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Mother's and Father's Reports on Their Child's Temperament: Does Gender Matter?

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Abstract

Temperament ratings were obtained from 56 pairs of parents throughout the child's first year to examine similarities and discrepancies in their report. Age, gender, stress, depression, and mother's temperament were considered as factors possibly contributing to differences in the parents' ratings of their child's temperament.

Parent-report measures of temperament have been widely used for research and clinical purposes, yet few studies have examined concordance between mother's and father's ratings. Mother's report of children's temperament has become widely utilized because this approach is cost effective and easily accessible. Mothers typically represent the primary caregivers, spending more time with the child than the father, contributing to the investigators' reliance on them as a primary source of information about children's behavior and development. This reliance has been further supported by evidence indicating adequate validity of mother-report instruments. For example, previous research has shown father and observer reports of temperament account for more variance in the mother's report than the mother's traits (Bates & Bayles, 1984; Parade & Leerkes, 2008). However, discrepancies between mother-report and other sources of information become more notable under high levels of maternal stress, and when the offspring is male (Gill & Link, 2000); given more prominent depressive symptoms (Forman et al., 2003; Leerkes & Crockenberg, 2003), or reports of high levels of negative emotionality (Gartstein & Marmion, 2008). It has been suggested that mothers who report being depressed are more prone to rate their child as difficult, compared to mothers not identifying significant depressive symptoms, because depressed mothers have difficulty interpreting their babies' cries (Donovan, Leavitt, & Walsh, 1998; Schuetze & Zeskind, 2001). Depressed parents may be preoccupied with their own feelings and fail to interpret their infant's behavior correctly, or may feel more depressed when exposed to infant's cries and choose to ignore the distress (Parade & Leerkes, 2008). Fathers with depressive symptoms were more likely to rate their children as fussy or difficult (Atella, DiPietro, Smith, & St. James-Roberts, 2003; Dave, Nazareth, Sherr, & Senior, 2005), so this effect may not be limited to primary caregivers. Overall,

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multiple factors appear to play a role in the convergence between mother's reports and those of other informants.

Gender differences in behavior/development have been documented in prior research, with mothers indicating their sons exhibit more frustration relative to daughters, even when no notable difference in emotionality were recorded by independent observers (Diener & Bradshaw, 2002; Polak, Henderson, & Fox, 2002). Cultural expectations for men to express more anger than women may explain, in part, why sons are typically rated higher on anger than daughters (e.g., Plant, Hyde, Keitner, & Devine, 2000). Gill and Link (2000) showed that there was greater agreement between mothers' and observers' ratings of frustration for girls than boys, suggesting that parents were more likely to overrate their sons on anger. On the other hand, it could be argued in the American society showing fear is more acceptable for females than males, which could result in parents underrating fear for boys (Brody & Carter, 1982). Fathers may be more likely to demonstrate gender bias, resulting in a discrepancies with maternal ratings of child behavior (Parade & Leerkes, 2008), given that fathers were shown to engage their children in more gender stereotyped behaviors (Antill, 1987; Siegal, 1987).

The primary goal of this study was to evaluate mother's and father's agreement concerning their child's temperament characteristics, including broad/overarching factors (i.e., Positive Emotionality/Surgency, Negative Emotionality, Regulatory Capacity/Orienting), and their fine-grained components, throughout the child's first year of life (at four, six, eight, ten, and twelve months of age). Using a longitudinal design allowed us to evaluate possible developmental influences on the concordance between mother's and father's ratings for the same group of children, without concerns regarding cohort effects relevant to cross-sectional investigations. Predictors of agreement/discrepancies were selected from instruments addressing maternal parenting stress and temperament respectively (described in the measurement section), completed along with infant temperament ratings. These factors were deemed relevant because of prior research linking parenting stress (Whiffen, 1990) and maternal temperament (Gartstein & Marmoin, 2008) to measurement convergence, with respect to child temperament. Child gender was also evaluated as a moderator of concordance between parents' ratings of their child's temperament. That is, we examined whether fathers agreed with mothers more concerning certain attributes depending on the gender of the child. We hypothesized that the parents would agree on the majority of temperament attributes, and that any disparities between ratings would be consistent with prior research. For example, lower levels of agreement (i.e., non-significant indicators of association) have been reported for the fine-grained scales of soothability and duration of orienting (Gartstein & Rothbart, 2003), with the researchers speculating caregivers likely differed in their abilities to soothe the infant and prolong his/her orienting reactions. Furthermore, we expected that significant differences between mothers' and fathers' reports would be explained by maternal characteristics (i.e. stress in the parental role and temperament). We anticipated that mothers reporting more negative emotionality and/or those experiencing higher stress levels would provide lower positive affectivity and regulatory capacity/orienting, along with higher negative emotionality ratings for their infant, relative to the fathers, resulting in a disparity between the parents' infant temperament scores. Few a-priori hypotheses could be formulated with respect to gender as

a moderator of agreement; however, reliance on gender stereo-types in the ratings may lead parents to agree more concerning gender-congruent attributes (e.g., activity level for boys, fear for girls; Gartstein & Rothbart, 2003). Our evaluation of consistency in the associations between mother and father-report indicators at different child ages is largely exploratory, due to the lack of prior research.

Maternal and paternal temperament ratings of 56 infants were obtained at 4, 6, 8, 10, and 12 months of age using the Infant Behavior Questionnaire-Revised (IBQ-R; Gartstein & Rothbart, 2003). This parent-report instrument has been factor analyzed to yield three broadband factors: Positive Affectivity/Surgency; Negative Emotionality, and Regulatory Capacity/Orienting, with satisfactory psychometric properties (e.g., Gartstein & Rothbart, 2003; Parade & Leerkes, 2008). Mothers completed ratings of their own temperament, via the Adult Temperament Questionnaire (ATQ; Rothbart, Ahadi, & Evans, 2000), and responded to the Parent Stress Inventory (PSI; Abidin, 1995), both psychometrically adequate instruments, when infants were 4 months of age. The ATQ broad-band temperament factors include Positive Affectivity/Extraversion, Neuroticism, Effortful Control, and Orienting Sensitivity, whereas the PSI consists of multiple scales, four most relevant of which and included in this study: Attachment to the Child, Role Restriction, Depression, and Relationship with Spouse. Both the ATQ and the PSI have been shown as reliable and valid indicators of their respective constructs.

Simple correlations between mothers' and fathers' responses were computed first, with the parents' responses demonstrating significant associations across the first year of the child's life. However, there were some notable exceptions: soothability at 6 months of age; duration or orienting, soothability and regulatory control at 8 months of age; cuddliness, perceptual sensitivity and sadness at 10 months of age; soothability, perceptual sensitivity and sadness at 12 months of age¹. Multiple regression equations were examined next, wherein ATQ and PSI scores served as predictors of maternal temperament ratings for their children, after accounting for the fathers' ratings. There were a number of significant effects for the PSI and ATQ indices (Table 1). At 4 months and 6 months, stress due to parental role restriction predicted mothers' ratings of infant surgency/positive affectivity. Parental role restriction and marital relationship stress indicators emerged as significant predictors of mothers' ratings of infant regulatory capacity. Stress due to mother-infant attachment and marital relationship were also significant predictors of mothers' ratings of infant regulatory capacity at 10 months. Mothers' own extraversion predicted maternal ratings of infant surgency/positive affectivity At 4 and 10 months of age. Maternal orienting sensitivity also emerged as a significant predictor of mothers' ratings of infant regulatory capacity/orienting at 4 months. Finally, interaction terms were computed to capture gender moderation effects and included in multiple regression equations (Table 2). At 8 months, evidence of gender moderation was observed for cuddliness, and at 12 months, for parental agreement concerning soothability. Follow-up multiple regression analyses, conducted separately for boys and girls, indicated that fathers' scores for cuddliness and soothability emerged as significant predictors of maternal ratings for male (cuddliness: $\beta = .69$, $t = 4.30$, $p < .01$;

¹Complete results available from second author upon request.

soothability: $\beta = -.41$, $t = -2.06$, $p < .05$), but not female infants (cuddliness: $\beta = .18$, $t = .73$, NS; soothability: $\beta = .26$, $t = 1.10$, NS).

The purpose of this study was to evaluate the similarities between how a mother and father view their child's temperament, and to identify factors accounting for discrepancies between parental reports of temperament. Consistent with our hypotheses, we found that mothers and fathers were largely in agreement concerning their infants' temperament attributes across the first year of life, with notable exceptions (e.g., rating of soothability at 6, 8, and 12 months of age). In addition, a number of domains of parenting stress and maternal temperament accounted for discrepancies between fathers' and mothers' ratings of child temperament. That is, maternal role restriction, stress due to marital relationship and mother-child attachment indicators predicted mothers' ratings of infant temperament, after accounting for the contribution of paternal temperament ratings. Mother's orienting and extraversion also emerged as significant predictors, accounting for variance in infant temperament ratings after father's infant temperament scores have been taken into account. Notably, maternal parenting stress factors did not predict agreement/discrepancies with respect to father's infant temperament ratings in the same manner. Specifically, the indicator of the overall quality of the marital relationship inflated the difference between the paternal and maternal temperament reports. Conversely, parental role restriction and the mother's attachment to the child scores were associated with greater agreement (i.e., discrepancies of a lesser magnitude). Perhaps the challenges experienced by the primary caregiver in the parental role are largely shared by the parents, and thus lead to greater concordance in child temperament ratings, whereas stress related to the marital relationship inflates disagreement because it inadvertently leads to fewer shared experiences with the child. With respect to maternal temperament, effects were consistent in that higher levels of mothers' attributes were linked with over-estimates of the parallel domain of temperament for the infant (i.e., positive emotionality or regulatory capacity, respectively), relative to father-report of the same trait. Parental stress effects varied depending on the specific domain, so that higher levels of role restriction translated into higher ratings of infant positive affectivity and regulatory capacity, relative to father-report. Higher marital relationship quality was associated with mothers' overratings of infant regulatory capacity, compared to fathers' scores. Lower levels of the mothers' attachment to the child were predictive of higher levels of infant regulatory capacity based on mothers' ratings, relative to father-report. It appears that mothers may attempt to "compensate", reporting higher levels of desirable temperament attributes when noting stress in the relationship with the child. At the same time, greater satisfaction with one's partner may lead to a more positive view of infants' regulatory abilities. The predictive contribution of paternal report was moderated by gender, with fathers underreporting cuddliness and soothability for girls at 8 and 12 months, respectively, compared to mothers' ratings. Alternatively, cuddliness and soothability of girls, but not boys, may differ with respect to the two caregivers, depending in part of their interactions with the infant. That is, mothers may be fostering more cuddliness and soothability in daughters, relative to fathers.

Several limitations to this work should be noted starting with our reliance on parental report and a relatively small sample size, which likely limited the statistical power, especially with the respect moderation effects. In addition, our gender moderation analyses should also be

considered exploratory and variables not addressed in this study (e.g., symptoms of parental psychopathology) could be relevant contributors to discrepancies between parental reports of child temperament. Future research should address these limitations by including multi-method evaluations of the examined variables, larger sample sizes, and examining additional predictors of discrepancies. Additional research is also needed before definitive conclusions regarding the moderating effects of gender can be drawn. Finally, it may be of interest to consider examining within dyad changes in agreement/discrepancies, for example modeling growth in concordance of child temperament ratings provided by parents in the same family over time, in addition to the present evaluation focused on the developmental influences with respect to average discrepancies between parents.

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Highlights

- There was general consensus between parents on child's temperament with exceptions.
- Parenting stress and maternal temperament variables resulted in discrepancies.
- The predictive contribution of paternal report was moderated by gender.

Table 1
Hierarchical Regression Equations Predicting Mother-report of Infant Temperament: Maternal Parent Stress Inventory (PSI) and Adult Temperament Questionnaire (ATQ)

Variable	R	R ²	R ² change	F change	Beta
4 Month-Mothers' Surgency/Positive Affectivity Rating					
Block 1	.556	.309		25.099**	
4 Month-Fathers' Surgency/Positive Affectivity Rating					
Block 2	.656	.431	.121	2.764*	.556**
MPSI Attachment					-.035
MPSI Role Restriction					-.374**
MPSI Depression					.131
MPSI Relationship					.192
6 Month-Mothers' Surgency/Positive Affectivity Rating					
Block 1	.625	.390	.390	31.386**	
6 Month-Fathers' Surgency/Positive Affectivity Rating					
Block 2	.716	.512	.122	2.816*	.625**
MPSI Attachment					-.066
MPSI Role Restriction					-.304*
MPSI Depression					.203
MPSI Relationship					.221
8 Month-Mothers' Regulatory Control/Orienting Rating					
Block 1	.168	.028	.028	1.313	
8 Month-Fathers' Regulatory Control/Orienting Rating					
Block 2	.501	.251	.223	3.055*	.168
MPSI Attachment					.033
MPSI Role Restriction					-.363*
MPSI Depression					.001
MPSI Relationship					.426*

Variable	R	R ²	R ² change	F change	Beta
10 Month-Mothers' Regulatory Control/Orienting Rating					
Block 1	.593	.352		19.562**	
10 Month-Fathers' Regulatory Control/Orienting Rating					.593**
Block 2	.771	.594	.242	4.759**	
MPSI Attachment					-.346*
MPSI Role Restriction					-.222
MPSI Depression					.156
MPSI Relationship					.400**
4 Month-Mothers' Surgency/Positive Affectivity Rating					
Block 1	.506	.256	.256	23.068**	
4 Month-Fathers' Surgency/Positive Affectivity Rating					.506**
Block 2	.621	.386	.130	3.322*	
MATQ Positive Affectivity					.264*
MATQ Neuroticism					-.047
MATQ Effortful Control					.113
MATQ Orienting Sensitivity					.226
4 Month-Mothers' Regulatory Control/Orienting Rating					
Block 1	.406	.165	.165	12.859**	
4 Month-Fathers' Regulatory Control/Orienting Rating					.406**
Block 2	.605	.365	.200	4.815**	
MATQ Positive Affectivity					.211
MATQ Neuroticism					.007
MATQ Effortful Control					.154
MATQ Orienting Sensitivity					.345*
10 Month-Mothers' Surgency/Positive Affectivity Rating					
Block 1	.618	.382	.382	27.241**	
10 Month-Fathers' Surgency/Positive Affectivity Rating					.618**

Variable	R	R ²	R ² change	F change	Beta
Block 2	.770	.592	.210	5.144**	
MATQ Positive Affectivity					.368**
MATQ Neuroticism					.211
MATQ Effortful Control					.190
MATQ Orienting Sensitivity ²					-.103

* p<.0.05,
** p<.0.014

² All PSI and ATQ predictors were examined for the three over-arching temperament factors at each assessment time point (total of 15 regression equations for PSI and ATQ, respectively).

Table 2Hierarchical Regression Equation: Gender Moderating Parental Agreement³

Variable	R	R ²	R ² change	F change	Beta
8 Month-Mother's Cuddliness Rating					
Block 1	.547	.299		16.237**	
8 Month-Father's Cuddliness Rating					
Block 2	.660	.436	.086	5.505*	.547**
Child's Gender					2.557*
8 Month-Father's Cuddliness X Child's Gender					
					-2.460*
12 Month-Mother's Soothability Rating					
Block 1	.056	.003	.003	.124	
12 Month-Father's Soothability Rating					
Block 2					-.056
Child's Gender					-2.146*
12 Month-Father's Soothability Rating X Child's Gender					
					2.800*

* p<.005,

** p<.0014

³Analysis for gender moderation included all 14 subscales from the IBQ-R.