

Mothers' Attachment Style as a Predictor of Breastfeeding and Room-Sharing Practices

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Abstract

Objective To prospectively assess breastfeeding and room-sharing practices during the infant's first 6 months and investigate whether mothers' own adult attachment style predicts the initiation and course of these recommended parenting behaviors. **Method** This study included 193 mother–infant dyads living in the Netherlands. Diary methodology was used to generate 27 weekly measures of breastfeeding and room-sharing during the infant's first 6 months. Multilevel mixed effects models were used to examine trajectories of breastfeeding and room-sharing and to test whether mothers' own adult attachment style predicted the initiation and course of these behaviors, adjusting for covariates. **Results** Most (86%) mothers initiated breastfeeding immediately after birth and the rates of breastfeeding declined steadily over the 6 months ($b = -2.47$, $SE = 0.19$, $p < .001$). Mothers with higher attachment avoidance showed faster decreases in breastfeeding than less avoidant mothers ($b = -1.07$, $SE = 0.21$, $p < .001$). Sixty-four percent of mothers engaged in room-sharing after birth which also decreased steadily over the 6 months ($b = -3.51$, $SE = 0.21$, $p < .001$). Mothers' attachment style did not predict the initiation or course of room-sharing. **Conclusions** Given the major implications of breastfeeding and room-sharing for infants' health, safety, and development, the pediatrics community has issued clear guidelines encouraging these behaviors. Yet many new parents do not adhere to the recommended practices. This study identifies mothers' adult attachment style as a predictor of breastfeeding over time that could be incorporated into interventions for parents.

Key words: attachment; breastfeeding; room-sharing; infancy; parenting.

Introduction

New parents are confronted with a host of important decisions to make in the wake of childbirth. Two routine caregiving behaviors that new parents must make decisions about are feeding practices (breastfeeding vs. bottle-feeding) and sleeping arrangements (room-

sharing vs. solitary sleeping). The American Academy of Pediatrics and the World Health Organization (WHO) have issued clear recommendations about these decisions because of the significant implications of feeding practices and sleeping arrangements for infants' health and mortality, safety, and development

(Tappin, Ecob, & Brooke, 2005; Victora et al., 2016). Despite strong medical recommendations advocating breastfeeding and room-sharing, a striking number of new parents do not follow the recommended practices (Centers for Disease Control (CDC), 2016; Paul et al. 2017; WHO, 2015). This lack of adherence to pediatric guidelines demands exploration of factors that might predict (a) whether or not parents decide to engage in these behaviors after birth and (b) how these behaviors change over the first months of parenthood.

Breastfeeding

Current medical recommendations call for exclusive breastfeeding for the first 6 months, with breastfeeding continuing for 1 year or longer (Eidelman et al., 2012; WHO, 2003). Recent research indicates that following recommended breastfeeding guidelines could prevent over 800,000 annual deaths of children below age 5 worldwide. Moreover, research suggests that breastfeeding is associated with reduced morbidity and mortality due to infectious diseases, fewer dental malocclusions, and higher IQ (Victora et al., 2016; WHO, 2013). Yet only about 25% of infants born in the United States and Europe are exclusively breastfed through 6 months (CDC, 2016; WHO, 2015).

Numerous factors at multiple levels of analysis may impact a mother's decision to initiate and maintain breastfeeding. These factors are best considered within a multilevel and transactional model of the sort that is well known in developmental and pediatric research (e.g., Sadeh, Tikotzky, & Scher, 2010). Differences at the societal and cultural level influence attitudes and practices surrounding breastfeeding (Thulier, 2009) and even within cultures demographic differences exist in breastfeeding practices. For example, in Western cultures more educated mothers are more likely to breastfeed their infants than less educated mothers (Callen & Pinelli, 2004). Further, decisions about breastfeeding may also be driven by contextual and logistical factors such as a mother's return to work (McKinley & Hyde, 2004) and the nature of the "workplace ecosystem" (Johnston & Esposito, 2007). Perinatal medical issues in the child or mother and difficulties breastfeeding may also influence breastfeeding (Flacking, Nyqvist, Ewald, & Wallin, 2003; Scott, Binns, Oddy, & Graham, 2006). In addition, various psychosocial- and individual-level factors may influence breastfeeding. For example, the theory of planned behavior (Lau, Lok, & Tarrant, 2018) provides a framework for speculating that a mother's desires or intentions related to breastfeeding will likely affect the initiation and maintenance of these behaviors. Other psychosocial influences include postpartum depressive symptoms, social support, and breastfeeding self-efficacy (de Jager, Skouteris, Broadbent, Amir, & Mellor, 2013). Clearly, many

factors can affect breastfeeding, and identifying novel predictors adds to this complicated picture and can inform interventions.

One potential predictor of feeding practices and that has been relatively understudied is a mother's own adult attachment style. Adult attachment style reflects an individual's thoughts, feelings, and behaviors in current close relationships. Attachment style is typically described along two dimensions: anxiety and avoidance. *Attachment anxiety* is characterized by feelings of vulnerability and concerns about abandonment, whereas *attachment avoidance* is characterized by discomfort with closeness and intimacy (Mikulincer & Shaver, 2016). Low scores on both dimensions reflect greater *security*, whereas higher scores on one or both dimensions reflects greater *insecurity*. A central tenet of attachment theory is that parents' own adult attachment strongly influences caregiving behavior, and a large body of research demonstrates that adult attachment is associated with many aspects of parenting, including several aspects that are particularly relevant to the initiation and maintenance of breastfeeding (see Jones, Cassidy, & Shaver, 2015, for a review).

The limited prior research on the association between adult attachment and breastfeeding has largely found that attachment security is positively associated with breastfeeding (yet see Akman et al., 2008). For example, more secure mothers were more likely to initiate breastfeeding, to continue breastfeeding for 6 months to 1 year after birth, and to continue breastfeeding in the face of difficulties than less secure mothers (Mathews, Leerkes, Lovelady, & Labban, 2014; Scharfe, 2012; Wilkinson & Scherl, 2006). Notably, however, the limitations in how these prior studies assessed and conceptualized breastfeeding precluded researchers from drawing conclusions about *ongoing changes* in breastfeeding across the first 6 months. These studies included only one assessment (Akman et al., 2008; Wilkinson & Scherl, 2006) or a few assessments ((Mathews et al., 2014) of breastfeeding. Further, these studies operationalized breastfeeding either dichotomously (e.g., exclusive breastfeeding at 4 months or not) or as the number of months of breastfeeding during the first year, retrospectively reported.

Infant-Parent Room-Sharing

Current recommendations stipulate that infants sleep in their parents' room, on a separate sleeping surface, for at least the first 6 months and, ideally, for the first year (Task Force on Sudden Infant Death Syndrome [SIDS], 2016). Parent-infant room-sharing is associated with reduced rates of SIDS and lower infant cortisol reactivity, thought to result, at least in part, from parents being more available during the night to quickly detect threatening situations and to respond to

signs of infant distress (Beijers, Riksen-Walraven, & de Weerth, 2013; Tappin et al., 2005; Tollenaar, Beijers, Jansen, Riksen-Walraven, & de Weerth, 2012). Nonetheless, these recommendations are typically not followed, with one study noting 62% of U.S. infants to be solitary sleeping by 4 months (Paul et al., 2017).

As is the case for breastfeeding, numerous factors at multiple levels of analysis may impact a mother's decision to initiate and maintain room-sharing, and consideration of these is best approached within a transactional model (e.g., Sadeh et al., 2010). Certainly, differences at the societal and cultural level influence attitudes and practices surrounding room-sharing; for example, child solitary sleeping is more common in Western cultures than in Asian cultures (Mindell, Sadeh, Kohyama, & How, 2010). Even within cultures, demographic differences exist in this caregiving behavior. For example, lower family income is related to increased bed-sharing (Li et al., 2009). Further, decisions about room-sharing may also be driven by contextual and logistical factors such as space constraints in the home, or the presence of other children (Li et al., 2009). In addition, various psychosocial- and individual-level factors may influence room-sharing such as postpartum depressive symptoms (Luijk et al., 2013) and quality of parental relationships (Li et al., 2009; see also Lau et al.'s, 2018 framework for considering the role of mothers' desires and intentions).

Despite this array of potential contributors to room-sharing, identifying novel predictors is useful for designing interventions to foster parental adherence to guidelines for this important practice. Because of the extensive link between parents' attachment styles and their parenting (see Jones et al., 2015, for a review), consideration of links to sleeping arrangements merits examination. To our knowledge, only one study has reported on this link: Burnham, Goodlin-Jones, Gaylor, and Anders, (2002) found that parental attachment style was unrelated to crib location. Clearly, more research using more detailed measures of sleeping arrangements is warranted to understand the potential association between attachment and room-sharing.

The Present Study

We employed diary methodology to generate 27 weekly measures of breastfeeding and room-sharing. We hypothesized that mothers with a more insecure attachment style would be less likely to initiate breastfeeding and room-sharing after birth and would show faster declines in these caregiving behaviors during the first 6 months relative to less insecure mothers.

Materials and Methods

Participants

Participants are part of an ongoing longitudinal study in which mothers and their children were followed from pregnancy. Pregnant women responded to flyers provided to midwife practices near the cities of Nijmegen, Arnhem, and surrounding areas in the Netherlands. Inclusion criteria were: fluency in Dutch, an uncomplicated singleton pregnancy, no drug use during pregnancy, no current major physical or mental health problems (i.e., not currently receiving treatment or medication for anxiety or depression), full-term delivery (≥ 37 weeks), and a normal 5-min infant Apgar score (≥ 7). The ethical committee of the Faculty of Social Sciences of Radboud University approved the study, and all women provided informed consent.

Of the 220 women who enrolled in the study, 8 were excluded because of medical reasons (e.g., pre-term birth). Of the remaining 212 mothers, a further 19 discontinued the study during the first 3 postpartum months. Demographic characteristics of the final sample of 193 mothers and infants are provided in Table I. No demographic differences emerged between participating mother-infant dyads ($N = 193$) and those who dropped out ($N = 19$).

Procedure

During the final weeks of pregnancy, mothers completed the attachment style measure and received all materials and instructions for the feeding and sleeping diaries. For the first 6 months of the infant's life, mothers used paper-and-pencil diaries to provide data on breastfeeding (weekly diary) and room-sharing (daily diary). Our decision to utilize weekly measures of breastfeeding and daily measures of sleeping arrangements rested largely on the fact that breastfeeding is less variable than an infant's sleeping location. An infant can sleep one night in the parents' room, the next night in his/her own room, and the next night spend time in both, as parents often adapt the sleeping place to the day-to-day variability in infant fussing/crying (e.g., de Weerth, van Geert, & Hoijtink, 1999). On the other hand, parents do not usually switch from predominately breastfeeding one day to predominately bottle-feeding the next day, and then back again, because that could lead to breastfeeding difficulties (e.g., a decline in breast milk production). An additional reason was to reduce burden on mothers. Mothers began completing the diaries immediately after birth; instructions and compliance were reviewed during two home visits (5 weeks and 5 months), and diaries were collected at 6 months.

Table 1. Sample Demographic Characteristics

	Mean (SD)	Range
Demographics		
Maternal age (years)	32.46 (3.79)	21.10–42.90
Partner status (%)		
Living with partner	97.9	
Maternal educational level (%)		
Primary education	2.2	
Secondary education	18.5	
College or university	79.3	
Infant sex (%)		
Girl	46.0	
Additional covariates		
Infant birth weight (g)	3,616.97 (465.32)	2,645.00–4,730.00
Siblings/birth order (%)		
First	41.6	
Second	43.7	
Third or fourth	14.7	
Infant age entering nonparental care (months)	4.52 (2.94)	1.00–12.00
Postpartum depression symptoms	5.04 (3.25)	0.00–21.00

Measures

Adult Attachment Style

The Relationship Questionnaire (RQ; [Bartholomew & Horowitz, 1991](#)) was used to assess adult attachment style. Using the RQ, participants read four brief paragraphs describing four attachment styles (secure, dismissing, preoccupied, and fearful) and used a 7-point scale to rate the degree to which they resemble each of the four styles. Attachment anxiety and avoidance scores are calculated from responses on the four scales using the following formulas: anxiety = preoccupied + fearful – secure – dismissing; avoidance = dismissing + fearful – preoccupied – secure ([Griffin & Bartholomew, 1994](#); [Scharfe, 2012](#)). This calculation results in scores with a possible range of –12 to 12, with more positive scores reflecting greater anxiety ($M = -2.86$, $SD = 3.15$) and avoidance ($M = -1.43$, $SD = 3.35$). [Mikulincer and Shaver \(2016\)](#) provide an in-depth summary of the discriminant, convergent, and predictive validity of the anxious and avoidant attachment dimensions.

Breastfeeding

Each week during the infant's first 27 weeks, mothers used a weekly dairy to record the mean daily number of breast feedings, expressed breast feedings, and formula feedings. For every week, the percentage of breast feedings of the total number of feedings was calculated. Infants were excluded if they were predominantly bottle-fed expressed breast milk (i.e., $\geq 90\%$ of the total amount of daily feedings for at least 2 weeks; $N = 6$) because expressed milk can be given to the infant by people other than the mother (e.g., father, grandparent). However, we performed supplemental analyses with the bottle-fed infants included.

Room-sharing

Information on sleeping arrangements was collected using daily diaries. Each day, for the infant's first 27 weeks, mothers used a daily diary to report where the infant had slept during the previous night by marking lines in a table spanning between 20:00 and 08:00 hr. Similar to [Anders and Keener \(1985\)](#) and our previous research ([Beijers et al., 2013](#)), we defined nighttime as 00:00–05:00 hr. For every 30 min, mothers marked whether the infant slept in his or her own room, in the parents' room in a separate bed, in the parents' bed, or elsewhere. For each week, the room-sharing percentage of the total amount of sleep was calculated. Infants who predominately slept in the parents' bed (i.e., $\geq 90\%$ of the time for at least 2 weeks) were excluded ($N = 7$). Thus, the room-sharing variable reflects the percentage of total infant sleep that occurred in the parents' room on a separate sleeping surface.

Covariates

We aimed to include a range of potential confounders spanning mother and child characteristics, contextual factors, psychosocial factors, and medical concerns. The following variables were included as covariates: maternal age, maternal education, postpartum depression symptoms, infant sex, infant birth weight, number of siblings, and infant age entering nonparental care. Postpartum depression symptoms were assessed with the Edinburgh Postnatal Depression Scale at 3 and 6 months postpartum ([Cox, Holden, & Sagovsky, 1987](#)). The choice of these covariates converges with a conceptual transactional model of potential influences at multiple levels ([Sadeh et al., 2010](#)) and was based on previous empirical evidence of associations with breastfeeding and/or room-sharing ([Callen & Pinelli, 2004](#); [de Jager et al., 2013](#); [Flacking et al., 2003](#); [Li](#)

et al., 2009; Paul et al., 2017; Scott, Binns, Oddy, & Graham, 2006; Shafer & Hawkins, 2017).

Analytic Approach

We used multilevel mixed effects models to examine trajectories of room-sharing and breastfeeding during the first 6 months of parenthood and to examine the extent to which maternal attachment style and the selected covariates predict the initiation and course of these behaviors. For each outcome, we tested a series of increasingly complex models. We began with a basic model that only contained time, as a way to estimate the unconditional trajectories. We included both linear and quadratic indices of time. Time was scaled such that zero represented the initial assessment. As such, the intercept in these models represents an estimate of the average value of the outcome at the initial assessment. Next, we added maternal attachment anxiety and avoidance to the model to examine the ways in which these variables predict both initial levels of the outcomes and their change over time. Third, we added the selected covariates to the model. We limited examination of interactions with quadratic time to the two attachment style measures to minimize the already large number of predictors in the models. In each model, random intercepts and random effects of time were included in addition to the fixed effects. The attachment style dimensions and all continuous covariates were standardized prior to analyses such that 0 represents the sample mean. Restricted maximum likelihood estimation was used in the main analyses. Analyses were conducted in R using the *lme4* (Bates, Maechler, Bolker, & Walker, 2015) and *lmerTest* (Kuznetsova, Brockhoff, & Christensen, 2017) libraries.

Results

Preliminary Analyses and Missing Data

The mean trajectories of breastfeeding and room-sharing over the 27 weeks are presented in [Supplementary Figure 1](#). Descriptive statistics for main study variables are presented in [Table I](#). Preliminary analyses were performed to evaluate model assumptions and no violations of assumptions emerged. Of the 193 mothers, 190 mothers completed the RQ: 174 mothers during pregnancy and 16 mothers shortly after birth. From this group of 190 mothers, and after excluding the routine expressed breast feeders ($N = 6$), 150 mothers provided complete feeding diary data. Moreover, of the 190 mothers, and after excluding the bed-sharers ($n = 7$), 125 mothers provided complete sleep diary data.¹

1 Methods for handling missing data in multilevel models are still under development (e.g., Enders, Du, & Keller, 2019). Traditional imputation approaches are less straightforward when there are potential

Breastfeeding

Model 1: Basic Model

On average, mothers breastfed their babies the majority of the time after birth (average intercept = 86.05, $SE = 3.23$, $p < .001$). Moreover, there were significant individual differences in the percentage of time mothers breastfed their babies after birth ($VAR = 1,694.40$, $p < .001$). The linear slope estimate was negative and significantly different from zero, indicating the percentage of time mothers breastfed their babies decreased steadily over time (average slope = -2.47 , $SE = .19$, $p < .001$). In addition, there were significant individual differences in linear slope estimates ($VAR = 3.79$, $p < .001$), suggesting that the amount of breastfeeding changed more for some mothers than would be expected if the slopes were fixed. These significant individual differences in intercept and slope indicate that it is worthwhile to examine predictors of these individual differences. In addition, the intraclass correlation coefficient (ICC) of .70 indicates that the majority of the variance in breastfeeding is due to differences between mothers, rather than within-person differences (e.g., time), making it appropriate to examine between-person predictors of trajectories.

Model 2: Adding Attachment Style as a Predictor

Neither attachment avoidance nor anxiety predicted individual differences in breastfeeding intercepts. Avoidance, but not anxiety, significantly predicted individual differences in slopes ($b = -1.13$, $SE = .20$, $p < .001$): More avoidant mothers showed faster decreases in breastfeeding over time than less avoidant mothers.

Model 3: Adding Covariates

Attachment avoidance remained a significant predictor of individual differences in breastfeeding slopes ($b = -1.07$, $SE = .21$, $p < .001$) with the covariates added to the model. Maternal age also predicted individual differences in slopes such that breastfeeding decreased less rapidly among older mothers. Maternal age and education level predicted individual differences in breastfeeding intercepts: Older mothers were less likely to initiate breastfeeding after birth and more educated mothers were more likely to initiate breastfeeding (see [Table II](#) for parameter estimates). The association between attachment avoidance and breastfeeding slopes remained significant when infants who were predominately bottle-fed expressed breastmilk were included in the analyses.²

interactions between level 1 and 2 factors. Thus, it is possible that some of our estimates are biased in unknown ways. However, we note that, overall, there were few missing values in this dataset. As such, the amount of bias should be trivial.

2 One can use the information reported in [Table II](#) to answer nuanced questions about how the association between any predictor and

Table II. *Breastfeeding Model With Covariates*

	Estimate	SE	<i>p</i>
Fixed effects			
Intercept	84.66	3.35	<.001
Time	-2.49	0.19	<.001
Time ²	0.03	0.004	<.001
Avoidance	0.79	3.58	.83
Anxiety	3.12	3.34	.35
Maternal education	9.22	3.61	<.05
Maternal age	-8.52	3.72	<.05
Infant sex	0.05	3.41	.99
Birthweight	0.17	3.37	.96
Siblings	1.16	3.62	.75
Age of care	0.13	3.43	.97
Depression symptoms	-2.68	3.32	.42
Avoidance × time	-1.07	0.21	<.001
Anxiety × time	-0.03	0.19	.88
Avoidance × time ²	0.03	0.004	<.001
Anxiety × time ²	0.00	0.004	.82
Maternal education × time	0.08	0.17	.64
Maternal age × time	0.44	0.17	<.05
Infant sex on × time	0.11	0.16	.51
Birthweight × time	0.02	0.16	.90
Siblings × time	-0.11	0.17	.52
Age of care × time	0.05	0.16	.77
Depression symptoms × time	0.04	0.16	.81
Random effects			
	Estimate	SD	
Intercept	1,715.95	41.42	
Time	3.68	1.92	

Note. Infant sex (0 = male; 1 = female). Age of care = age (in months) of entry into nonparental care. Although the interaction between avoidance and quadratic time was significant, we do not provide a substantive interpretation of this interaction. We plotted this interaction but, in our judgment, this term did not modify the overall pattern in qualitatively significant ways. The term simply altered the curvature of the trajectory in subtle ways.

Room-Sharing

Model 1: Basic Model

On average, room-sharing occurred slightly more than half of the time after birth (average intercept = 64.43, SE = 3.63, $p < .001$). Moreover, there were significant individual differences in the percentage of time mothers room-shared with their babies after birth ($VAR = 2,099.81$, $p < .001$). The linear slope estimate was negative and significantly different from zero, indicating that the percentage of time mothers room-shared

breastfeeding changes as a function of time (e.g., early vs. later phases postbirth). For example, if one wanted to know how the association between avoidance and breastfeeding varied as a function of time, one could substitute different values of time into the model (assuming values of 0 for all other standardized predictors other than avoidance). Doing so reveals that the association between avoidance and breastfeeding is essentially zero shortly after birth (between weeks 0 and 1). By 6 weeks, the association is negative (-5.65) and becomes increasingly negative as time goes on (e.g., -26.02 at 25 weeks). By substituting a value of +1 for avoidance and 25 for time, one can also see that mothers who were 1 SD above the mean in avoidance were breastfeeding 33% of the time at 25 weeks, whereas mothers who were 1 SD below the mean were breastfeeding 46% of the time.

with their babies decreased steadily over time, on average (average slope = -3.51, SE = .21, $p < .001$). In addition, there were significant individual differences in linear slope estimates ($VAR = 3.79$, $p < .001$), suggesting that the amount of room-sharing changed more for some mothers than would be expected if the slopes were fixed. Finally, the ICC of .61 indicates that examining between-person predictors is appropriate.

Model 2: Adding Attachment Style as a Predictor

Attachment anxiety, but not avoidance, predicted individual differences in room-sharing intercepts at a trend level ($b = -5.98$, SE = 3.54, $p = .09$). More anxious mothers were less likely to initiate room-sharing after birth compared with less anxious mothers. Neither attachment avoidance nor anxiety significantly predicted variation in room-sharing slopes.

Model 3: Adding Covariates

The association between attachment anxiety and room-sharing intercepts became nonsignificant when covariates were introduced into the model ($p = .28$). Maternal education and number of siblings predicted individual differences in intercepts: More educated mothers and mothers with more children were more likely to initiate room-sharing after birth. Only postpartum depression symptoms significantly predicted individual differences in room-sharing slopes: Room-sharing decreased less rapidly among mothers with more postpartum depression symptoms (see Table III).

Discussion

Breastfeeding and room-sharing are two parenting behaviors that have major implications for infants' health, safety, and development. Thus, understanding the course and predictors of these behaviors is important and should prove useful in intervention efforts designed to improve infant outcomes by increasing these protective behaviors. To date, much of the research has focused on understanding cultural, contextual, and sociodemographic factors associated with breastfeeding and room-sharing. However, researchers have also acknowledged the importance of considering psychosocial predictors of these behaviors (de Jager et al., 2013). In this study, we identified maternal attachment avoidance as a psychosocial predictor of breastfeeding. Specifically, we found that mothers higher in attachment avoidance showed faster decreases in breastfeeding relative to less avoidant mothers. In addition, we found a marginally significant negative effect of attachment anxiety on room-sharing intercepts. However, this association with room-sharing became nonsignificant after covariates were introduced into the model.

Table III. Room-Sharing Model With Covariates

	Estimate	SE	p
Fixed effects			
Intercept	63.73	3.55	<.001
Time	-3.52	0.22	<.001
Time ²	0.07	0.01	<.001
Avoidance	-2.29	3.73	.54
Anxiety	-3.87	3.54	.28
Maternal education	12.51	3.71	<.001
Maternal age	1.37	3.96	.73
Infant sex	-3.19	3.62	.38
Birthweight	-3.63	3.57	.31
Siblings	10.05	3.75	<.01
Age of care	3.41	3.66	.35
Depression symptoms	-1.63	3.50	.64
Avoidance × time	-0.17	0.23	.45
Anxiety × time	-0.10	0.22	.66
Avoidance × time ²	0.01	0.01	.15
Anxiety × time ²	0.01	0.01	<.05
Maternal education × time	-0.21	0.17	.20
Maternal age × time	0.15	0.18	.39
Infant sex on × time	0.14	0.16	.39
Birthweight × time	0.18	0.16	.26
Siblings × time	-0.30	0.17	.08
Age of care × time	-0.11	0.16	.48
Depression symptoms × time	0.31	0.16	<.05
Random effects			
	Estimate	SD	
Intercept	1,918.92	43.81	
Time	3.71	1.93	

Note. Infant sex (0 = male; 1 = female). Age of care = age (in months) of entry into nonparental care. Although the interaction between anxiety and quadratic time was significant, we do not provide a substantive interpretation of this interaction. We plotted this interaction but, in our judgment, this term did not modify the overall pattern in qualitatively significant ways. The term simply altered the curvature of the trajectory in subtle ways.

Contrary to previous studies that found an association between maternal attachment and breastfeeding initiation (Mathews et al., 2014; Scharfe, 2012), our results indicate that mothers' initial decision to breastfeed at birth was not a function of maternal attachment style. Instead, our findings suggest that mothers' initial decision to breastfeed may be driven more by sociodemographic factors, such as maternal age and education level. In addition, the initiation of breastfeeding may depend on other factors not assessed in the current study, such as societal pressures and norms, difficulties breastfeeding, or other psychosocial variables (e.g., partner support; de Jager et al., 2013; Flacking et al., 2003; Mindell et al., 2010). However, attachment style did predict the course of breastfeeding: More avoidant mothers showed faster declines in breastfeeding during the first 6 months than less avoidant mothers. This accelerated decline fits with theory and previous research (Mathews et al., 2014), as avoidance is characterized by discomfort with closeness, dependency, and intimacy—all of which arise during breastfeeding. Perhaps the influence of attachment only becomes apparent over time, as mothers

increasingly bond with their infant and the intimacy of breastfeeding becomes more salient. Similar to this study, Scharfe (2012) found that attachment avoidance, but not anxiety, was related to cessation of breastfeeding by 6 months. Although not the focus of this study, we also found that breastfeeding decreased less rapidly among older mothers.

Similar to our breastfeeding findings, the initial decision to room-share after birth seems to be driven more by sociodemographic factors (i.e., maternal education and number of siblings the infant has) than by maternal attachment style. Although there was a trend-level effect of maternal attachment anxiety on room-sharing intercepts, this association became non-significant when covariates were introduced into the model. This null finding is consistent with a prior study that found no association between parental attachment style and the infant's crib location (Burnham et al., 2002). In addition, the initial decision to room-share may be strongly influenced by logistical factors not assessed in this study, such as number of bedrooms in the house (Li et al., 2009). Attachment style was also not a significant predictor of room-sharing slopes. In fact, the only variable to predict the course of room-sharing was maternal postpartum depression symptoms. The positive association between maternal postpartum depression symptoms and room-sharing slopes raises interesting questions about the direction of effects. On the one hand, it is possible that more depressed mothers continue to room-share as a way to feel closer to their infants or derive comfort from them. Alternatively, more depressed mothers may not have the energy needed to arrange the logistics of shifting infant sleeping arrangements. On the other hand, it is possible that continued room-sharing could increase mothers' depression symptoms. One study found that persistent room-sharing beyond the first 6 months was associated with elevated maternal depressive symptoms (Shimizu & Teti, 2018). In addition, room-sharing could cause sleep disturbance which may be a risk factor for postpartum depression (Park, Meltzer-Brody, & Stickgold, 2013). Future research on the psychosocial correlates of room-sharing is warranted.

Limitations and Future Directions

This study has limitations. First, attachment style is just one of a multitude of factors that may influence a mother's decision to breastfeed and room-share. Although we included numerous covariates that spanned multiple levels of analysis, there are certainly important confounders that were not included in this study. For example, this study cannot speak to mothers' reasons for (or for not) breastfeeding. It could be that difficulties with breastfeeding (e.g., pain, latching difficulties) necessitated bottle-feeding despite the

mother's desire to breastfeed. Future studies would benefit from measuring mothers' desires, intentions, and struggles, in addition to behavior. Second, this study used a largely homogenous sample of mothers, raising questions about generalizability. Given evidence for cultural and socioeconomic influences on breastfeeding, future research using more diverse samples should explore how mothers' attachment style interacts with these sociodemographic factors to predict breastfeeding initiation and course. Third, this study stopped at 6 months after birth. Future studies should aim to investigate these links for at least 12 months. Fourth, although the use of diary methodology is a strength of the study, we cannot rule out the possibility that weekly assessments of breastfeeding were susceptible to recall bias and that the very act of monitoring breastfeeding and room-sharing altered mothers' behavior.

Implications

In conclusion, these findings have important implications for pediatric settings. Both breastfeeding and room-sharing are critically important to infant health and safety. Understanding predictors of these behaviors can inform efforts to increase them among parents and improve infant outcomes. Although these findings should be replicated before they are used to inform potential interventions, they suggest that there could be benefits to having mothers complete an attachment style screener as part of routine perinatal care. Several brief and psychometrically sound measures of attachment style are available (Mikulincer & Shaver, 2016). Including an attachment measure could be part of a "personalized medicine" approach to pregnancy and postnatal care in which healthcare providers screen for factors that research suggests are associated with later caregiving. Mothers' attachment style could be one more factor in a complex constellation that is relevant for understanding breastfeeding and room-sharing. Avoidant mothers may struggle with seeking support when early caregiving challenges arise, resist support that is offered, and be less likely to persist in breastfeeding when confronted with difficulties (Mikulincer & Shaver, 2016; Scharfe, 2012). This presentation may result in unique challenges for pediatric psychologists and other clinicians providing perinatal care. Thus, understanding mothers' interpersonal insecurities could help tailor early parenthood interventions. In sum, understanding key predictors of recommended parenting practices can improve infant health and safety worldwide, and maternal attachment style may be another relevant psychosocial contributor to these protective behaviors.

Supplementary Data

Supplementary data can be found at: <https://academic.oup.com/jpepsy>.

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