g., "often fights with other children or bullies them"), and peer problems (5 items e.g., "rather solitary, tends to play alone"). The SDQ is highly correlated with the Child Behavior Checklist (CBCL; Achenbach, 1991; e.g., .76 for total difficulties; Smedje, Broman, Hetta, & Von Knorring, 1999) and has demonstrated test–retest correlations of .85 for the total difficulties scale (Goodman, 1999). In the present study, Cronbach's alphas ranged from .76 to .82 for the SDQ subscales. The correlations between mothers' and fathers' ratings were .63 for younger children and .68 for older children. As such, mothers' and fathers' reports were combined to produce a joint total difficulties rating when both parents' reports were available.

Parents also completed the Emotionality, Activity, and Sociability (EAS) Temperament Survey (Buss & Plomin, 1984) about their two children. The 20-item scale assesses four aspects of temperament (emotionality, activity, sociability, and shyness), of which Emotionality was used in the current study as a further measure of child difficulty. Items are rated on a 5-point scale where 1 equals *not characteristic of my child* and 5 equals *very characteristic or typical of my child*. Items from the emotionality subscale include "child cries easily" and "child tends to be somewhat emotional." Internal reliability estimates were excellent ($\alpha = .85$ for both mothers and fathers). The correlations between mothers' and fathers' ratings were .51 for younger siblings and .54 for older siblings; mothers' and fathers' reports were combined to produce a joint emotionality rating.

The joint parental measures of SDQ total problems and emotionality were highly correlated as expected ($r = .60$ and $r = .61$ for older and younger siblings, respectively). Thus, to further reduce the data and to produce a more robust single indicator, a composite child difficulty score was created by averaging standardized scores of the two constructs.

Analytic Strategy

To reveal the complex nature of the predictors of parenting, MLM analyses were conducted. MLM accounts for nested data structures, such as individuals within schools, or, as in our case, children within families. Nested data are non-independent and, therefore, require specialized analyses. MLM provides the advantage that child-level data as well as family-level data can be analyzed in one model. As described by Jenkins et al. (2009), applying MLM to family data yields fixed effects (similar to regression coefficients in traditional regression analyses) and random effects, which represent the child- and dyad-level variance estimates. Thus, multi-level regression analyses not only reveal the prediction of change in one variable by another, they also provide information about whether this prediction explains sibling differences or similarities.

Before conducting the main analysis, family-wide and child-specific parenting variables for Time 1 were created. To create the family-wide parenting indicators we calculated family averages, and to create child-specific indicators discrepancies from the family average were taken (Jenkins et al., 2009). For example, in a particular family a father might receive a score of 8 for warmth/enjoyment from the older child and a score of 4 from the younger child. The family-wide paternal warmth/enjoyment score would then be 6 for *both* the older and younger sibling. The child-specific paternal warmth/enjoyment score for the older sibling would then be 8–6 = 2, whereas for the younger sibling it would be 4–6 = –2. The child-specific parenting variables, therefore, capture the amount and direction of differential treatment.

Initial baseline models (Model 1) for the four T2 parenting indices were computed to identify the degree of similarity and difference between siblings. This is achieved by dividing the variance in each parenting measure into its between- and within-family components. The between-family component captures the degree to which parenting toward both siblings within a family is similar, and differentiated from children in other families. In contrast, the within-family component captures the degree of PDT (Jenkins et al., 2009). Intraclass correlations (ICC) indicate the degree of family clustering in a measure (in the present case, the similarity of parenting toward two children in the same family), and were computed by dividing between-family variance by the total variance.

Following the baseline models, the authors estimated two-level models to assess the stability of children's perceptions of parenting over time. As previously described, two measures of parenting were entered into each model, one indexing family-wide parenting, and a second reflecting child-specific deviations from this family average. These predictors function to statistically explain variance. For example, if the family average of maternal warmth (T1) were an important predictor of maternal warmth (T2), this would indicate that stability in maternal warmth was due, at least in part, to stability in average levels of maternal warmth—a mother on the higher end of warmth at the first time point is likely to be on the higher end of warmth at the second time point. Conversely, if the child-specific maternal warmth score (T1) were an important predictor, this would indicate that mothers showing more warmth toward one child than the other are likely

to continue this differential treatment over time. For the remaining model (described below), these indicators of stability are retained such that predictors of parenting were assessed once stability in parenting had been accounted for.

Model 3 includes the child-specific level predictor of child difficulty as well as the family-wide level predictors of parental anger and household chaos. This model assessed the total variance explained as well as the statistical independence of each predictor.

RESULTS

Preliminary Analysis

Descriptive statistics of all study variables are presented in Table 1. No significant mean differences emerged between older and younger siblings. The authors also checked the potential confounding factor of socioeconomic status (SES). Correlations calculated between maternal and paternal education and occupation with our outcome variables (child reports of parenting at Time 2) yielded no significant correlations. Similarly, no gender differences emerged. Thus, neither SES nor gender was considered in further analysis. Next, correlations among all study variables were calculated (Table 2). The correlations along the diagonal are the sibling correlations indicating the degree of sibling similarity for each variable. For the children's puppet reports of parenting at Wave 1, no similarity emerged for the maternal scales, but the paternal scales yielded moderate sibling similarity (.17–.29). Child difficulty between siblings was also moderately correlated (.37), and of course the family-wide predictors were identical

TABLE 1
Descriptive Statistics of Study Measures

	Older Sibling		Younger Sibling	
	M	SD	M	SD
Time 1				
BPI Maternal warmth	5.57	.75	5.41	.81
BPI Maternal hostility	3.58	1.17	3.30	1.06
BPI Paternal warmth	5.64	.80	5.39	.85
BPI Paternal hostility	3.53	1.14	3.66	1.05
Child difficult	−.00	.89	.00	.89
Time 2				
NRI Maternal warmth	3.78	.56	3.86	.56
NRI Maternal hostility	2.67	.66	2.51	.76
NRI Paternal warmth	3.42	.60	3.57	.58
NRI Paternal hostility	2.38	.72	2.43	.85
	M		SD	
Time 1				
Maternal anger	2.78		.71	
Paternal anger	2.55		.70	
Household chaos	2.42		.54	

Note. BPI = Berkeley Puppet Interview; NRI = Network of Relationships Inventory.

TABLE 2
Correlations Among All Study Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. BPI Maternal warmth	.12	−.40**	.31**	−.23*	−.10	−.09	−.03	−.18*	.21*	−.32**	.17	−.13
2. BPI Maternal hostility	−.20*	.03	−.25*	.67**	.16	.20*	−.04	.13	−.21*	.27**	−.15	.23*
3. BPI Paternal warmth	.47**	−.17	.29**	−.49**	−.06	.00	.16	−.26**	.20	−.02	.19	−.26*
4. BPI Paternal hostility	−.10	.62**	−.29**	.17	.15	.02	−.05	.18	−.24*	.10	−.22	.25
5. Child difficult	−.19*	.08	−.04	.07	.37**	.19*	.18	.38**	−.08	.13	−.12	.02
6. Maternal anger	−.21*	.10	.04	.08	.36**	1.00	−.06	.38**	−.12	.26**	−.11	.16
7. Paternal anger	−.01	−.07	.16	.01	−.07	−.06	1.00	.03	.03	−.12	−.11	.08
8. Household chaos	−.21*	.08	−.16	.16	.27**	.38**	.03	1.00	−.20	.14	−.12	.27**
9. NRI Maternal warmth	.26*	−.06	.01	−.04	−.02	−.06	−.13	−.12	.37**	−.25**	.67**	−.32**
10. NRI Maternal hostility	−.29**	.17	−.11	.14	.06	.23*	−.03	.14	−.11	.31**	−.22*	.36**
11. NRI Paternal warmth	.13	−.10	.11	.02	−.10	−.03	−.12	−.07	.61**	.01	.24*	−.47**
12. NRI Paternal hostility	−.27*	.21	−.28*	.04	.06	.19	.04	.19	−.10	.65**	−.20	.22*

Note. Correlations for older siblings are included above the diagonal, and those for younger siblings below the diagonal. Sibling similarity (correlations between older and younger siblings) are depicted along the diagonal.

$*p < .05; **p < .01$.

for both siblings. The children's perceptions of parenting at Time 2 were also moderately correlated (.22–.37). Correlations among the predictor variables were negligible to moderate in magnitude (up to $r = .49$), with the exception of cross-parent correlations for T1 warmth and hostility. As maternal and paternal parenting were modeled separately, this indicated that multi-collinearity was not a major concern. Associations also indicated modest-to-moderate stability in parenting over time. Finally, modest-to-moderate associations emerged between maternal anger and household chaos at Time 1 and parenting at Time 2.

Between- Versus Within-Family Variance in Child Perceptions of Parenting

For each measure of parenting, Model 1 (Tables 3–6) provides estimates of between- and within-family variance. From these variance estimates, the intraclass correlation (ICC), an estimate of sibling similarity, can be calculated by dividing between-family variance by the total variance. For maternal warmth, the ICC was .36 (.111 / [.197 + .111]), indicating that 36% of the variance resides between families and 64% within families. For maternal hostility, the ICC was .29 (.145 / [.145 + .362]), indicating that 29% of the variance resides between families and 71% within families. For paternal warmth, the ICC was .22 (.077 / [.269 + .077]); similarly, for paternal hostility the ICC was .21 (.132 / [.482 + .132]). Thus, in all cases, a moderate amount of sibling similarity in perceptions of parenting was evident, but most of the individual differences in parenting existed within families, indicating a substantial amount of child-specific, or perceived differential, parenting.

Stability in Child Perceptions of Parenting

The second set of models provided estimates of longitudinal stability in children's perceptions of parenting, and whether this stability was due to between-family or

TABLE 3
Fixed and Random Effects for Models Predicting Time 2 Maternal Warmth

Parameter	Model 1	Model 2	Model 3	Effect size
		Fixed effects		
Intercept	3.815***	2.441***	2.937***	
	(.044)	(.409)	(.572)	
Within-family level				
Time 1 Differential maternal warmth		.049 (.057)	.006 (.059)	.007
Child difficult			−.044 (.048)	.067
Between-family level				
Time 1 Shared maternal warmth		.247** (.074)	.210** (.079)	.193
Parental anger			−.033 (.067)	.036
Household chaos			−.082 (.109)	.055
		Random effects		
Within-family	.197***	.191***	.180***	
Between-family	.111****	.094**	.098**	
RMSEA	.000	.000	.000	
AIC	343.020	299.157	289.533	
Chi-square	.000 (0)	11.141 (2)	11.988 (5)	
	$p = .0000$	$p = .0038$	$p = .0350$	

Note. ICC = .134.
Model 1 is the baseline model. Effect sizes are calculated for Model 3 only.
$^*p < .05$; $^{**}p < .01$; $^{***}p < .001$.

TABLE 4
Fixed and Random Effects for Models Predicting Time 2 Maternal Hostility

Parameter	Model 1	Model 2	Model 3	Effect size
		Fixed effects		
Intercept	2.590***	1.752***	1.058**	
	(.055)	(.253)	(.382)	
Within-family level				
Time 1 Differential maternal hostility		.040(.056)	.024(.057)	.031
Child Difficult			.033(.062)	.039
Between-family level				
Time 1 Shared maternal hostility		.246***(.070)	.222**(.069)	.234
Parental anger			.208*(.084)	.180
Household chaos			.080(.130)	.045
		Random effects		
Within-family	.362***	.356***	.336***	
Between-family	.145**	.125*	.119*	
AIC	454.483	395.887	378.974	
Chi-square	.000(0)	12.013(2)	21.179(5)	
	$p = .0000$	$p = .0025$	$p = .0007$	

Note. ICC = .385.
Model 1 is the baseline model. Effect sizes are calculated for Model 3 only.
$^*p < .05$; $^{**}p < .01$; $^{***}p < .001$.

TABLE 5
Fixed and Random Effects for Models Predicting Time 2 Paternal Warmth

Parameter	Model 1	Model 2	Model 3	Effect size
		Fixed effects		
Intercept	3.492***	3.022***	3.368***	
	(.047)	(.387)	(.558)	
Within-family level				
Time 1 Differential paternal warmth		.063(.077)	.047(.075)	.052
Child difficult			−.111(.063)	.147
Between-family level				
Time 1 Shared paternal warmth		.092(.070)	.097(.072)	.112
Parental anger			−.099(.070)	.118
Household chaos			−.049(.132)	.031
		Random effects		
Within-family	.269***	.221***	.200***	
Between-family	.077*	.071*	.071*	
RMSEA	.000	.000	.000	
AIC	347.501	237.253	218.426	
Chi-square	.001(0)	2.375(2)	8.837(5)	
	$p = .0000$	$p = .3049$	$p = .1157$	

Note. ICC: .225.
Model 1 is the baseline model. Effect sizes are calculated for Model 3 only.
*$p < .05$; **$p < .01$; ***$p < .001$.

TABLE 6
Fixed and Random Effects for Models Predicting Time 2 Paternal Hostility

Parameter	Model 1	Model 2	Model 3	Effect size
		Fixed effects		
Intercept	2.404***	2.131***	1.240*	
	(.062)	(.299)	(.569)	
Within-family level				
Time 1 Differential paternal hostility		.090 (.088)	.052 (.094)	.046
Child difficult			.045 (.090)	.042
Between-family level				
Time 1 Shared paternal hostility		.091 (.080)	.052 (.083)	.052
Parental anger			.061 (.095)	.054
Household chaos			.372* (.184)	.168
		Random effects		
Within-family	.482***	.452***	.459***	
Between-family	.132*	.110	.095	
RMSEA	.000	.000	.000	
AIC	459.547	328.581	312.994	
Chi-square	.001 (0)	2.321 (2)	7.575 (5)	
	$p = .0000$	$p = .3133$	$p = .1813$	

Note. ICC = .217.
Model 1 is the baseline model. Effect sizes are calculated for Model 3 only.
*$p < .05$; **$p < .01$; ***$p < .001$.

within-family stability. Significant stabilities were detected for maternal warmth and hostility. Notably, it was the family-wide (family average) indicator of maternal negativity at T1 that was responsible for the stability, not the child-specific predictor.

Prediction of Parenting From Child Difficulty, Parental Anger, and Household Chaos

In the case of both maternal and paternal warmth, neither child difficulty, parental anger, nor household chaos predicted parenting 4–5 years later. Maternal hostility, however, was predicted by maternal anger (effect size = .180). In contrast, paternal hostility was predicted by household chaos (effect size = .168).

DISCUSSION

As far as the authors are aware, this is the first study to identify family-wide and child-specific family predictors of child perceptions of both fathering and mothering over time. Using a cross-rater design, and controlling for perceptions of parenting at the first time point, it was found that for mothers, parental anger predicted maternal hostility. For fathers, it was revealed that household chaos predicted hostility. Before considering these key findings and their implications, the authors discuss within- versus between-family variance in parenting and stability over time.

Parenting Over Time

Children were tracked over a 4- to 5-year period from middle childhood to the threshold of adolescence. Simple stability correlations indicated a moderate degree of stability in child perceptions of parenting. The authors did not hypothesize about the size of this stability because the current study is the first longitudinal report using child perceptions of parenting from such young children. Older children's perceptions tend to be somewhat more stable (Reiss et al., 2000). Stability in the current study may be lower because of the large normative developmental shifts seen between the early school years and the threshold of adolescence—both in terms of cognitive development and children's changing social worlds (Steinberg & Morris, 2001). In addition, children's perceptions were assessed using different questions and different methods (developmentally appropriate measures) at the two time points, thereby attenuating stability estimates.

The use of MLM revealed significant stability for maternal parenting only; family-wide maternal parenting from the first time-point predicted maternal parenting (both hostility and warmth) at the second time-point. As expected, children within families agreed only moderately about their mothers' and fathers' parenting (Turkheimer & Waldron, 2000). In other words, a moderate amount of the variance in parenting resided between families, but a substantial amount was found within families. Nevertheless, the stability in parenting was due to family-wide or average levels of maternal parenting found in families (sometimes referred to as ambient parenting; Jenkins et al., 2009). The current use of MLM thus confirms that PDT is alive and well, especially in the perceptions of children. These within-family differences, however, showed no stability over time. It is probably the case that differential parental treatment is affected by transient, concurrent environmental factors (Jenkins et al., 2003). The average level of

parenting (or at least mothering) in families, however, may show stability due to stability in parents' genes, attitudes, and personality as well as stability in advantageous or disadvantageous family circumstances.

Mothers Versus Fathers

Mothering and fathering appear to have quite distinct antecedents. In particular, the authors found prediction from household chaos in the case of paternal hostility. Thus, the pattern of results suggests that fathers' behavior toward their children was more reactive to external factors than was mothers. This may be because the role of fathers is less scripted than that of mothers and more open to the influences of external scaffolding (Lamb, 2010).

Mothers' parenting (at least in the case of hostility) was more strongly linked to their proneness to emotional anger. This finding is in line with a substantial body of research (e.g., Atzaba-Poria et al., 2014; Clark, Kochanska, & Ready, 2000; Spinath & O'Connor, 2003) and is a useful reminder to practitioners that mothers who struggle to manage their emotions are also likely to struggle to form rewarding relationships with their children. As mothers continue to be more involved in childrearing (as measured in terms of time spent present with children as well as actively engaged with children) than are fathers (Lamb, 2010), they shoulder more responsibility for childcare tasks (e.g., taking children to and from school, keeping dentist appointments). The fact that the parenting role is central to mothers' lives clarifies the reason why mothers' personal resources were closely tied to the relationships mothers have with their children. Fathers' more limited time with their children may lead them to be more affected by the environmental features of the home setting (Henderson, Hetherington, Mekos, & Reiss, 1996).

The findings raise interesting questions about gender roles in family life. Whereas fathers' relationships with their children were dependent on a well-ordered home, it appears that mothers were important in shaping that home. The authors draw this as the most sensible conclusion given that households do not organize themselves—people, and primarily adults, are responsible for homes being calm and organized rather than chaotic in character. Previous research suggests that mothers can play a "gate-keeping" role and may exercise some influence on how fathers get on with their children (Gaunt, 2008). The current results shed additional light on this issue. It was argued that mothers influence the family climate, and this climate can foster good quality relationships between fathers and their children.

It is worth bearing in mind, however, that the vast majority of mothers in the sample were the primary caregivers, and spent more time in the home than did their partners. This was the case for both the two-parent and single-mother families (no significant differences emerged between these groups in terms of whether or not mothers worked outside the home, nor whether that work was part- or full-time). Thus, for the current study families, mothers were the adults in the home with the greatest opportunity to influence family life; the authors would be reluctant to generalize these findings to all families. In addition, it should be noted that these differences in the pattern of prediction between mothers and fathers were not formally tested, and require replication.

Limitations and Future Directions

Only two children were considered within a limited age range in each family. Some families, however, had three or more children. This added complexity is easily handled

with the use of MLM as is the inclusion of singleton families. Future research can thus capture the complexities of all sizes of families. Although the current sample included working- and middle-class families, the population from which the sample was drawn is primarily Caucasian. As Britain has become a multi-cultural society with a diversity of ethnic minority groups (Modood, 1997), it is important to replicate this study with ethnically diverse samples. Future research including ethnic minority groups and families across different cultures has the potential to increase the generalizability of current findings or to uncover cultural variations reflecting differing family processes (see Atzaba-Poria & Pike, 2008; McHale, Updegraff, Shanahan, Crouter, & Killoren, 2005). Although an advantage of the current study is the use of child perceptions of parenting and the avoidance of shared method variance, it did not include observational measurements of parenting. A future study involving parent–child interactions could reveal interesting facets depending on whether parenting is objectively or subjectively measured.

IMPLICATIONS

As could be expected from family systems theory (see Hinde, 1992) and research (e.g., Luster & Okagaki, 2006), the present findings demonstrated that relationships between individuals in the family are part of a larger system. The family system is affected by contextual factors as well as individual characteristics of family members. The current findings suggest that children are equally as likely as parents to reap the benefits of services or interventions directed toward enhancing maternal well-being. The different type of stressors associated with mothering versus fathering can also inform the development of future intervention programs.

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