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Early—but modest—gender differences in focal aspects of childhood temperament

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Abstract

The best evidence for gender differences in child temperament is in the broad areas of effortful control and surgency, and to an extent negative affectivity, domains that encompass temperament dimensions of inhibitory control, activity level, and shyness. We examined the influence of child gender in a methodologically comprehensively assessed twin sample. We used mother, father, and Laboratory Temperament Assessment Battery (Lab-TAB) ratings to assess temperament in 3 year-olds. Boys had higher levels of activity level and lower levels of shyness and inhibitory control than girls across all methods of assessment. Then, more rigorous testing showed that patterns of mean gender differences for opposite-sex twin pairs in our sample were very consistent with overall sample gender differences and the magnitude of these gender differences was consistent across assessment methodology. We then asked: are these more gendered dimensions of temperament associated with one another, and are associations different across gender? The answer to both questions is, yes. Shyer children have lower activity level and higher inhibitory control are less active. Gender differences did appear in the intercorrelations between parent ratings of shyness and inhibitory control with only girls showing significant associations within and across these dimensions.

Introduction

Although male and female distributions overlap broadly on all measures of adolescent and adult personality, some mean differences between the sexes in expression of personality traits do exist (Del Giudice, Booth & Irwing, 2012; Feingold, 1994; Weisberg, DeYoung & Hirsh, 2011). Understanding the origins of gender differences in personality requires studying infants and toddlers. This study centers on the concept of temperament, defined as early-emerging behavioral differences that presage adult personality differences (Goldsmith

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et al., 1987). Generally, temperament refers to emotional aspects of personality (Goldsmith & Campos, 1982), although motor activity, attention, and self-regulation are also important to current conceptions. Links between early temperament traits and later personality have become an area of intense study. Specifically, researchers have begun examining developmental change in temperament and personality dimensions, focusing on the aspects of temperament and personality that influence important social and health outcomes (Caspi, Roberts, & Shiner, 2005).

Infant temperament shows few significant gender differences although some differences become apparent in toddlerhood and may increase later in development (Else-Quest, Hyde, Goldsmith, & Van Hulle, 2006). For example, boys tend to have higher activity level than girls and this pattern increases after infancy through childhood (Eaton & Enns, 1986). Girls are rated as higher in reactive fear than boys in infancy, and this gender difference is marginally significant in mediating associations between gender and emotional reactivity in adolescence (Charbonneau, Mezulis, & Hyde, 2009). A comprehensive meta-analysis of gender differences in three broad factors of temperament (effortful control, negative affectivity and surgency) surveyed articles that sampled children from the ages of 3 months to 13 years (Else-Quest et al., 2006). Factor-level results indicate that girls had higher effortful control (including inhibitory control dimensions) and lower surgency (including activity level dimensions) than boys, but negligible gender differences on negative affect. However, fear dimensions under negative affectivity and shyness dimensions under surgency did show significant gender differences, with girls scoring higher.

Another review of the literature provides support for gender differences in effortful control, activity level, and fear from infancy through middle childhood (Zahn-Waxler, Shirtcliff, & Marceau, 2008), further supporting the proposition that females are more fearful, have lower motor activity, and show better self-regulation than boys across infancy to early adolescence. However, few of the studies have examined gender differences in father and observer ratings of temperament. Additionally, at least one study indicated that the development of links between early temperament and later psychopathology can differ as a function of gender (Pitzer, Esser, Schmidt, & Laucht, 2009). Low temperamental regulation (i.e., effortful control) in infancy and toddlerhood was significantly associated with the externalizing behaviors of adolescent girls. Although boys showed a similar pattern in the association of early regulation with externalizing in middle childhood and pre-adolescence, that association did not extend to adolescence in boys (Pitzer et al., 2009).

Investigations that examine multiple methods of assessing temperament (i.e. observer- and parent-ratings) in the context of gender differences would benefit psychopathology and personality research. Although comprehensive multi-method studies of temperament and gender are rare, at least one recent investigation used parent and lab-ratings across three independent samples of children between 36 and 83 months of age (Olino, Durbin, Klein, Hayden & Dyson, in press). Females had higher positive affect and fear, and lower activity level than boys across mother, father and observer ratings; higher sociability and lower negative emotionality (NE), sadness, anger and impulsivity on observer ratings; higher NE and sadness on maternal reports; and lower sociability on paternal reports (Olino et al., in

press). Therefore, for some domains of temperament, gender differences were expressed in opposing directions depending on the temperament assessment methodology.

Fewer sex differences occur in infancy and significant differences begin to appear in toddlerhood and become more apparent in school age (Else-Quest et al., 2006; Martin, Wisenbaker, Baker & Huttunen, 1997; Olino et al., in press). Therefore, an important period occurs between toddlerhood and preschool when gender differences begin to emerge. Although Else-Quest et al. (2006) included both questionnaire and lab-based assessments of temperament in their meta-analysis, parent ratings of temperament were predominant. Inherent in parent ratings are various biases, including the tendencies to employ gender stereotypes when rating to hold females and males to different standards for particular dimensions of temperament (Else-Quest et al., 2006). Different patterns of gender differences may be apparent when assessments do not depend on parental perspectives, as evidenced by the Olino et al. (in press) study. In addition to mean differences, links among these temperament dimensions (by gender) should be explored. Domains of temperament (i.e., fear, activity level, inhibitory control) may show different patterns of association depending on the gender of the child and the status of the rater (parent vs. observer; mother vs. father).

Research Questions

Although gender differences in temperament and phenotypic relations between shyness, motor activity and inhibitory control in early childhood remain relatively unexplored in comprehensive investigations, this is an important age to consider within a multi-method context. Stranger fear intensifies in the second half of the first year and typically begins to dissipate after the second year (Sroufe, 1995). Inhibitory control emerges in the second and third years (Kochanska, Murray, Jacques, Koenig & Vandegeest, 1997). Therefore, toddler and preschool assessments can clarify the earliest developments in this phenotype in boys and girls. Activity level tends to show patterns of developmental change in early childhood (e.g., Saudino & Eaton, 1995). We examined mean gender differences, gender differences within opposite-sex twin pairs (where family background is controlled), and gender differences in associations among shyness, activity level, and inhibitory control. We expected to demonstrate the gender differences in temperament observed at older ages at 36 months with laboratory-based measures and from the perspectives of both parents. We also expected to find phenotypic associations such that lower shyness, higher activity level, and lower inhibitory control would be correlated, without specific hypotheses about gender differences in these intercorrelations.

Method

Participants

714 twins (357 pairs) were assessed at 36 months of age (M = 157.67 weeks, SD = 3.49). Twins were recruited through a variety of methods including state birth records, mothers of twins clubs, television publicity, birth announcements in newspapers, doctors' offices, the Internet, and referrals from participants. The children were born between the fall of 1991 and January of 2004. Twin zygosity was assessed with the Zygosity Questionnaire for

Young Twins (Goldsmith, 1991), supplemented by in-person observation. This questionnaire alone yields greater than 95% agreement with typing of blood antigens (Forget-Dubois et al., 2003; Price et al., 2000), is practical, and inexpensive. In cases of uncertain zygosity, genotyping of a standard set of highly polymorphic markers established the diagnosis.

The sample was 50% female with approximately one-third MZ twins (38.2% same-sex DZ, 28.3% opposite-sex DZ). Families were 94.7% Caucasian, 2.5% African-American, 1.4% Asian-American, and 0.6% Native American (0.8% missing), and 2.2% of the participants classified themselves as Hispanic. State birth records indicate the percentage of Caucasian births in the recruitment county decreased from 85% in 1995 (these are the first public data available) to 76.6% in 2004, averaging about a one percent annual decrease. Assuming that this trend also held in 1991–1994, the average percentage of Caucasian births was around 85% for the years sampled. Recruitment from surrounding counties which typically had 98–99% Caucasian births during the same period, most likely increased the proportion of Caucasian twins in our sample to 94.7%. The average socioeconomic status of the twins was predominantly middle class according to the Hollingshead index (mean SES=48.01, *SD*=11.45) although socioeconomic status ranged considerably (from 12 to 66).

Procedure

Children participated in a laboratory visit consisting of episodes from the preschool version of the Laboratory Temperament Assessment Battery (Lab-TAB; Goldsmith, Reilly, Lemery, Longley, & Prescott, 1999). At this visit, parents received a questionnaire about each child's temperament and returned it within two weeks by mail. During administration of the Lab-TAB episodes, children's behavior was videotaped and later scored. For all of the behavioral scoring, reliability between coders and master coders (highly trained staff members) was maintained. Kappa values were required to be equal to or greater than .70. At least 10% of the cases were double coded by a master coder.

Parent Ratings of Temperament

Mothers and fathers rated child temperament with the *Children's Behavior Questionnaire* (CBQ; Rothbart, Ahadi, Hershey, & Fisher, 2001), a parent-report instrument that assesses temperament in children ages 3 to 7 years. We used the Shyness, Activity Level, and Inhibitory Control scales. Using a 7-point scale, parents decided whether or not each item was true or untrue (1 = extremely untrue, 7 = extremely true) of their child within the past six months (e.g., "Can lower his/her voice when asked to do so"). Published alpha coefficients for the 15 scales range from .67 to .94 (Rothbart et al., 2001). In our sample, internal consistency reliability for the CBQ scales ranged from .77 to .90.

Laboratory-based Measures of Temperament

Shyness—The Lab-TAB episode of Stranger Approach was designed to elicit individual differences in fear/shyness. During the episode, an unfamiliar male physically and verbally confronted the child (who was alone) in a non-threatening but not overly friendly manner for approximately 1 ½ minutes. The following variables were scored: vocal distress, activity

decrease, approach behaviors, avoidance behaviors, verbal hesitancy, gaze aversion, nervous fidgeting, latency to the child's first fear response, and overall facial sadness and facial fear.

Activity Level—The Corral of Balls episode provided a novel context for assessing motor activity. Each twin was placed in the middle of a corral enclosure made from sides of a plastic pool, filled with rubber playground balls. The children were left alone for 3 minutes to explore and play however they wished. In each segment the following variables were scored: number of balls manipulated, vigor of activity, play with co-twin, and presence in co-twin's corral.

Inhibitory Control—Snack Delay and Dinky Toys are two Lab-TAB episodes devised to measure inhibitory control. Children had to wait varying lengths of time (5, 10, 0, 20, 0, and 30 seconds) to eat an M&M under a clear plastic cup during the Snack Delay episode. A bell rung by the experimenter signaled that the child had permission to eat the M&M. The following variables were scored: fidgeting, distracting, number of child prompts, and touching or eating the M&M. The Dinky Toys episode gave children two opportunities to choose one toy from a clear plastic container filled with several attractive toys (i.e. small plastic animals, tops). For each of the two coding segments initial approach, style of touching, following directions, total impulsivity, and latencies to touch and choose the toys were scored.

Composite Variable Formation: Observational Ratings of Temperament

For each Lab-TAB episode, means, peaks, and latencies were computed across trials for all variables. Data were converted to z-scores to establish the same metric for each of the variables. To approximate a normal distribution, latency values were transformed to speed values by computing the inverse of the square root of latency. Principal component analyses were used to form all of the behavioral composites. Variables that were not theoretically grounded in the three temperament dimensions under study were eliminated (i.e., fidgeting for inhibitory control). The Stranger episode resulted in two composite scores (active fear and inhibited fear), which together accounted for 53.66% of the variance in the data. The Corral of Balls composite, which accounted for 62.63% of the variance, was formed using the number of balls manipulated and vigor of activity variables. A summary score was formed for the Dinky Toys episode using the child's initial approach to the stimuli, latency to choose a toy, style of touching, following directions, and a global rating of impulsivity (accounting for 50.84% of the variance). The Snack Delay summary score was formed using an algorithm of the latency to eat and touch the snack, the number of child prompts, and distract composite scores formed by PCA (together accounting for 79.91% of the variance). The Dinky Toys and Snack Delay summary scores were significantly correlated; therefore, an overall composite of observed inhibitory control was computed as the mean of these scores.

Data Imputation

The major focus of our study was the children who had completed the relevant Lab-TAB episodes at 36 months of age. Out of this subsample, there were 568 children with complete Lab-TAB, mother CBQ, and father CBQ data. Sixty-eight children were missing the father

CBQ, and 65 were missing the Stranger Approach episode of the Lab-TAB. Any remaining patterns of missing variables included less than 1% of the cases. We used Little's Missing Completely at Random Test (MCAR) to determine if the data in our subsample were missing at random. We failed to reject the hypothesis that the data is MCAR ($\chi^2 = 67.43$, *df* = 51, *p* = .06), despite the large sample size. Based on this finding and the relatively small amount of missing data, we imputed the missing values in our dataset using SPSS Missing Value Analysis expectation maximization (EM) algorithms (Dempster, Laird & Rubin, 1977). After data imputation, neither means nor standard deviations of any variables differed by as much as 0.10.

Statistical Approach

Descriptive statistics, tests of mean sex differences, and phenotypic correlational analyses were calculated for all variables. The inclusion of opposite-sex twins in our sample provides a unique opportunity to examine the magnitude of gender differences across temperament dimension and methodology. Within our opposite-sex twin subsample we calculated male-female difference scores for all 9 variables and then conducted repeated measures ANOVAs (RMAs) to test whether differences between boys and girls on each temperament dimension in our study differed significantly by methodology (mother vs. father vs. observer). The tests of mean sex differences and phenotypic correlations were corrected for the nested nature of twin data. Effect sizes of mean gender differences were also estimated as Cohen's d, which expresses group differences in standard deviation units.

Results

Mean Gender Differences in Focal Dimensions of Temperament

Males had significantly higher levels of activity and significantly lower levels of fear and inhibitory control than females (Table 1). Males and females differed by approximately 30–56% of a standard deviation on the parent and lab-based shyness, activity level, and inhibitory control variables, a pattern consistent with temperament literature based on older children. These findings used the entire sample (males and females from all MZ and DZ pairs).

Mean Gender Differences within Opposite-Sex Twin Pairs

Using only opposite-sex twin pairs allows a more highly controlled examination of gender differences. Males and females are exactly matched for age, family configuration, and socioeconomic variables. The same parents report on each individual in the questionnaire-based comparisons although the Lab-TAB measures are independently conducted. Despite the greater control in the comparisons, the mean gender differences between opposite-sex DZ twins (Table 2) was not attenuated from the general male versus female differences.

The Magnitude of Gender Differences within Opposite-Sex Twin Pairs

We conducted RMA analyses on the three male-female difference scores (male-female differences on mother, father and Lab-TAB ratings) for opposite-sex twins on each temperament dimension (shyness, AL, and IC). The results all show a pattern of non-

significance, which is consistent with the null hypothesis that the magnitude of gender differences for shyness, AL and IC does not differ across assessment methodologies.

Phenotypic Correlations among the Temperament Traits

Less shy 36 month-olds show higher motor activity and less inhibitory control, and children with lower inhibitory control are more active according to mothers, fathers, and Lab-TAB coders (Table 3). As expected, associations were stronger within than across assessment modalities, and parents agreed about each facet of temperament (correlations in the .50s and .60s) more than they agreed with Lab-TAB measures. Against this background of the full sample findings, we ask if any of these intercorrelations appear to differ across gender.

Instances of no significant or notable gender differences emerge readily from Table 3. First, intercorrelations among the Lab-TAB variables appear fairly consistent for boys and girls. Second, any cross-trait correlations involving CBQ activity level scales are very consistent for boys and girls. The gender differences appear in the intercorrelations where parent report of shyness and inhibitory control are involved. Where either mother or father report on shyness is correlated with inhibitory control (within-parent or across-parent), the reports are consistently and significantly correlated for girls (mean r = .19), but for boys all of the corresponding correlations hover around zero. That is, for the two traits on which girls are higher than boys (shyness and inhibitory control), parents' perceptions are correlated, but only for girls. For boys, shyness and inhibitory control are independent, from the perspective of parent ratings. Within the more objective Lab-TAB measures of shyness and inhibitory control, this gender difference in cross-trait association does not emerge.

Discussion

We found significant gender differences in mother-, father-, and lab-rated temperament at 36 months of age. Boys had higher levels of activity level and girls had higher levels of shyness and inhibitory control with effect sizes of the gender differences ranging from approximately 30–56% of a standard deviation. It is rare to find such consistent evidence across three methods of assessment. In addition, our RMA analyses on gender difference scores between the male and female opposite-sex twins show consistency in magnitude across mother, father and Lab-TAB ratings. Therefore, it is reasonable to conclude that no single methodology represented confers a more or less biased view of gender in these areas of preschool temperament. This finding is noteworthy because parent ratings are often criticized for rater biases.

Our findings are very similar to previous investigations that focus on specific dimensions such as activity level from infancy through childhood (e.g., Eaton & Enns, 1986) as well as the comprehensive Else-Quest et al. (2006) meta-analysis. In their meta-analysis, Else-Quest et al. found females to be more self-regulated and more fearful, and boys to be more active. Although Olino et al. (in press) did find differential patterns of gender differences across parent and lab-ratings of temperament for some traits, females consistently showed higher fear (shyness) and lower AL (they did not examine IC). Our results, as well as the findings from Olino et al. illustrate that significant gender differences are present at an early age within the context of a multi-method investigation. For the full sample the gender

differences evident in our parent report measures were reiterated in the laboratory assessments. The RMA results are also consistent with this view, with the subsample of opposite sex twins showing that the magnitude of gender differences is consistent across the three methods of assessment.

Although this study is the first to examine direct relations between fear and inhibitory control in a comprehensive multi-method assessment design, Aksan and Kochanska (2004) demonstrated indirect links between infant fear and preschool inhibitory control via toddler impulsivity. They contended that intermediate impulsivity mediated associations between early fear and later developing inhibitory control. The Aksan and Kochanska (2004) study was longitudinal with a goal of examining infant temperament and outcomes in preschool. Our focus is purely on how these important dimensions relate at the age of 36 months. With regard to associations between fear and activity level, our findings are congruent with previous research in early school age (Rothbart, Derryberry, & Hershey, 2000).

Theoretically, results are consonant with the idea that both fear and inhibitory control involve systems of inhibition and regulation and the idea that assessment of these dimensions involves the inhibition of motor approach (Aksan & Kochanska, 2004). The notion that temperament assumes an increasingly regulatory function that supplements initially reactive behaviors such as fear in infancy (Derryberry & Rothbart, 1997) is also consistent with our data. Effortful and inhibitory behaviors are posited to play a regulatory role in fear development after infancy (Derryberry & Rothbart, 1997), and motor activity could mediate relations between fear and inhibitory control in preschool (Aksan & Kochanska, 2004).

The phenotypic relations between these dimensions of temperament was generally consistent across gender (i.e., activity level was negatively correlated with inhibitory control). However, in some cases associations increased or decreased depending on the gender of the participants. For example, relations between fear and AL, and fear and inhibitory control were higher for some assessments of female temperament and slightly lower and in some cases no longer significant for corresponding male assessments. In six (out of 8) of these cases, elevated correlations occurred between parent assessments of temperament, and once between a father rating and a lab assessment. In one instance (mother-rated activity level and lab inhibitory control), the correlation was higher for boys and nonsignificant for girls. Although it is difficult to systematically interpret such findings, it appears that parents may perceive more links between fear, activity level, and inhibitory control in their daughters than in their sons.

Our Lab-TAB temperament composites showed low to moderate intercorrelations, a finding that was expected based on our prior studies (Gagne, Saudino & Asherson, 2011; Gagne & Goldsmith, 2011; Pfeifer, Goldsmith, Davidson, & Rickman, 2002). Also expected, associations across dimensions were much stronger within and between mother and father ratings. Cross-method convergence between both of the parent ratings and the lab ratings was much lower, consistent with previous findings from our lab (e.g., Gagne et al., 2011). Lower agreement between parent raters and laboratory observers and coders could be based on limited content overlap between the CBQ and Lab-TAB. The CBQ scales in this study

reflect parents' impressions of child behavior in the home and reference child behavior across many situations over time. Lab-TAB ratings are limited to behaviors that are coded during the laboratory assessments. Parents using the CBQ make more 'global' judgments of child behavior in contrast to the Lab-TAB ratings, which focus on temperamental and emotional reactions at a very discrete level.

Our findings provide strong support for the existence of modest gender differences in preschool temperament, as well as phenotypic covariance between shyness, activity level, and inhibitory control. All analyses were conducted across mother, father and laboratory ratings which marks these results as distinctive in large-sample studies. In addition, few previous studies have examined these issues comprehensively in a twin study design. The inclusion of opposite-sex dizygotic twins in our sample allows for more nuanced and controlled examination of gender differences, representing a unique contribution to the literature on early temperament and gender. Future analyses will focus on using the twin method to examine genetic and environmental variances and covariances within and across preschool temperament dimensions.

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HIGHLIGHTS

- Early temperament is relevant to personality, affect and social development.
- Gender and temperament was examined in a comprehensively assessed twin sample.
- Parent and laboratory ratings were used to assess temperament in 3 year-olds.
- Boys had higher activity level and lower shyness and inhibitory control than girls.
- Gender differences and phenotypic associations held across methods of assessment.

Table 1

Means (and Standard Deviations) by Sex for Mother-, Father-, and Laboratory-assessed Fear, Activity Level and Inhibitory Control for All Participants

	Males (<i>n</i> =358)	Females (n=356)	Effect Size (d)
Shyness			
Mother CBQ	18 (.96)	.16 (.98)	35
Father CBQ	09 (.92)	.07 (.98)	17
Lab-TAB episode	12 (.98)	.18 (.92)	32
Activity Level			
Mother CBQ	.19 (.93)	16 (1.02)	.36
Father CBQ	.18 (.93)	18 (.98)	.38
Lab-TAB episode	.13 (1.05)	13 (.93)	.26
Inhibitory Control			
Mother CBQ	17 (1.01)	.21 (.94)	39
Father CBQ	09 (.95)	.13 (.97)	23
Lab-TAB composite	28 (1.04)	.20 (.89)	50

Note. Corresponding *z*-statistics were significant (at *p* < .05, 2-tailed) for all variables, indicating significant sex differences. Effect size estimated as Cohen's *d* express group differences in standard deviation units.

Table 2

Means (and Standard Deviations) by Sex for Mother-, Father-, and Laboratory-assessed Shyness, Activity Level and Inhibitory Control for Members of Opposite-Sex Dizygotic Twin Pairs

	Male co-twins (n=101)	Female co-twins (<i>n</i> =101)	Effect Size (d)
Shyness			
Mother CBQ	35 (.93)	.18 (.98)	-55
Fathe CBQ	25 (.89)	.09 (1.01)	36
Lab-TAB episode	12 (.91)	.12 (.83)	28
Activity Level			
Mother CBQ	.23 (.89)	36 (.95)	.64
Father CBQ	.12 (.89)	41 (.90)	.59
Lab-TAB episode	.12 (.98)	23 (.99)	.36
Inhibitory Control			
Mother CBQ	13 (1.02)	.37 (.91)	52
Father CBQ	13 (1.07)	.37 (.87)	52
Lab-TAB composite	19 (.94)	.20 (.95)	41

Note. Corresponding *z*-statistics were significant (at *p* < .05, 2-tailed) for all variables, indicating significant sex differences. Effect size estimated as Cohen's *d* express group differences in standard deviation units.

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es -30^{**} 20^{**} 20^{**} 61^{**} -21^{**} 22^{**} 26^{**} -13^{**} -21^{**} 0 63^{**} -15^{**} 0 30^{**} -06 -47^{**} -21^{**} 54^{**} -34^{**} -06 16^{**} -47^{**} -21^{**} 51^{**} 54^{**} -36^{**} -04 15^{**} -47^{**} -21^{**} 51^{**} 50^{**} -06 -10^{*} 16^{**} -47^{**} -21^{**} 51^{**} 51^{**} -06^{*} -10^{*} 16^{**} -47^{**} -21^{**} -21^{**} 51^{**} -36^{**} -04 16^{**} -47^{**} -25^{**} 50^{**} -36^{**} -04 -12^{**} -46^{**} -10^{*} -22^{**} -10^{**} -22^{**} -10^{**} -10^{**} -10^{**} -10^{**} -22^{**} -17^{**} -27^{**} -01 27^{**} -01 -46^{**} -20^{**} -10^{**} -27^{**} -10^{**} -27^{**} -10^{**} -26^{**} -46^{**} -20^{**} -10^{**} -27^{**} -10^{**} -27^{**} -10^{**} -26^{**} -16^{**} -16^{**} -26^{**} -16^{*} -1		26**	$.14^{**}$.62**	19**	.13**	.29**	12**	.21**
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Mother Shyness	30**	.20**	.61**	21**	.22	.26**	13**	.23**
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		21**	.06	.63**	15**	.02	.30**	-00	.17**
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			47**	21**	.54**	34**	05	.16**	14**
$-45^{**} - 19^{**} -57^{**} -56^{**} -04 -14^{**}$ $11^{**} -34^{**} 51^{**} -36^{**} -04 -12^{**}$ $11^{**} -34^{**} 51^{**} 03 -15^{**}$ $17^{**} -35^{**} 50^{**} 02 -07$ $01 -24^{**} 08^{*} -32^{**} 02 -07$ $-24^{**} -01 -27^{**} -01$ $-22^{**} -01 -27^{**} -01$ $-22^{**} -01 -27^{**} -01$ $-46^{**} -02 -13^{*}$ $-46^{**} -02 -13^{*}$ $-46^{**} -02 -13^{*}$ $-14^{**} -23^{**} -01 -12^{*}$ $-14^{*} -02 -13^{*}$ $-14^{*} -10^{*} -23^{**} -14^{*}$ $-14^{*} -10^{*} -23^{*}$ $-14^{*} -10^{*} -13^{*}$ $-14^{*} -10^{*} -13^{*}$ $-12^{*} -11^{*} -11^{*}$ $-12^{*} -11^{*} -11^{*}$ $-12^{*} -11^{$	Mother AL		47**	22**	.50**	30**	04	.15**	06
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			45**	19 ^{**}	.57**	36**	04	.14**	17**
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$				$.11^{**}$	34**	.51**	.04	12**	.28**
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Mother IC			.17**	35**	.50**	.03	15**	.24**
$\begin{array}{cccccccccccccccccccccccccccccccccccc$.05	31**	.52**	.02	07	.29**
$\begin{array}{cccccccccccccccccccccccccccccccccccc$					24**	*80.	.27**	03	.15**
$\begin{array}{ccccccc}22^{**} &01 & .27^{**} & .01 \\ &42^{**} &03 & .14^{**} \\ &46^{**} &02 & .13^{*} \\ &37^{**} & .00 & .12^{*} \\ &37^{**} & .00 & .12^{*} \\ & .03 &26^{**} \\ & .26^{**} \\ &14^{**} \\ &16^{*} \\ &12^{*} \end{array}$	Father Shyness				25**	.17**	.27**	08	.17**
$\begin{array}{ccccccc}42^{**} &03 & .14^{**} \\46^{**} &02 & .13^{*} \\37^{**} & .00 & .12^{*} \\ 0.3 &20^{**} \\ .08 &25^{**} \\14^{**} \\11^{**} \\11^{**} \end{array}$					22**	01	.27**	.01	.13*
$\begin{array}{cccccccccccccccccccccccccccccccccccc$						42**	03	.14**	07
$\begin{array}{cccc}37^{**} & .00 & .12^{*} \\ 0.3 &20^{**} \\ 0.8 &25^{**} \\03 &14^{**} \\11^{**} \\12^{*} \end{array}$	Father AL					46 ^{**}	02	.13*	05
$\begin{array}{cccc} .03 &20^{**} \\ .08 &25^{**} \\03 &14^{**} \\11^{**} \\11^{**} \\12^{*} \end{array}$						37**	00.	.12*	06
.0825** 0314** 11** 12*							.03	20**	.25**
1314** 11** 06 12*	Father IC						.08	25**	.27**
11 ** 06 12*							03	14**	.22**
12* 12*								11**	.24**
12*	Lab Shyness							06	.18**
								12*	.25**
									11**
04	Lab AL								16**
									04

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Note.

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AL=Activity Level, IC=Inhibitory Control

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