

# Motivation Science

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Paige Safyer, Brenda L. Volling, Oliver C. Schultheiss, and Richard M. Tolman

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# Adult Attachment, Implicit Motives, and Mothers' and Fathers' Parenting Behaviors

Paige Safyer and Brenda L. Volling  
University of Michigan

Oliver C. Schultheiss  
Friedrich-Alexander University

Richard M. Tolman  
University of Michigan

The current study investigated connections between implicit motives of power and affiliation, adult attachment styles, and parenting behaviors using self-report and observational data from 191 mothers, fathers, and their 12-month-old infants. An interaction between avoidant attachment and *n*Affiliation indicated that implicit affiliation motives predicted positive maternal behaviors, but only for highly avoidant mothers. For fathers, lower attachment anxiety and *n*Power were associated with positive parenting behaviors, whereas high levels of attachment anxiety and *n*Power were associated with negative parenting behaviors. Attachment styles of avoidance and anxiety, as well as implicit motives of power and affiliation, were unique predictors of parenting behaviors. Overall, the findings suggest that parenting behaviors in the first year of infancy are predicted by parents' working models of attachment and implicit motives of affiliation and power.

*Keywords:* implicit motives, adult attachment, parenting behaviors, mothers, fathers

Parental representations or internal conceptualizations of relationships are related to parenting and strongly influence the quality of care children receive (Main, Kaplan, & Cassidy, 1985). In general, relational representations re-

fer to the way an individual organizes and processes information related to social relationships, and they operate on both explicit and implicit levels (Bugental & Johnston, 2000; Fiske & Taylor, 1991). Explicit relational schemata are accessible consciously and can be verbalized, whereas implicit relational constructs function on the nonconscious level and are formed through affective, preverbal experiences in early childhood (McClelland, Koestner, & Weinberger, 1989). Parenting research often explores the influence of explicit interpersonal beliefs such as perceptions of parenting efficacy on parenting behaviors, but less is known about the role of implicit relational processes on the parent-child relationship (Bornstein & Lansford, 2010; Chasiotis, Bender, & Hofer, 2014). Thus, the first aim of this study was to address this gap in the literature by examining the prediction of implicit motives of power and affiliation for parenting behaviors with mothers and fathers in the first year, a significant time period for the development of infant-parent attachment relationships.

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Paige Safyer, Departments of Social Work and Psychology, University of Michigan; Brenda L. Volling, Department of Psychology, University of Michigan; Oliver C. Schultheiss, Department of Psychology, Institute of Psychology, Friedrich-Alexander University; Richard M. Tolman, Department of Social Work, University of Michigan.

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Correspondence concerning this article should be addressed to Paige Safyer, Departments of Social Work and Psychology, University of Michigan, 530 Church Street, Ann Arbor, MI, 48109. E-mail: [psafyer@umich.edu](mailto:psafyer@umich.edu)

### Implicit Motives of Power and Affiliation

Implicit motives represent nonconscious preferences for specific types of incentives (Schultheiss, 2008). Two underlying implicit motive types, power and affiliation, have been linked to interpersonal functioning. Individuals with high power motivation (*nPower*) are driven by the need to influence, control, and impress others (Fodor, 2010). Individuals with high affiliative desires (*nAffiliation*) demonstrate concern for establishing, maintaining, or restoring close, harmonious relationships (Schultheiss, 2008). Highly affiliative individuals are empathic and easily understand social cues, but they can also suffer from anxiety due to fear of rejection and the importance they place on relationships (Weinberger, Cotler, & Fishman, 2010).

Although implicit motives predict interpersonal behavior in a variety of contexts, studies addressing these constructs within a parenting framework are rare (Schultheiss, 2008). A few studies have focused on the association between implicit motives and parental involvement, defined by the number of children wanted, whether an individual viewed parenting as a sign of competence, and whether the individual viewed one's own child as a source of pride (Peterson & Stewart, 1993). Recently, Hofer, Schröder, and Keller (2012) examined the connection between implicit motives and observed parenting behaviors in mother-infant dyads from three different cultures—urban, middle-class families in Berlin, Germany; Cameroonian Nso farmer families; and urban, educated, Nso families in northwestern Cameroon. Mothers' strength of power motivation was significantly and positively correlated with the amount of body contact mothers had with their infants during mother-infant interaction across cultural groups, suggesting that power-motivated parents may express their need to control their infants through close bodily contact.

Although there is preliminary evidence that implicit motives are related to parental interest in children and mother-infant interactions, what remains unclear is whether specific implicit motives such as *nPower* and *nAffiliation* predict negative and positive parenting behaviors differently, given research cited earlier finding links between *nPower* and the need to control (Fodor, 2010), as well as between *nAffiliation*

and positive relationship outcomes (Weinberger et al., 2010). For instance, *nPower* may be a better predictor of intrusive and controlling parenting, whereas *nAffiliation* may be a better predictor of responsive and nurturing parenting behaviors. Further, research on implicit motives and parenting needs to consider how implicit motives predict parenting along with other internal representations of relationships such as attachment style that also have been shown to predict interpersonal behaviors such as parenting (Rholes, Simpson, Blakely, Lanigan, & Allen, 1997; Rholes, Simpson, & Friedman, 2006).

### Adult Attachment Styles and Parenting

Attachment theory provides a framework for understanding the development of interpersonal patterns throughout the life span (Bowlby, 1969). Although the origins of attachment quality are found in childhood, the relational representations constructed from these early experiences carry through to adulthood and become the filter through which individuals view their significant relationships. Securely attached individuals report greater satisfaction in relationships, whereas those individuals with insecure attachments feel unloved and undervalued by the significant people in their lives—echoing past experiences with their parents (Brennan, Clark, & Shaver, 1998). Self-reported adult attachment quality is measured on two dimensions: attachment avoidance and attachment anxiety. Highly avoidant individuals are unable to rely on others and isolate themselves from relationships (Fraley, Davis, & Shaver, 1998). Highly anxious individuals are overly focused on their relationships and are concerned with abandonment (Mikulincer, Gillath, & Shaver, 2002). Those with low attachment avoidance and attachment anxiety are thought to be securely attached—secure adults are comfortable with closeness and intimacy (Hazan & Shaver, 1987). Although there is an abundance of literature focusing on the association between adult attachment orientations and romantic relationships, adult self-reported attachment patterns have rarely been studied in relation to parenting behaviors.

Several recent studies have examined the link between adult attachment and parenting. For instance, Rholes et al. (2006) interviewed 106

married couples 6 weeks before the infant's due date and 6 months postpartum. Parents with a more avoidant attachment style reported that parenting was more stressful and less meaningful or satisfying. Relatedly, Rholes, Simpson, and Blakely (1995) observed 44 mother-child dyads, ranging in age from 24 to 48 months, during a series of teaching tasks and found that mothers with a more avoidant attachment style behaved in a less supportive and encouraging manner with their children, and reported feeling more distant emotionally from their children. Although these studies demonstrated the connection between adult romantic attachment styles and parenting beliefs and behaviors, more research is needed to understand further the structure and function of adults' internal working models of attachment and interpersonal processes, and how these may be related to their parenting, as well as their implicit motives. The second aim, then, was to augment the current literature by examining the role of both implicit motives and adult attachment styles in predicting observed parenting behaviors during parent-infant interactions with 1-year-old infants, and exploring whether they make independent contributions to the prediction of parenting behaviors.

### Implicit Motives and Adult Attachment

To further elucidate the relation between implicit motives, attachment patterns, and parenting behaviors, our third aim was to consider the interaction between these constructs, or how implicit motives may moderate the effect of adult attachment on parenting. Others have suggested that how implicit motives are expressed behaviorally may depend on other aspects of personality (e.g., Winter, John, Stewart, Klohnen, & Duncan, 1998). Previously, only one study has examined the interaction of these two constructs. Edelstein, Stanton, Henderson, and Sanders (2010) focused on the role of implicit motives and attachment quality in predicting estradiol, a hormone linked with parenting, and found a significant interaction between avoidant attachment and intimacy motives. In this study, participants with a low avoidant attachment style and high intimacy motivation had the highest levels of estradiol. Although the variables in Edelstein et al. (2010) differ from the parenting behaviors in the present study, the

results provide the basis for hypothesizing that a pattern of high affiliation motivation and low avoidant or anxious attachment may be particularly conducive to positive parenting.

At this point, it remains an open question whether the effects of attachment and implicit motives are additive or interactive (i.e., where the association of one predictor on the outcome depends on levels of the other predictor). Similarly, the role of the power motive in parenting appears ambiguous. On the one hand, Peterson and Stewart (1990) reported the power motive was a positive predictor of parenting involvement for women, but not men, and Hofer et al. (2012) found a positive effect of *n*Power on bodily contact in mother-infant interaction. On the other hand, power-motivated individuals can show a lack of consideration in hierarchical relationships where they occupy a superior spot, as a parent would in a family, and can be controlling and slightly dictatorial (Fodor, 2010). Again, the association between the power motive and parenting may be independent of parents' attachment or interact with it. Thus, regarding the power motive, our analyses were mainly exploratory.

Finally, we explored differences and similarities with associations between implicit motives and attachment styles for both mother-infant and father-infant interaction. Although there is little research focusing on implicit motives and parenting, in general, gender differences in motive levels have been reported, with women higher on the *n*Affiliation motive than men (Drescher & Schultheiss, 2016). Further, attachment anxiety is often higher for women, whereas attachment avoidance is often higher for men (Collins & Read, 1990; Shaver, Collins, & Clark, 1996). Finally, Paquette (2004) recently theorized that fathers and mothers may engage in different parenting functions, with mothers providing comfort in times of distress that contribute to the mother-infant attachment, and fathers serving to activate and excite the infant through the use of more rough-and-tumble play (Tamis-LeMonda, Shannon, Cabrera, & Lamb, 2004). Because of these different theoretical functions of the mother-infant and father-infant relationship, adult attachment styles and implicit motives may predict mothers' and fathers' parenting differently. Because mothers are still the primary focus in most research on infant development, our sample provided a unique opportunity to explore how implicit and explicit representations of relationships

were related to both mothering and fathering behaviors.

### The Current Study

The current study examined the connections between underlying implicit motives of power and affiliation, adult attachment patterns, and mothers' and fathers' parenting behaviors in relation to their 12-month-old infants. We hypothesized that higher levels of *n*Affiliation would significantly predict positive parenting behaviors, such as sensitive engagement, and that higher levels of *n*Power would predict negative parenting behaviors, such as intrusive and controlling interactions with their infant. In line with the previous work of Simpson and colleagues (Rholes et al., 2006; Wilson, Rholes, Simpson, & Tran, 2007), we also hypothesized that more attachment avoidance would be associated with decreased positive parenting and more detached behaviors during parent-infant interactions, whereas more attachment anxiety would be associated with increased controlling and intrusive parenting and overall negative interactions with infants. Finally, we explored the interaction between adult attachment and implicit motives in predicting parenting behaviors for mothers and fathers.

### Method

#### Participants

Participants included 191 two-parent families from the Midwestern United States involved in a substudy of a larger longitudinal study examining family dynamics after the birth of the second child spanning the course of a year; in the last trimester of the mother's pregnancy with the second child, and 1, 4, 8, and 12 months after birth. Families were recruited through flyers, obstetric clinics, and advertisements in local newspapers, and were initially eligible to participate in the larger study if mothers were expecting their second child, firstborn children were between the ages of 1 and 5, biological fathers of the infant were resident, and both children were free of developmental disabilities. At the 12-month timepoint, parents were given the option to participate in a hormone substudy that

involved collection of saliva and the administration of implicit motives measures. The current study utilizes data collected as part of the substudy using the implicit motives measures and parenting behavior collected as part of the 12-month laboratory visit when the infant was either 12 or 13 months old.

The lab visit was a dyadic examination of parent and infant interaction. One of the two lab visits (12 months) focused on mother-infant interaction, and the additional lab visit (13 months) centered on positive interaction. To eliminate the effect of age and order, these visits were counterbalanced across mothers and fathers. Each lab visit was the same, and consisted of an interview with the parent about their infant's temperament, and then the Strange Situation. After this group of activities there was a short break and then the parent and infant participated in a teaching task. The reason for the month in between each lab visit was so the memory of the previous lab visit would not be fresh in the infant's mind. The Picture Story Exercise (PSE) was completed by both parents at the 12-month home visit.

Eighty-six percent of the mothers in this sample identified as European American, 5.2% as African American, 2.6% as Asian or Asian American, 4.2% as Hispanic, and 2.1% as other. Eighty-seven percent of the fathers identified as European American, 4.7% as African American, 3.7% as Asian or Asian American, 2.6% as Hispanic, and 1.6% as other. Mothers ranged in age from 22 to 42 years,  $M = 31.8$  years;  $SD = 4.0$ , and fathers ranged in age from 24 to 53 years,  $M = 33.4$  years;  $SD = 4.7$ . The couples were married an average of 5.7 years,  $SD = 2.6$ . Annual family income ranged from \$10,000 to over \$150,000, with the mode of household income being \$60,000 to \$99,999. Thirteen percent of mothers completed a high school degree or some college, 38.7% a bachelor's degree, and 48.7% a professional degree. Seventeen percent of fathers completed a high school degree or some college, 37.2% a bachelor's degree, and 46.1% a professional degree. With regard to the infants, 105 were male and 86 female. The 191 couples participating in the substudy did not differ significantly from the original 241 families recruited for the longitudinal investigation (Volling et al., 2017).

## Measures

**Implicit motives.** During the 12-month home visit, parents were asked to complete three pictures chosen from a larger set of the PSE to assess implicit motives (Schultheiss & Pang, 2007). The three story pictures were chosen because they portrayed social situations that were thought to be relevant for family functioning: nightclub scene (showing two figures, a man and woman, sitting together at a table), trapeze artists (showing a male trapeze artist hanging upside down and grasping the hands of a female trapeze artist flying through the air), and mountain (showing a woman and a young child climbing up the side of a mountain with the woman's hand on the child's back). Each parent was given 15 min—5 min per picture—to write a story about each of the different pictures. Based on Winter (1991), each story was individually scored for power and affiliation motives and then counted to arrive at an overall motive score. Affiliation motivation was coded for the presence of five relational categories: (a) expression of positive, friendly, or intimate feelings; (b) sadness about separation; (c) disruption of friendship relationships; (d) affirmative compassionate activities; and (e) friendly nurturing acts (Winter, 1991). Power motivation was coded for the presence of six categories: (a) strong, forceful actions; (b) control or regulation; (c) attempts to influence, make or prove a point, argue; (d) giving help, advice, or support; (e) impressing others; and (f) strong emotional reaction (Winter, 1991). The main coder was trained by the third author who had attained over 85% agreement with training materials scored by experts. This coder was blind to all other aspects of the study. For purposes of reliability, 240 stories (10%) were coded by the third author. Based on Pearson correlations, scoring agreement was .75 for affiliation and .78 for power. Scores for power and affiliation were summed across the three stories creating total power ( $M = 1.91$ ,  $SD = 1.27$ ) and affiliation ( $M = 3.68$ ,  $SD = 1.79$ ) scores for mothers as well as total power ( $M = 1.82$ ,  $SD = 1.38$ ) and affiliation ( $M = 2.99$ ,  $SD = 1.76$ ) scores for fathers. Total word count scores for mothers ( $M = 267.98$ ,  $SD = 85.45$ ) and fathers ( $M = 251.44$ ,  $SD = 108.92$ ) were also tallied (Schultheiss & Pang, 2007). For mothers, word count score and  $n$ Affiliation were significantly correlated  $r(189) = .314$ ,  $p < .01$  along with  $n$ Power  $r(189) = .274$ ,  $p < .01$ . For fathers,  $n$ Affiliation  $r(186) = .416$ ,  $p < .01$  and  $n$ Power

$r(186) = .345$ ,  $p < .01$  were also significantly correlated with word count. To correct for influence of verbal fluency on motive scores, the raw scores were residualized for word count using regression analysis and the residualized scores were used in all subsequent analyses (Schultheiss & Pang, 2007). We used the regression approach recommended by Schultheiss and Pang (2007) instead of Winter's (1991) traditional procedure to avoid the substantial correlations that can remain between corrected scores and word count.

**Adult attachment.** Parents completed the 17-item Adult Attachment Questionnaire (AAQ; Simpson, Rholes, & Phillips, 1996) using a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*) to assess their thoughts and feelings about romantic partners on two dimensions: avoidance (8 items, e.g., "I don't like people getting too close to me";  $\alpha = .832$  for mothers and .829 for fathers) and anxiety (9 items, e.g., "Others are often reluctant to get as close as I would like";  $\alpha = .809$  for mothers and .764 for fathers). The AAQ is correlated highly with other adult attachment scales (Griffin & Bartholomew, 1994) and has been significantly associated with parenting behaviors in prior research (Rholes et al., 2006).

**Parenting behaviors.** As part of the lab visits conducted at 12 and 13 months, mothers and fathers (counterbalanced) participated in a 15-min teaching task with the infant. Parents were shown three different toys and given 5 min to complete each task, each with instructions specific to that toy (Vondra, Shaw, & Kevenides, 1995): (a) hit each of the keys on a xylophone with a mallet, (b) push each lever on an activity box, and (c) hit each shape on a toy turtle's back. Parents were told that the tasks were beyond the developmental ability of a 12-month-old infant to do alone and that they should assist in helping their infant complete the tasks. The teaching task was chosen because it is challenging for parents as well as infants, and parent participation is required (Volling, McElwain, Notaro, & Herrera, 2002). Five trained coders, consisting of lab staff, undergraduate students, and graduate students, rated six parenting behaviors using the NICHD Study of Early Child Care coding system (National Institute of Child Health and Human Development Early Child Care Research Network, 2000), which utilizes a 7-point rating scale from 1 (*not at all characteristic*) to 7 (*very characteristic*)

to code (a) parental sensitivity (ICC = .86)—the ability to perceive and accurately interpret the infant's behavior and then respond appropriately, (b) intrusiveness (ICC = .88)—premature intervention, restricting the autonomy of the infant, (c) detachment (ICC = .88)—the lack of emotional involvement and disengagement with the infant, (d) positive regard (ICC = .85)—positive feelings toward the infant as demonstrated by smiling and warm tone of voice, (e) negative regard (ICC = .85)—negative feelings toward the infant as demonstrated by criticism and disapproval, and (f) stimulation of development (ICC = .85)—does the parent attempt to foster the infant's cognitive development by scaffolding their completion of the task. Each 5-min task received a global rating, which were then averaged across the three tasks. Composites of positive parenting (the sum of sensitivity, positive regard, and stimulation of cognitive development) and negative parenting (sum of intrusiveness, negative regard, and detachment) were created for both mothers and fathers.

## Results

### Descriptive Statistics and Correlations

The first stage of our analyses included testing whether any of our demographic variables,

such as parent's age, years married, income, race/ethnicity, and income covaried with the overall scores for parenting behaviors. We used correlations and one-way analyses of variance to determine if these variables needed to be controlled for in the hierarchical regressions. There were no significant demographic covariates for fathers' or mothers' parenting behaviors so these variables were not examined further.

Table 1 presents the means and standard deviations for all study variables and the correlations among them. Correlations revealed that for mothers, *nAffiliation* was negatively correlated with avoidant attachment. Anxious and avoidant attachment were positively correlated with one another, and avoidant attachment was negatively correlated with positive mothering behaviors. Finally, positive parenting and negative parenting were negatively correlated. Implicit motives were not correlated with either negative or positive parenting for mothers. For fathers, *nAffiliation* and *nPower* were negatively correlated, and similar to mothers, anxious and avoidant attachment were positively correlated with one another. Both anxious attachment and *nPower* were negatively correlated with positive fathering, and *nPower* was also positively correlated with negative fathering. Positive and negative fathering were negatively correlated with one another. Paired sam-

Table 1  
*Correlations and Descriptive Statistics of Mothers' (Lower Diagonal) and Fathers' (Upper Diagonal) Attachment Style, Implicit Motives, and Parenting Behaviors*

Variables	1	2	3	4	5	6
1. <i>nAffiliation</i>	<b>.032</b>	-.166*	-.019	.042	.017	.057
2. <i>nPower</i>	-.035	<b>.083</b>	.030	-.054	-.149*	.151*
3. Avoidant attachment	-.212**	.136	<b>.066</b>	.171*	-.013	-.030
4. Anxious attachment	-.131	.051	.385**	<b>.163*</b>	-.187*	.136
5. Positive parenting	.088	.072	-.213**	-.099	<b>.146</b>	-.65**
6. Negative parenting	-.037	-.084	.030	.022	-.610**	<b>.258**</b>
Mothers						
<i>M</i>	3.68	1.91	3.13	2.50	12.30	4.90
<i>SD</i>	1.79	1.30	.95	.95	2.06	1.51
Fathers						
<i>M</i>	3.00	1.82	3.18	2.44	11.03	5.15
<i>SD</i>	1.75	1.40	.94	.84	2.25	1.55
<i>t</i> test	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	6.20*	<i>ns</i>

*Note.* Correlations between fathers and mothers are presented in bold in the diagonal. The means and standard deviations represent the raw, uncorrected motive scores, whereas correlations are based on word-count-residualized motive scores. *ns* = not statistically significant.

\*  $p < .05$ . \*\*  $p < .01$ .

ples  $t$  tests indicated that mothers and fathers only differed significantly on positive parenting behaviors, with mothers more positive than fathers. There were no significant gender differences for implicit motives, adult attachment styles, or negative parenting behaviors.

### Predicting Parenting From Implicit Motives and Attachment

Hierarchical multiple regressions were used to determine whether explicit processes of attachment quality as well as implicit motives were unique predictors of parenting behaviors. All variables were centered prior to inclusion in the model. Attachment quality (avoidance and anxiety) was entered in Step 1 given the well-established connection between adult representations of attachment and parenting behavior. We then entered both  $n$ Affiliation and  $n$ Power in Step 2 to determine if either of these implicit motives would explain unique variance above and beyond what had been accounted for by attachment. In other words, was the implicit motive representing nonconscious motivation independently predicting parenting once attachment representations were in the model? Step 3 added interactions between attachment patterns and implicit motives to test whether these two constructs interacted to predict parental behaviors.<sup>1</sup>

As seen in Table 2 for mothers' positive parenting behaviors, avoidant attachment was negatively related to mother' positive parenting in Step 1—however, this direct effect was qualified by an interaction with  $n$ Affiliation in Step 3. No additional significant variance was explained when implicit motives were entered in Step 2. The significant interaction between avoidant attachment and  $n$ Affiliation in the final model (Step 3) was further probed using a simple slopes analysis. Simple slopes were examined to determine relations between attachment avoidance and positive parenting at high (+1  $SD$ ) and low (−1  $SD$ ) levels of  $n$ Affiliation. As seen in Figure 1, attachment avoidance negatively predicted mothers' positive parenting behaviors, but only when mothers' affiliation motive was low,  $b = -.08$ ,  $t(177) = -3.6$ ,  $p > .01$ , and not when  $n$ Affiliation was high,  $b = -.01$ ,  $t(177) = -.03$ ,  $p = .98$ ,  $ns$ . There were no significant results for mothers with respect to negative parenting behaviors.

Table 3 shows the results from the final models for fathers' positive and negative parenting behaviors. For fathers' positive parenting behaviors, anxious attachment entered into Step 1 was negatively related to fathers' positive parenting.  $n$ Power was significant in Step 2 of the model and negatively predicted positive parenting. When interactions were entered in Step 3, only attachment anxiety remained a significant negative predictor. None of the interactions was significant in predicting fathers' positive parenting behaviors. For fathers' negative parenting behaviors, there were no significant effects when attachment was entered in Step 1. When implicit motives were entered in Step 2 both anxious attachment and  $n$ Power were significant predictors with more attachment anxiety and more  $n$ Power predicting fathers' negative parenting. In the final model with interactions, only anxious attachment remained a significant predictor.

### Discussion

This study examined the relations between the implicit motives of power and affiliation, adult self-reported attachment patterns, and mothers' and fathers' parenting behaviors with their 1-year-old infants. Given the centrality of the early parent-infant relationship in the formation of internal representations of attachment and socioemotional development at the end of the infant's first year, understanding what contributes to parenting and the intergenerational transmission of attachment relationships across generations is critical to tailoring interventions that can assist parents and their infants (van IJzendoorn, 1995). We hypothesized that higher levels of  $n$ Affiliation would significantly predict positive parenting behaviors and that higher

<sup>1</sup> Negative emotionality and attachment anxiety are often correlated so we also examined relations between parents' reports of neuroticism collected at the prenatal timepoint and study variables. Correlations revealed that neuroticism was positively correlated with both attachment anxiety,  $r(188) = .567$ ,  $p < .01$ , and avoidance,  $r(188) = .391$ ,  $p < .01$ , for mothers as well as attachment anxiety,  $r(183) = .332$ ,  $p < .01$ , and avoidance,  $r(183) = .334$ ,  $p < .01$ , for fathers. We reran analyses by including neuroticism in the hierarchical regressions during Step 1, but neuroticism did not add unique variance to prediction of parenting and did not change the results for implicit motives and attachment. As such, we proceeded to report our findings without neuroticism added to the models.

Table 2  
*Summary of Hierarchical Regression Analysis of Attachment and Implicit Motives Predicting Mothers' Positive Parenting Behaviors*

Positive parenting predictor variables	<i>B</i>	<i>SE (B)</i>	$\beta$	<i>R</i> <sup>2</sup>	<i>F</i> for change in <i>R</i> <sup>2</sup>
Step 1				.046*	4.276*
Avoidance	-.441	.170	-.204*		
Anxiety	-.049	.167	.023		
Step 2				.048	.228
Avoidance	-.448	.175	-.208*		
Anxiety	-.047	.169	-.022		
<i>n</i> Affiliation	.061	.292	.016		
<i>n</i> Power	.199	.304	.049		
Step 3				.097*	2.332
Avoidance	-.388	.175	-.180		
Anxiety	-.045	.167	-.021		
<i>n</i> Affiliation	.193	.300	.050		
<i>n</i> Power	.244	.314	.060		
Avoidance $\times$ <i>n</i> Affiliation	1.095	.372	.244*		
Anxiety $\times$ <i>n</i> Affiliation	-.676	.357	-.157		
Avoidance $\times$ <i>n</i> Power	.179	.372	.039		
Anxiety $\times$ <i>n</i> Power	-.083	.379	-.018		

Note. Unstandardized (*B*) and standardized ( $\beta$ ) regression coefficients presented are from the final model with all predictors added. Attachment avoidance and *n*Affiliation were centered at their means.

\*  $p < .05$ .

levels of *n*Power would predict negative parenting behaviors. With regard to attachment, we hypothesized that more attachment avoidance would be associated with decreased positive parenting behaviors, whereas more attachment anxiety would be associated with increased negative parenting behaviors.

### Implicit Motives and Parenting Behaviors

Because research on implicit motives has found numerous differences for men and women (Schultheiss & Brunstein, 2001), we were particularly interested in whether these differences would hold between mothers and fathers regarding implicit motives and the prediction of parenting behaviors. The absence of literature examining the association between implicit motives and parenting makes it difficult to know whether implicit motives predict parenting differently for mothers and fathers. There is some evidence to suggest women have higher *n*Affiliation levels than men (Stewart & Chester, 1982) and *n*Power is associated with male behaviors (Hofer et al., 2010; Winter & Stewart, 1978), but findings are not always clear cut (Peterson & Stewart, 1993). In the current study, we did find that an interaction between avoidant attachment and *n*Affiliation predicted

positive parenting for mothers. Low *n*Power predicted positive parenting for fathers, whereas a high *n*Power predicted negative parenting for fathers. In line with our hypotheses, then, the current findings provide some support that *n*Affiliation is a better predictor of mothering behaviors, whereas *n*Power emerged as more salient in predicting fathering behaviors.

It is not so surprising that *n*Power had a significant effect on fathers' behaviors. *n*Power has been related to higher levels of testosterone (Schultheiss & Rohde, 2002) and recent work has found that a decline in testosterone in response to infant distress during the strange situation procedure used to assess infant-parent attachment was related to more positive fathering behaviors in the teaching session, which was also used in the current study to assess positive parenting for fathers (Kuo et al., 2016). Our results suggest that high power fathers are less sensitive and engaging, and more intrusive and controlling in their interactions with their 1-year-olds. Ours is the first study to our knowledge to examine implicit motives related to observed fathering behaviors during father-infant interaction, and certainly in the first year of life, a time considered critical for the establishment of secure parent-infant attachment re-

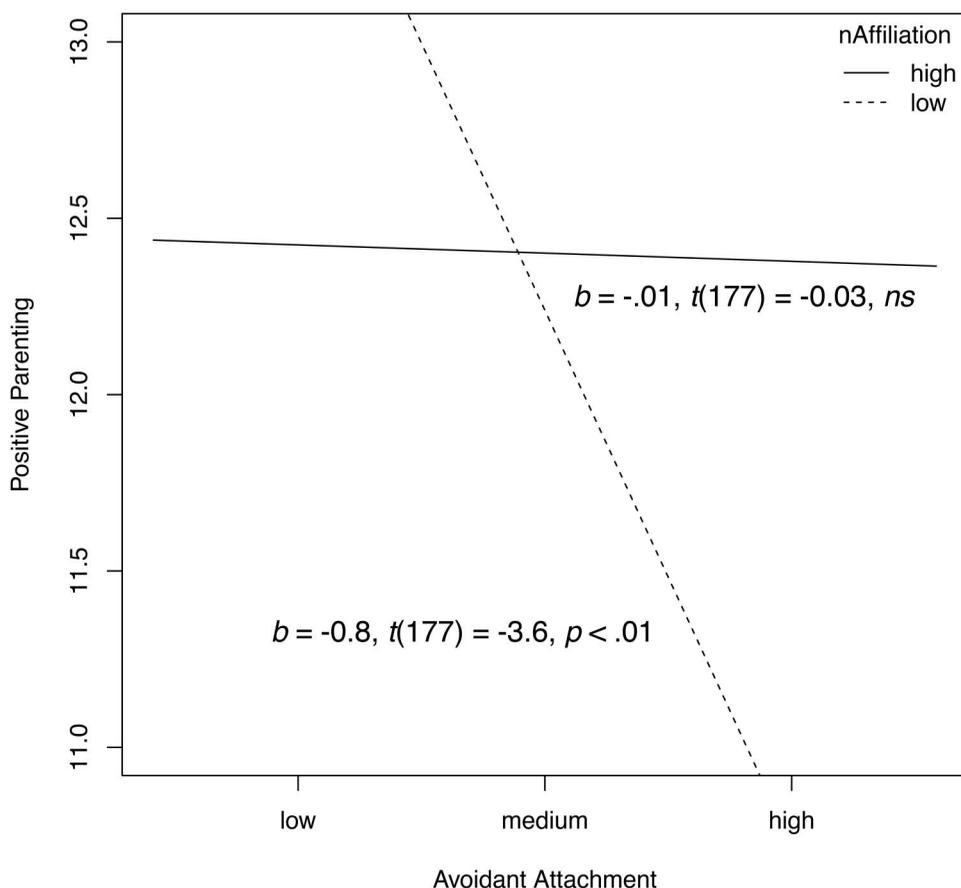


Figure 1. Interaction between *nAffiliation* and attachment avoidance predicting mothers' positive parenting behaviors.

relationships. These findings also fit in some respects with Paquette's (2004) theory of the father-infant activation relationship, in which fathers are positioned as the parent who introduces the child to the outside world, excites them, and encourages the child to take risks. Fathers can play many different roles in their child's development, but historically they have been the major source of rough-and-tumble play (Volling et al., 2002). Through this play, the father emboldens the infant to engage outside of their comfort zone, stimulates emotional arousal, and allows opportunities to practice dominance, but a sensitive father is also attuned to the infant's state and knows when to stop to avoid overstimulation and the potential for harm. Fathers who do this well also set limits that ensure the infant's safety. Sensitive fathers

are able to navigate the fine line between risk and limit setting, allowing infants to gain confidence in engaging with novel environments and fears. According to Paquette (2004), this relationship is termed the father-infant activation relationship, versus the mother-infant attachment relationship, which is centered on comfort and security. Fathers are the playmates who excite while mothers provide a secure base (Dixon et al., 1981). The father-infant activation relationship may be linked to power motivation—given the similar emphases on the outside world and having an impact on others—whereas the attachment functions of providing comfort and security (Bowlby, 1969) of mother-infant relationships may be more related to *nAffiliation*, in which close relationships are central (Schultheiss, Wirth, & Stanton, 2004). Future research is clearly

Table 3  
*Summary of Hierarchical Regression Analysis Attachment and Implicit Motives Predicting Fathers' Positive and Negative Parenting Behaviors*

Variables	<i>B</i>	<i>SE (B)</i>	$\beta$	<i>R</i> <sup>2</sup>	<i>F</i> for $\Delta$ in <i>R</i> <sup>2</sup>
Positive parenting					
Step 1				.034	2.968
Avoidance	.037	.179	.016		
Anxiety	-.506	.209	-.187*		
Step 2				.065*	2.703
Avoidance	.056	.178	.024		
Anxiety	-.539	.207	-.199*		
<i>n</i> Affiliation	.019	.368	.004		
<i>n</i> Power	-.809	.361	-.174*		
Step 3				.079	.631
Avoidance	.071	.181	.030		
Anxiety	-.583	.212	-.215*		
<i>n</i> Affiliation	-.079	.400	-.017		
<i>n</i> Power	-.464	.471	-.100		
Avoidance $\times$ <i>n</i> Affiliation	-.350	.506	-.061		
Anxiety $\times$ <i>n</i> Affiliation	-.228	.574	-.033		
Avoidance $\times$ <i>n</i> Power	-.032	.373	-.007		
Anxiety $\times$ <i>n</i> Power	.788	.666	.120		
Negative parenting					
Step 1				.020	1.742
Avoidance	-.082	.126	-.050		
Anxiety	.268	.146	.142		
Step 2				.061*	3.605*
Avoidance	-.094	.124	-.058		
Anxiety	.286	.145	.152*		
<i>n</i> Affiliation	.266	.257	.080		
<i>n</i> Power	.668	.252	.206*		
Step 3				.074	.562
Avoidance	-.096	.127	-.059		
Anxiety	.310	.148	.164*		
<i>n</i> Affiliation	.309	.279	.093		
<i>n</i> Power	.485	.329	.150		
Avoidance $\times$ <i>n</i> Affiliation	.145	.353	.036		
Anxiety $\times$ <i>n</i> Affiliation	.370	.401	.076		
Avoidance $\times$ <i>n</i> Power	-.040	.261	-.013		
Anxiety $\times$ <i>n</i> Power	-.317	.465	-.069		

Note. Unstandardized (*B*) and standardized ( $\beta$ ) regression coefficients presented are from the final model with all predictors added.

\*  $p < .05$ .

needed to replicate these findings in an independent sample to understand better how implicit motives of power and affiliation relate to the parenting behaviors of mothers and fathers.

### Adult Attachment and Parenting Behaviors

We also found that adult attachment quality played a role in predicting mothers' and fathers' parenting independently of their implicit motives. For mothers, attachment avoidance was negatively related to positive parenting behaviors. For

fathers, decreased attachment anxiety was positively associated with positive parenting behaviors, whereas increased attachment anxiety was positively associated with negative parenting behaviors. Attachment theory does not explicitly consider differences between men and women, but in the cases where gender differences have been reported, it has focused on adult romantic relationship quality; attachment anxiety is more often related negatively to women's relationship quality as well as their male partner's satisfaction

in the relationship. In contrast, avoidant attachment is more often related negatively to men's relationship quality and the satisfaction of their female partner (Collins & Read, 1990; Shaver et al., 1996; Simpson, 1990).

Few studies have examined gender differences in attachment style as related to parenting behaviors. This is likely because few studies on parent-infant attachment include fathers. Of these studies, avoidant attachment has been found to predict negative parenting behaviors for both mothers and fathers (Rholes et al., 2006). Avoidant mothers had a difficult time feeling close to their children and were less supportive during a laboratory teaching task (Rholes et al., 1995). Avoidant men and women have also been found to lack the desire to become parents, and endorse harsh disciplinary practices (Rholes et al., 1997). We found, however, that it was attachment avoidance that negatively predicted positive parenting for mothers and attachment anxiety that predicted negative parenting, as well as less positive parenting, for fathers.

Because mothers play such a central role in providing a safe haven for their infants (Bowlby, 1969), mothers high in avoidant attachment may also demonstrate more negative parenting behaviors than anxiously attached mothers who may be overly focused on their infants, but are at least present and can be a secure base for their infants. In contrast, anxiously attached fathers may engage with their infant, but not have the skill set to understand the infant's needs and cues, or to enact activative fathering. Their own anxiety may keep them from encouraging their child to explore the world and take risks, which may be a central aspect of the father-infant relationship (Paquette, 2004). Understanding how adult representations of attachment and implicit motives relate to the prediction of parenting behaviors for both mothers and fathers may help bridge the transmission gap in attachment across generations, in that differences in implicit motivations may explain some of the variance researchers still do not understand when it comes to the types of behaviors parents engage in with their infants.

### Differences Between Mothers and Fathers

Understanding the current findings pertaining to gender differences in attachment processes across mother-infant and father-infant relationships requires some consideration of social and

historical context. Mothers have traditionally been involved in more direct caregiving than fathers (Craig, 2006; Gauthier & DeGusti, 2012; McBride, Schoppe, Ho, & Rane, 2004; Pleck & Masciadrelli, 2004; Whiting & Edwards, 1973). According to attachment theorists, this positions mothers as the primary caregivers, who act as a secure base for their infants and provide soothing and comforting during times of infant distress (Ainsworth, Blehar, Waters, & Wall, 1978). Yet, fathers can also act as attachment figures and be a source of comfort and support (Hazen, McFarland, Jacobvitz, & Boyd-Soisson, 2010; Lamb, 1978; Volling & Belsky, 1992). Fathers do, however, also engage in more rough-and-tumble play with their infants, encourage more risk taking, and act more often as disciplinarians compared with mothers (Fletcher, St. George, & Freeman, 2013; Lamb, 1976; Parke, 1996; Tamis-LeMonda et al., 2004). Possibly because of society's conceptions of the different roles of mothers and fathers, or because of men's and women's individual definitions of parenting, mothers and fathers may have differing ideas of the roles they play in their infants' lives. It stands to reason that if mothers and fathers have differing explicit representations of relationships, then how these representations and the underlying implicit processes predict parenting may also be different. Even though we did not find that men and women differed significantly in their mean levels of attachment or implicit motives, we did find that what predicts parenting behavior differed for mothers and fathers, and future research may want to further explicate these processes.

### Implicit Motives Moderate Effects of Adult Attachment

Findings from our hierarchical regression models demonstrated the unique and independent prediction of attachment beyond implicit motives in predicting parenting for both mothers and fathers. Implicit motives were no longer significant predictors in the final models though attachment avoidance and anxiety were, suggesting that effects of implicit motives may be mediated via the quality of the adult attachment relationship. This is certainly an avenue worthy of future investigation. The one exception was a significant interaction between avoidant attach-

ment and *n*Affiliation for mothers. Here, when mothers were low in affiliation motive, there was a significant negative relationship between level of avoidant attachment and positive parenting behaviors. For mothers with high affiliation motive, however, there was no relationship between avoidant attachment and positive parenting behaviors. Based on these initial results, we would hypothesize that affectively charged motives such as *n*Affiliation may compensate for insecure attachment representations in predicting parenting behaviors, but future research is certainly needed to test this hypothesis further and to clarify the complex relations between implicit motives, adult attachment styles, and early parenting behavior.

### Limitations and Future Directions

Despite the large sample, the inclusion of fathers, and the use of both explicit and implicit measures of interpersonal representations, there are several limitations to this research that need to be noted. First, the majority of the participants in this study were college educated, middle class, White, and included two-parent families with mothers and fathers. Findings from the current study may not generalize to families from other socioeconomic, ethnic, or racial backgrounds or to same-sex parents. Additionally, implicit motives were collected as part of a substudy of a larger longitudinal study designed to examine changes in family functioning after the birth or a second child and were only available at the 12-month timepoint. Thus, we were unable to address changes in implicit motives and adult attachment over time and how these changes might predict parenting. Because the substudy utilized the AAQ, which is a self-report measure traditionally focused on romantic relationships, we may have found different results if participants had completed the Adult Attachment Interview—which was designed specifically to tap into representations of childhood attachment relationships (George, Kaplan, & Main, 1985). Further, all parents were interacting with their second-born infants in this study and it is not clear if similar results would be obtained for first-time parents. In addition, we only used three pictures as part of the PSE in order to minimize data collection burden in the home and for parents participating in a longitudinal study with five timepoints of data collec-

tion. This decision may have limited our ability to assess *n*Affiliation and *n*Power (Schultheiss & Pang, 2007) so further research will be needed to replicate the findings using the full complement of PSE stories.

In conclusion, researchers examining parent-infant relationships have long underscored the importance of internal representations and reflective functioning in determining the quality of parenting (Fonagy, Steele, Moran, Steele, & Higgitt, 1993; Slade, Grienberger, Bernbach, Levy, & Locker, 2005). Many theoretical and clinical perspectives demonstrate the complexity and significance of interpersonal representations in predicting parental behaviors (Zeanah & Barton, 1989). The current findings indicated that internal representations of attachment, as well as implicit motives of affiliation and power, were related to parenting and these relations may differ for mothers and fathers. By including fathers, we were able to expand our understanding of the early relationships that contribute to infant development, as well as providing insights into the underlying internal processes of fatherhood. Future research should further define how various explicit and implicit relational processes work together or independently to predict parental behavior for both mothers and fathers.

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