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Attachment avoidance, but not anxiety, minimizes the joys of caregiving

S. Katherine Nelson-Coffey^a, Jessica L. Borelli^b and Laura M. River^c

^aDepartment of Psychology, Sewanee: The University of the South, Sewanee, TN, USA; ^bDepartment of Psychology and Social Behavior, University of California, Irvine, CA, USA; ^cDepartment of Psychology, University of Colorado Boulder, CO, USA

ABSTRACT

Perhaps unlike other social roles that people may hold, caring for children offers opportunities for both immense joy and incredible frustration. Yet what predicts how parents will feel during caregiving experiences? In the current study, we examined parents' ($N = 152$) positive emotion, negative emotion, and felt meaning during caregiving using the Day Reconstruction Method. In addition, we tested attachment anxiety and avoidance as predictors of parents' emotion during caregiving relative to their other daily experiences. We found that attachment avoidance was associated with elevated negative emotion and reduced positive emotion and meaning in life across the entire day, whereas attachment anxiety was associated with elevated negative emotion and marginally greater meaning in life, but not positive emotion, across the entire day. Furthermore, caregiving was associated with greater positive emotion and meaning, but not negative emotion, compared to parents' other daily activities. Finally, attachment avoidance, but not anxiety, was associated with lower levels of positive emotion, negative emotion, and felt meaning during caregiving compared to other daily activities. These findings are consistent with other evidence that attachment avoidance is associated with deactivation of emotion in close relationships and suggest that attachment avoidance minimizes the joys of parenting.

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Introduction

The birth of a child is a transformative experience, shaping parents' lives in many ways. Happy hours with friends may be replaced with play dates at the neighborhood park, and reading novels for pleasure may be replaced with reading bedtime stories. One of the most notable changes associated with the birth of a child is time spent caregiving. Even among those who work outside the home, parents spend a considerable amount of time with their children each day. Bowlby (1951) suggested that an "enduring sense of joy" in caregiver-child interactions was vital to children's immediate and long-term mental health. Yet parents' time with children can be filled with joy and meaning, with frustration and anger, or with a dizzying array of both positive and negative emotions.

What predicts whether parents will find their caregiving experiences to be predominantly joyful versus demanding? We anticipate that parents' attachment orientations, which theorists argue provide an organizing framework for the way people approach relationships and emotion (Shaver & Mikulincer, 2007), may be important predictors of parents' emotions while caring for their young children; however, few studies have examined whether attachment is related to parents' emotions during caregiving, which may have important implications for parenting behaviors, as well as both parents' and children's well-being (Bowlby, 1951). In the current study, we examined the roles of attachment avoidance and anxiety in predicting working parents' positive emotion, negative emotion, and felt meaning during caregiving.

Understanding parents' emotions during caregiving interactions has important implications for parenting behaviors, given that parents' emotions are central to effective parenting (Dix, 1991). Although emotions experienced at any point in the day (e.g. feeling grateful at work after recalling a positive moment with a child) could elicit important parenting behaviors (e.g. extra patience after retrieving a child from day care), parents' emotions during caregiving likely have the strongest and most immediate consequences for parenting behaviors. For example, parents' positive emotion during caregiving is related to increased efforts to cognitively stimulate their children and to less expression of detachment and negative affect towards their children (Belsky, Crnic, & Woodworth, 1995). Additionally, negative emotion experienced in response to children's distress predicts decreased sensitivity, as well as harsh and punitive responses (Leerkes, 2010; Leerkes, Parade, & Gudmundson, 2011).

Attachment and parenting

According to attachment theory (Bowlby, 1969), early experiences of receiving care from attachment figures shape people's feelings, beliefs, and expectations regarding relationships across the lifespan, which are collectively referred to as internal working models (IWMs) of attachment (Bowlby, 1969; Mikulincer & Shaver, 2007). Although researchers take different approaches to measuring and classifying IWMs in adulthood (Jacobvitz, Curran, & Moller, 2002), scholars agree that IWMs can be measured with respect to various attachment relationships (e.g. romantic partners and caregivers) and vary along dimensions of avoidance and anxiety, with low scores on both signifying secure attachment. Theory suggests that as they are able to freely receive (relying on partners when in distress) as well as provide (willingly offering support) care, individuals with secure attachment IWMs experience comfort and ease in close relationships, as well as joy, comfort, and contentment across their lives more generally (Sable, 2007). By contrast, adults with insecure IWMs experience marked discomfort surrounding close relationships; for them, receiving and providing care to others ought to be restricted, effortful, and fraught with fear. Moreover, IWMs are thought to influence patterns of behavior in all close relationships, including relationships with one's own children (arguably one of the closest personal relationships in parents' lives), as well as emotion regulation more generally (Shaver & Mikulincer, 2007). Given its theorized and demonstrated salience for emotion and relationships, we examined attachment style as a predictor of parents' emotions during caregiving, with attention to the central dimensions of avoidance and anxiety.

In adulthood, attachment styles (self-reported avoidance and anxiety) are most commonly measured with respect to romantic relationships. According to theory, most adults have an IWM that generalizes across attachment relationships (e.g. secure with respect to relationship with partner, secure with respect to relationships with parents; Bowlby, 1980), with some relationship-specific variation (e.g. more secure with parents than with partner). Therefore, in theory, attachment as measured with respect to one of an adult's relationships ought to provide a relatively accurate sense of the adult's attachment with respect to other attachment relationships. Despite this premise, surprisingly few studies have examined the associations between romantic attachment styles and parenting, but in recent years, this field has grown significantly (see Jones, Cassidy, & Shaver, 2015, for a review).

Attachment avoidance

Attachment avoidance is thought to develop when a caregiver consistently ignores or rejects the child's needs (Bowlby, 1969/1982; Mikulincer & Shaver, 2003), resulting in the development of a regulatory strategy in which the child minimizes or denies his/her own emotional needs, referred to as *deactivation* (Ainsworth et al., 1978; Main, 1981). In turn, according to theory, avoidant people develop IWMs characterized by distrust of relationship partners and a desire for self-reliance (Mikulincer & Shaver, 2003). Scholars argue that in their attempts to maintain independence, people high in attachment avoidance detach themselves emotionally from relationship-relevant events (Wei, Vogel, Ku, & Zakalik, 2005). For example, one study found that young adults high in attachment avoidance experienced greater commitment aversion (i.e. fewer positive commitment-enhancing events and more negative commitment-undermining events), which in turn predicted relationship failure (Birnie, McClure, Lydon, & Holmberg, 2009). In theory, high attachment avoidance may also influence caregiving experiences – in the context of parenting, closeness may be perceived as threatening for people high in avoidance, resulting in greater deactivation when parents are in the presence of their children. Importantly, deactivation as a regulatory strategy is thought to dampen not only negative, but also positive emotional experiences (Diamond & Aspinwall, 2003).

To date, little work has examined the link between attachment avoidance and emotion as it relates to caring for young children. One study examined whether attachment avoidance among middle-aged adults was related to the specific emotions of love, pride, and joy during their time spent with their adult children. Consistent with a deactivating strategy, attachment avoidance was linked with lower levels of these positive emotions during time with children (Impett, English, & John, 2011). Furthermore, another study found that parents high in attachment avoidance reported more stress in the transition to parenthood (Rholes, Simpson, & Friedman, 2006). In addition, parents high in attachment avoidance demonstrated less sensitive, responsive, and supportive behavior (Berlin et al., 2011; Borelli, Vazquez, Rasmussen, Teachanarong, & Smiley, 2016; Rholes, Simpson, & Blakely, 1995); reported feeling less closeness with their children (Rholes et al., 1995; Wilson, Rholes, Simpson, & Tran, 2007); described positive memories with their children with less secure attachment content (Borelli, Burkhart et al., 2017); reported greater use of distancing coping strategies for managing parenting stress (Berant, Mikulincer, & Florian, 2001); and reported lower overall

parenting satisfaction (Cohen, Zerach, & Solomon, 2011; Rholes et al., 2011). Thus, extant evidence is consistent with the argument that high attachment avoidance is associated with discomfort and detachment in parent–child relationships.

Attachment anxiety

Attachment anxiety is thought to develop when caregivers are inconsistently responsive, at times responding sensitively, and at other times rejecting, intruding, or interfering with young children's exploration (Ainsworth et al., 1978; Bowlby, 1969/1982). This pattern of caregiving may have profound implications for emotion regulation (Cassidy, 1994). When parented in a way that is inconsistently responsive, children can develop a *hyperactivating* regulatory strategy, in which they amplify and lengthen their distress signals in order to increase the likelihood of getting a parental response (Bowlby, 1969/1982; Cassidy, 1994). Over time, children develop IWMs characterized by helplessness and fear of being alone (Mikulincer & Shaver, 2003). In adulthood, attachment anxiety is reflected in fear of romantic partners being unavailable and unreliable (Mikulincer & Shaver, 2007). Consistent with their hyperactivating emotion regulation strategy, in the context of romantic relationships, people high in attachment anxiety respond to negative experiences with intense negative emotion and to positive experiences with mixed emotions of love, happiness, fear, and anxiety (Campbell, Simpson, Boldry, & Kashy, 2005; Mikulincer & Shaver, 2005). These findings suggest that negative emotional experiences may intrude in and interrupt the experience of positive emotion.

However, little research has investigated how attachment anxiety relates to parents' emotional responses to caregiving for children, and prior findings are inconsistent. Although attachment anxiety is related to greater parent–child conflict (Selcuk et al., 2010), greater parenting stress (Fernandes, Muller, & Rodin, 2012), and greater negative emotion related to parent–child interaction (River, Borelli, & Nelson-Coffey, 2016), the evidence is mixed or shows no relationship between attachment anxiety and parenting sensitivity, responsiveness, and satisfaction (Jones et al., 2015).

Importantly, the majority of the work examining how parents' attachment-related anxiety and avoidance is related to parenting focuses on global measures of emotions, behavior, and cognition, rather than focusing more closely on how attachment influences caregiving experiences specifically. However, it stands to reason that the use of deactivating (among those high in avoidance) and hyperactivating (among those high in anxiety) regulation strategies likely influences parents' emotions more strongly during caregiving than other daily activities. Consistent with this possibility, one study found that middle-aged parents high in avoidance experienced relatively lower levels of love, joy, and pride when they were spending time with their adult children (Impett et al., 2011). However, little research has investigated how attachment is related to negative emotion and feelings of meaning during caregiving or to parents' emotions while providing care for their relatively young children. Furthermore, examining how parents' attachment orientations are related to their emotions during caregiving may provide insight regarding the broader links between attachment and global measures of emotion, behavior, and cognition. For example, parents high in attachment avoidance may report less closeness with their children and lower levels of parenting satisfaction (Cohen et al., 2011; Rholes et al., 1995; Wilson et al., 2007) in part because they

experience fewer positive emotions, such as love, joy, and gratitude, when they are spending time with their children. Finally, few studies investigating attachment and emotion in parenting include measures of emotion with romantic partners and with children in order to examine whether attachment style may be differentially related to emotion with romantic partners and with children (Jones et al., 2015). Accordingly, in the current study, we compare whether attachment avoidance and anxiety predict similar patterns of emotion during caregiving and spouse interactions, respectively, relative to other daily activities.

Caregiving and emotion

Researchers have begun to investigate parents' feelings during their time spent with children (i.e. caregiving), typically using daily diary or experience sampling methodologies. Such approaches shed light on parents' experiences specifically during caregiving and minimize potential selection biases prevalent among comparisons of parents and non-parents (i.e. that people who become parents are happier to begin with; Kim & Hicks, 2016). In one study using the Day Reconstruction Method (DRM; a diary method), a sample of mothers and women without children rated their emotions during all of the various activities of their days. When these activities were rank-ordered across the entire sample by positivity, caregiving ranked near the bottom of the list (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). Although these findings expand understanding of caregiving and emotion, this approach is limited because it collapsed across parents and nonparents, only included a sample of women, and included activities that may have been relatively rare across the entire sample on a given day (e.g. having sex). In an effort to correct for these limitations, in another DRM study using a sample of both mothers and fathers, parents' time with children was compared to the other activities they actually performed on a given day. This study found that parents experienced greater positive emotion and meaning when they were spending time with their children relative to their other daily activities (Nelson, Kushlev, English, Dunn, & Lyubomirsky, 2013).

In the current study, we operationalize caregiving with parents' self-identified reports (i.e. the times when they are providing care for their children) to capture the broadest range of parenting experiences (for similar approaches, see Impett et al., 2011; Nelson et al., 2013). We used the DRM approach to investigate parents' positive emotion, negative emotion, and feelings of meaning during caregiving relative to their other daily activities. As described above, previous research using this DRM approach indicates that parents report greater positive emotion during caregiving compared to their other daily activities (Nelson et al., 2013). Additionally, although some work suggests that parents report greater daily stress than nonparents (Deaton & Stone, 2014), surprisingly little research has focused on parents' negative emotion during moments of caregiving. To the extent that parents' frustration with their children increases when they are engaged in caregiving, we would expect parents to report elevated negative emotion during caregiving compared to other activities. Conversely, parents may worry about their children or feel guilty when they are apart (e.g. Borelli, Nelson, River, Birken, & Moss-Racusin, 2017), which might minimize differences between parents' negative emotion during caregiving and non-caregiving experiences. We pit these two possibilities against one another in the current study.

Other studies examining parents' emotions have investigated the extent to which parenthood is associated with elevated feelings of meaning in life. Meaning in life is defined as the extent to which people have goals and direction in life (purpose), view their lives as being valuable and important (significance), and view their lives as making sense (coherence; King, Heintzelman, & Ward, 2016). Given that caring for children likely provides important goals for parents to fulfill (eliciting purpose), provides them with a sense that their life is important (eliciting significance), and imposes a set of routines on daily life (eliciting coherence), we expect that caring for children will elicit greater feelings of meaning in life compared to other activities. Along these lines, research has indicated that parents report greater feelings of meaning in life overall and throughout their days than nonparents. Similarly, parents report greater meaning while caring for their children than during their other daily activities (Nelson et al., 2013). However, more work is needed to determine whether this pattern is consistent among all parents (Nelson, Kushlev, & Lyubomirsky, 2014).

Furthermore, although few studies have directly examined attachment styles as a predictor of parents' emotions in caregiving, recent studies provide suggestive evidence in support of this possibility. For example, studies found that parents who place their child's needs above their own – a pattern characteristic of secure attachment – report relatively greater positive and less negative emotion during caregiving (Ashton-James, Kushlev, & Dunn, 2013; Le & Impett, 2015). In addition, consistent with predictions regarding attachment avoidance and emotional deactivation (Ainsworth et al., 1978; Main, 1981), one study reported that suppressing negative emotions during caregiving predicts lower levels of well-being (Le & Impett, 2016). Accordingly, we anticipate that parents' attachment orientations, which theorists argue provide an organizing framework for the way people approach relationships and emotion, may be important predictors of parents' emotions while caring for their young children.

Current study

In the current study, we compared parents' self-reported positive emotion, negative emotion, and meaning in life during caregiving with their emotions during other daily activities using the DRM, an alternative approach to experience sampling for measuring emotion in daily life (Kahneman et al., 2004). The DRM instructs participants to systematically reconstruct the previous day, categorize their activities (e.g. taking care of children, watching TV, and working), and rate their emotions during each activity. To best capture the variety of caregiving experiences, caregiving episodes were self-identified by participants in our studies. This approach allows us to understand the variety of parents' lived experiences providing care for their children.

First, we examined whether attachment avoidance and anxiety were related to parents' reports of positive emotion, negative emotion, and meaning in life across the entire day. Based on widely documented associations between attachment insecurity and low levels of emotional well-being (Mikulincer & Shaver, 2005), we hypothesized that attachment avoidance and anxiety would both be related to greater negative emotion, along with less positive emotion and meaning across the day.

Second, consistent with past evidence (Nelson et al., 2013), we hypothesized that parents would report greater positive emotion and meaning during caregiving

compared to other daily activities. Regarding negative emotion, we considered two possibilities: (a) that children might be particularly demanding during caregiving experiences, eliciting relatively greater negative emotion or (b) that parents might experience negative emotion during both caregiving (e.g. frustration and anger) and non-caregiving (e.g. guilt and worry) experiences, which would minimize differences in negative emotion between the two types of activities.

Third, we examined whether attachment avoidance and anxiety were differentially related to positive emotion, negative emotion, and meaning during caregiving compared to their other daily activities. Based on the consistency of evidence linking attachment avoidance to deactivation of emotional experiences, lower levels of parenting satisfaction, less closeness with children, and overall detachment in close relationships (Jones et al., 2015), we hypothesized that parents high in attachment avoidance would report lower levels of positive emotion, lower negative emotion, and lower meaning during caregiving compared to their other daily activities (i.e. that attachment avoidance would moderate the association between caregiving and emotion). By contrast, grounded in the concept of hyperactivation of negative emotion, we anticipated finding elevated levels of negative emotion during both caregiving and non-caregiving experiences of highly anxious parents. In addition, given the tendency for relationship events to evoke ambivalent emotions among people high in attachment anxiety (Mikulincer & Shaver, 2005), we expected that the experience of elevated negative emotion might spoil any positive emotions experienced during caregiving, resulting in lower levels of positive emotion and meaning during caregiving compared to other daily activities. Finally, to consider the specificity of our findings for caregiving relative to other experiences that would activate parents' IWMs, we also examined whether attachment anxiety and avoidance were differentially related to parents' reports of meaning, positive emotion, and negative emotion during interactions with their spouse/significant other relative to their other daily activities.

Because early childhood constitutes a sensitive period for the development of attachment (Bowlby, 1969/1982), we recruited parents with children between the ages of 1 and 3. In addition, we recruited a sample of parents who work outside the home, who would have regular separations from their children, due to our desire to compare parents' experiences providing care for their children relative to other daily experiences. To control for potentially confounding factors, we tested our hypotheses including parenting satisfaction, parent age, child age, and proportion of time spent in caregiving as covariates.

Method

Participants

Parents ($N = 152$; 50% female; $M_{age} = 31.53$, standard deviation [SD] = 6.55) with at least one child between the ages of 1 and 3 and who worked outside the home were recruited online using Amazon Mechanical Turk (mTurk). Recent evidence suggests that mTurk samples are reliable and demographically diverse (Buhrmester, Kwang, & Gosling, 2011; Gosling, Vazire, Srivastava, & John, 2004). On average, parents in this sample provided primary care for 1.88 children ($SD = 0.85$), and the ages of their children ranged from newborn to 19 years, although all parents had children in the

designated age range (1–3). The majority of the sample was married (72%) or in a relationship (12.7%). The sample was primarily European American (70.7%), followed by African American (12%), Asian American (6.7%), Latino(a) (5.3%), Native American (4%), and Other (1.3%).

Prior to data collection, we decided to recruit approximately 150 parents to participate in the study. Previous research reports small to medium effect sizes for the comparison of caregiving episodes to non-caregiving episodes using the DRM (average $r = .26$; Nelson et al., 2013). A sample of 150 participants would provide adequate power (89%) to detect an effect size $r = .26$. Additionally, previous research examining parents' attachment styles as predictors of their emotions while spending time with their adult children has used similar sample sizes ($N = 102$ in Impett et al., 2011).

Procedure

Participants completed an online survey, including measures of demographics, attachment, and parenting satisfaction. Subsequently, they completed the DRM (Kahneman et al., 2004) to provide insight into their daily emotional experiences. Previous research suggests that the DRM provides a valid alternative approach to experience sampling methodology, allowing researchers to capture participants' daily activities and emotions (Kahneman et al., 2004).

Measures

Pre-DRM

Prior to beginning the DRM, participants completed measures of attachment avoidance and anxiety and parenting satisfaction.

Attachment avoidance and anxiety. Participants completed the 36-item Experiences in Close Relationships Scale – Revised (Fraley, Waller, & Brennan, 2000). Participants responded to statements assessing attachment avoidance (e.g. “I prefer not to show a partner how I feel deep down”) and anxiety (e.g. “I worry that romantic partners won't care about me as much as I care about them”) on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Reliability in this sample was good for both anxiety, $\alpha = .94$, and avoidance, $\alpha = .89$.

Parenting satisfaction. Parents responded to the Kansas Parental Satisfaction Scale (James et al., 1985; e.g. “How satisfied are you with yourself as a parent?” 1 = *extremely dissatisfied*, 7 = *extremely satisfied*). Reliability in this sample was good, $\alpha = .84$.

DRM

According to the original DRM procedures, participants were instructed to describe their entire day, from the moment they woke up until the moment they went to sleep, episode by episode. For example, one morning episode might consist of waking up, showering, and getting ready for the day, and an episode in the evening might include giving a child a bath, reading bedtime stories, and putting the child to bed. For each episode, participants categorized their activities by selecting one or more from a list of 15 common activities (i.e. commuting, eating, relaxing, preparing food, computer/

Internet/email, shopping, socializing, intimate relations, taking care of your children, on the phone, doing housework, nap/resting, working, watching TV, exercising, and other; Kahneman et al., 2004). Furthermore, they indicated whether they were interacting with anyone, and if yes, with whom they were interacting (i.e. spouse/significant other, friends, children, parents/relatives, coworkers, boss, clients/customers/students/patients, and other). After categorizing their activities and interactions, parents completed a measure of positive and negative emotions and a single-item measure of felt meaning for each episode. As a result, we captured a day in the life of parents, including time spent caring for children and time spent in any other activity, along with emotions felt during each episode. For the purposes of our analyses, we were primarily interested in emotions felt during caregiving (i.e. activity classified as “taking care of children”) compared to parents’ other activities. Thus, we dummy-coded activity for caregiving (caregiving = 1, all other activities = 0). For parallel analyses regarding interactions with spouse/significant other, we dummy-coded interactions for spouse/significant other (interacting with spouse/significant other = 1, not interacting with spouse/significant other = 0).

Participants were required to provide at least three episodes for their day (one morning episode, one afternoon episode, and one evening episode) and recorded an average of 13.97 discrete episodes in their days ($SD = 5.22$), providing 2122 total observations. On average, parents recorded 2.65 caregiving episodes ($SD = 3.15$), making up 18.2% of their day. Although 100% of the participants completed this task (i.e. we did not have any attrition in this study), due to the fact that each participant recorded a different number of episodes in their days, we computed a variable reflecting the proportion of caregiving episodes by dividing the number of caregiving episodes reported for each participant by their total number of episodes. Proportion of caregiving episodes was negatively correlated with attachment avoidance, $r(150) = -.19$, $p = .02$, but unrelated to attachment anxiety or parenting satisfaction, $|rs| < .12$, $ps > .14$. Proportion of time spent in caregiving episodes did not moderate the associations between caregiving episodes and any of our outcomes, $|ys| < 0.005$, $ps > .32$. Because of the association between proportion of caregiving episodes and attachment avoidance, however, we include it as a covariate in our analyses below.

In addition, for each episode generated in the DRM, participants reported their felt emotion and meaning.

Positive and negative emotion. Participants reported their experience of 14 positive (e.g. inspired, proud, and excited) and 14 negative (e.g. afraid, guilty, and distressed) emotions during that episode on a scale from 1 (*very slightly or not at all*) to 5 (*extremely*) using the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988). Across all episodes, internal consistency was high for both positive ($as .86-.96$) and negative ($as .93-.99$) emotions. For each episode, we calculated composite mean scores for positive and negative emotion.

Meaning in life. Consistent with prior research using the DRM (Nelson et al., 2013), participants reported their felt meaning using a single item (i.e. “During this episode, I felt a sense of meaning and purpose in my life,” 0 = *not at all*, 6 = *extremely*).

Results

Preliminary analyses and analytic approach

Table 1 addresses preliminary questions, including how attachment avoidance and anxiety are related to covariates in our analyses, including parenting satisfaction, parent age, age of youngest child, number of caregiving episodes, and number of children.

As depicted in Table 1, women reported a greater proportion of caregiving episodes than men, $t(150) = 2.36$, $p = .02$, but no gender differences emerged for any of the other variables, $ts < 1.4$, $ps > .17$; parents with more and younger children reported a greater number of caregiving episodes. In addition, greater attachment avoidance was associated with fewer reported caregiving episodes. See Table 1 for means, SDs, and correlations among all study variables.

We analyzed differences in parents' reported emotion while engaging in caregiving compared to their other daily activities using multilevel modeling to account for repeated measurements (i.e. episodes) within individuals (Singer & Willett, 2003). We began with unconditional mean models with no predictors and proceeded to hypothesis-testing models.

To test our hypotheses regarding caregiving, each episode was dummy-coded to reflect whether it involved caregiving (caregiving = 1, all other activities = 0). Attachment avoidance and anxiety were grand-mean-centered prior to analysis. We began with models including attachment avoidance and anxiety as Level 2 (between-person) predictors. Next, we tested models including only the dummy-coded variable for caregiving as a Level 1 (within-person) predictor, followed by models including caregiving (Level 1; within-person), attachment avoidance (Level 2; between-person), attachment anxiety (Level 2; between-person), as well as

Table 1. Descriptive statistics and correlations among all study variables.

Variable	<i>M</i> (<i>SD</i>)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Parenting satisfaction	5.85 (0.95)										
2. Attachment anxiety	2.79 (1.32)	−.25***									
3. Attachment avoidance	2.88 (1.01)	−.26***	.61***								
4. Meaning	3.77 (1.58)	.31***	.01	−.13							
5. Positive emotion	2.42 (0.86)	.17*	−.07	−.14 ⁺	.72**						
6. Negative emotion	1.35 (0.64)	−.31***	.43***	.39***	.14 ⁺	.31***					
7. Parent gender	0.50 (0.50)	.04	.03	.06	−.02	.11	.11				
8. Parent age	31.53 (6.51)	−.11	−.11	.05	−.14 ⁺	−.04	−.14 ⁺	.07			
9. Age of youngest child	2.98 (1.54)	−.11	.03	.06	−.09	.04	.10	.01	−.01		
10. Caregiving episodes ^a	18.29% (20.42)	.11	−.12	−.19*	.21**	−.03	−.20*	−.19*	.02	−.17*	
11. Number of children	1.88 (1.00)	−.01	.04	.06	−.01	.02	.15 ⁺	.002	.05	−.23**	.71**

⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. Parent gender (1 = male, 0 = female). Meaning, positive emotion, and negative emotion reflect the average across all episodes.

^aProportion of total episodes, calculated for each participant by dividing the number of caregiving episodes they reported by their total number of episodes.

interactions between attachment avoidance and caregiving, and attachment anxiety and caregiving. Last, we tested models including parenting satisfaction, parent age, child age, and proportion of caregiving episodes as covariates. Finally, we tested our alternative hypothesis regarding time spent with spouses with a model including a dummy-coded variable for spousal/romantic partner contact (interacting with spouse/partner = 1, not interacting with spouse/partner = 0) as a Level 1 (within-person) predictor, along with attachment avoidance (Level 2; between-person), attachment anxiety (Level 2; between-person), and interactions between attachment avoidance and spousal contact and attachment anxiety and spousal contact.

Are attachment avoidance and anxiety related to positive emotion, negative emotion, and meaning across the day?

In models including both attachment avoidance and anxiety, attachment avoidance predicted lower positive emotion, $\gamma_{03} = -0.21$, $SE = 0.09$, $t(147) = -2.39$, $p = .02$, $d = -0.28$, greater negative emotion, $\gamma_{03} = 0.08$, $SE = 0.03$, $t(147) = 2.55$, $p = .01$, $d = 0.21$, and lower levels of meaning in life, $\gamma_{03} = -0.42$, $SE = 0.15$, $t(147) = -2.82$, $p < .001$, $d = -0.28$, across the entire day.

Conversely, attachment anxiety predicted greater negative emotion, $\gamma_{02} = 0.10$, $SE = 0.03$, $t(147) = 3.73$, $p = .0003$, $d = 0.28$, and marginally greater meaning in life, $\gamma_{02} = 0.21$, $SE = 0.12$, $t(147) = 1.79$, $p = .08$, $d = 0.14$, but was unrelated to positive emotion, $\gamma_{02} = 0.06$, $SE = 0.08$, $t(147) = 0.78$, $p = .43$, $d = 0.08$, across the entire day (see [Tables 2–4](#)).

Is caregiving associated with differences in meaning, positive emotion, and negative emotion?

Compared to other activities in parents' days, taking care of children was associated with greater positive emotion, $\gamma_{01} = 0.24$, $SE = 0.04$, $t(1969) = 5.49$, $p < .001$, $d = 0.27$, and higher levels of meaning in life, $\gamma_{01} = 1.11$, $SE = 0.12$, $t(1969) = 9.17$, $p < .001$, $d = 0.73$, but not with lower levels of negative emotion, $\gamma_{01} = -0.03$, $SE = 0.02$, $t(1969) = -1.28$, $p = .20$, $d = -0.04$ (see [Tables 2–4](#)).

Do attachment avoidance and anxiety moderate the associations between caregiving and meaning, positive emotion, and negative emotion?

[Table 2](#) provides full details and parameter estimates for analyses predicting positive emotion from: (a) attachment anxiety and avoidance (Question 1; Model 2), (b) caregiving episodes (Question 2; Model 3), (c) interactions between caregiving and attachment (Question 3; Model 4), and (d) interactions between caregiving and attachment, including covariates (Question 3; Model 5).

As depicted in [Table 2](#), in models including caregiving, attachment avoidance and anxiety, along with caregiving $\times$ attachment avoidance and caregiving $\times$ attachment anxiety interactions, attachment avoidance, but not attachment anxiety, moderated the association between caregiving and positive emotion, $\gamma_{05} = -0.16$, $SE = 0.05$, $t(1967) = -2.89$, $p = .004$, $d = .21$. Analyses of the simple effects revealed that caregiving was associated with higher levels of positive emotion at low levels of attachment

Table 2. Multilevel models predicting positive emotion.

Fixed effects Average positive emotions, π_{oi}	Effect	Parameter	Model 1:	Model 2: Main effects of	Model 3:	Model 4: Caregiving ×	Model 5: Caregiving ×
			Unconditional means	attachment anxiety and attachment avoidance	Caregiving vs. other activities	attachment avoidance and caregiving × attachment anxiety	attachment avoidance and caregiving × attachment anxiety with covariates
	Intercept	γ_{00}	2.42*** (0.07)	2.40*** (0.07)	2.37*** (0.07)	2.36*** (0.07)	2.36*** (0.07)
	Caregiving	γ_{01}					
	Attachment	γ_{02}		0.06 (0.08)	0.24*** (0.04)	0.21*** (0.04)	0.22*** (0.04)
	anxiety					0.06 (0.08)	0.08 (0.08)
	Attachment	γ_{03}				−0.20* (0.09)	−0.18* (0.09)
	avoidance			−0.21* (0.09)			
	Attachment	γ_{04}				0.05 (0.04)	0.05 (0.04)
	anxiety ×						
	caregiving						
	Attachment	γ_{05}				−0.16** (0.05)	−0.16** (0.05)
	avoidance ×						
	caregiving						
	Parenting	γ_{06}					0.18** (0.06)
	satisfaction						
	Parent age	γ_{07}					0.002 (0.01)
	Age of	γ_{08}					0.05 (0.04)
	youngest						
	child						
	Proportion of	γ_{09}					−0.006+ (0.003)
	caregiving						
	episodes						

(Continued)

Table 2. (Continued).

Random effects	Effect	Parameter	Model 1: Unconditional means	Model 2: Main effects of attachment anxiety and attachment avoidance	Model 3: Caregiving vs. other activities	Model 4: Caregiving × attachment avoidance and caregiving × attachment anxiety	Model 5: Caregiving × attachment avoidance and caregiving × attachment anxiety with covariates
Variance							
Components							
Level 1		σ^2_ε	0.39	0.39	0.37	0.37	0.37*** (0.01)
Level 2		σ^2_0	0.70	0.54	0.71	0.57	0.56*** (0.08)
Caregiving		σ^2_1			0.03	0.03	0.03
Attachment anxiety		σ^2_2		0.13		0.14	0.13
Attachment avoidance		σ^2_3		0.09		0.12	0.11
Goodness-of-fit	Deviance		4484.83	4471.47	4440.52	4416.14	4406.93

* $p < .10$, ** $p < .05$, *** $p < .001$. All continuous variables were centered prior to analysis. In Model 1, γ_{00} represents average positive emotions across episodes in the day. In Model 2, γ_{00} represents average positive emotion for individuals with average attachment anxiety and avoidance. γ_{02} and γ_{03} represent the associations between attachment anxiety and avoidance, respectively, with positive emotion across the entire day. In Model 3, γ_{00} represents average positive emotions felt during non-caregiving episodes and γ_{01} represents additional positive emotions felt during caregiving episodes. In Model 4, γ_{00} represents average positive emotions felt during non-caregiving episodes for participants with average levels of attachment anxiety and avoidance. In Model 4 and Model 5, γ_{02} and γ_{03} represent the association between attachment anxiety and avoidance, respectively, and positive emotions during non-caregiving episodes, and γ_{04} and γ_{05} represent the additional association between attachment anxiety and avoidance, respectively, and felt positive emotions during caregiving episodes. In Model 5, γ_{00} represents average positive emotions felt during non-caregiving episodes for participants reporting average levels of attachment anxiety and avoidance, average levels of parenting satisfaction, average age, and average age of youngest child. γ_{04} , γ_{05} , and γ_{06} represent the association between parenting satisfaction, parent age, and age of youngest child on reported positive emotions during non-caregiving episodes. In all models, intercept, caregiving, attachment anxiety, and attachment avoidance were free to vary.

Table 3. Multilevel models predicting negative emotion.

		Model 1: Unconditional means	Model 2: Main effects of attachment anxiety and avoidance	Model 3: Caregiving vs. other activities	Model 4: Caregiving × attachment avoidance and caregiving × attachment anxiety	Model 5: Caregiving × attachment avoidance and caregiving × attachment anxiety with covariates
Effect	Parameter					
Fixed effects Average negative emotions, π_{0i}	Intercept	γ_{00}	1.36*** (0.05)	1.28*** (0.04)	1.36*** (0.05)	1.29*** (0.04)
	Caregiving	γ_{01}				
	Attachment	γ_{02}		0.10*** (0.03)	−0.04 ⁺ (0.02) 0.10*** (0.03)	−0.03 (0.02) 0.09** (0.03)
	anxiety					
	Attachment	γ_{03}		0.08* (0.03)	0.09** (0.03)	0.09** (0.03)
	avoidance					
	Attachment	γ_{04}			0.04 ⁺ (0.02)	0.03 ⁺ (0.02)
	anxiety ×					
	caregiving					
	Attachment	γ_{05}			−0.07* (0.03)	−0.07* (0.03)
	avoidance ×					
	caregiving					
	Parenting	γ_{06}				−0.01 (0.02)
	satisfaction					
	Parent age	γ_{07}				−0.003 (0.002)
	Age of	γ_{08}				0.01 (0.01)
	youngest					
	child					
	Proportion of					
	caregiving	γ_{09}				−0.001 (0.001)
	episodes					

(Continued)

Table 3. (Continued).

Effect	Parameter	Model 1: Unconditional means	Model 2: Main effects of attachment anxiety and attachment avoidance	Model 3: Caring vs. other activities	Model 4: Caring × attachment avoidance and caring × attachment anxiety	Model 5: Caring × attachment avoidance and caring × attachment anxiety with covariates
Random effects						
Variance						
Components						
Level 1	σ^2_ε	0.11	0.11	0.11	0.11	0.11
Level 2	σ^2_0	0.40	0.13	0.40	0.13	0.12
Caring	σ^2_1			0.0000003	0.00000003	0.00000002
Attachment	σ^2_2		0.03		0.03	0.03
anxiety						
Attachment	σ^2_3		0.02		0.02	0.03
avoidance						
Goodness-of-fit						
Deviance		1981.08	1745.44	1979.44	1736.31	1732.95

[†] $p < .10$, $^*p < .05$, $^{**}p < .01$, $^{***}p < .001$. All continuous variables were centered prior to analysis. In Model 1, γ_{00} represents average negative emotions across episodes in the day. In Model 2, γ_{00} represents average negative emotion for individuals with average attachment anxiety and avoidance. γ_{02} and γ_{03} represent the associations between attachment anxiety and avoidance, respectively, with negative emotion across the entire day. In Model 3, γ_{00} represents average negative emotions felt during non-caring episodes and γ_{01} represents additional negative emotions felt during caregiving episodes. In Model 4, γ_{00} represents average negative emotions felt during non-caring episodes for participants with average levels of attachment anxiety and avoidance. In Model 4 and Model 5, γ_{02} and γ_{03} represent the association between attachment anxiety and avoidance, respectively, and negative emotions during non-caring episodes, and γ_{04} and γ_{05} represent the additional association between attachment anxiety and avoidance, respectively, and felt negative emotions during caregiving episodes. In Model 5, γ_{00} represents average negative emotions felt during non-caring episodes for participants reporting average levels of attachment anxiety and avoidance, average levels of parenting satisfaction, average age, and average age of youngest child. γ_{04} , γ_{05} , and γ_{06} represent the association between parenting satisfaction, parent age, and age of youngest child on reported negative emotions during non-caring episodes. In all models, intercept, caring, attachment anxiety, and attachment avoidance were free to vary.

Table 4. Multilevel models predicting felt meaning.

Fixed effects Average meaning, π_{0i}	Effect	Parameter	Model 1:	Model 2: Main effects of	Model 3:	Model 4: Caregiving $\times$	Model 5: Caregiving $\times$ attachment
			Unconditional means	attachment anxiety and avoidance	Caregiving vs. other activities	attachment avoidance and caregiving $\times$ attachment anxiety	avoidance and caregiving $\times$ attachment anxiety with covariates
Fixed effects	Intercept	γ_{00}	3.77*** (0.13)	3.77*** (0.13)	3.58*** (0.13)	3.59*** (0.13)	3.59*** (0.12)
	Caregiving	γ_{01}					
	Attachment	γ_{02}		0.21 ⁺ (0.12)	1.11*** (0.12)	1.07*** (0.12) 0.21 ⁺ (0.12)	1.05*** (0.12) 0.26 (0.11)
	anxiety	γ_{03}					
	Attachment			−0.42** (0.15)		−0.36* (0.15)	−0.27 ⁺ (0.15)
	avoidance	γ_{04}				−0.03 (0.12)	−0.03 (0.12)
	anxiety $\times$						
	caregiving	γ_{05}				−0.11 (0.16)	−0.13 (0.16)
	avoidance $\times$						
Fixed effects	Caregiving	γ_{06}					0.47*** (0.12)
	Parenting						
	satisfaction						
	Parent age	γ_{07}					−0.02 (0.02)
	Age of	γ_{08}					−0.03 (0.07)
	youngest						
	child						
	Proportion of	γ_{09}					0.003 (0.006)
	caregiving						
	episodes						

(Continued)

Table 4. (Continued).

Effect	Parameter	Model 1: Unconditional means	Model 2: Main effects of attachment anxiety and avoidance	Model 3: Caregiving vs. other activities	Model 4: Caregiving × attachment avoidance and caregiving × attachment anxiety	Model 5: Caregiving × attachment avoidance and caregiving × attachment anxiety with covariates
Random effects						
Variance						
Components						
Level 1	σ^2_{ϵ}	2.02	2.02	1.79	1.79	1.79
Level 2	σ^2_0	2.27	2.17	2.34	2.14	1.88
Caregiving	σ^2_1			0.80	0.78	0.80
Attachment	σ^2_2		0.02		0.03	0.03
anxiety						
Attachment	σ^2_3		0.04		0.09	0.11
avoidance						
Goodness-of-fit						
Deviance		7933.95	7921.28	7749.37	7731.32	7713.41

[†] $p < .10$, ^{*} $p < .05$, ^{**} $p < .01$, ^{***} $p < .001$. All continuous variables were grand-mean-centered prior to analysis. In Model 1, γ_{00} represents average meaning across episodes in the day. In Model 2, γ_{00} represents average meaning felt for individuals with average attachment anxiety and avoidance. γ_{02} and γ_{03} represent the associations between attachment anxiety and avoidance, respectively, with felt meaning across the entire day. In Model 3, γ_{00} represents average meaning felt during non-caregiving episodes and γ_{01} represents additional meaning felt during caregiving episodes. In Model 4, γ_{00} represents average meaning felt during non-caregiving episodes for participants with average levels of attachment anxiety and avoidance. In Model 4 and Model 5, γ_{02} and γ_{03} represent the additional association between attachment anxiety and avoidance, respectively, and felt meaning during non-caregiving episodes, and γ_{04} and γ_{05} represent the additional association between attachment anxiety and avoidance, respectively, and felt meaning during caregiving episodes. In Model 4, γ_{00} represents average meaning felt during non-caregiving episodes for participants reporting average levels of attachment anxiety and avoidance, average levels of parenting satisfaction, average age, and average age of youngest child. γ_{04} , γ_{05} , and γ_{06} represent the association between parenting satisfaction, parent age, and age of youngest child on reported meaning during non-caregiving episodes. In all models, intercept, caregiving, attachment anxiety, and attachment avoidance were free to vary.

avoidance (one standard deviation below the mean), $\gamma_{01} = 0.37$, $SE = 0.06$, $t(1967) = -5.80$, $p < .001$, $d = .38$, and average levels of attachment avoidance, $\gamma_{01} = 0.21$, $SE = 0.04$, $t(1967) = 5.09$, $p < .001$, $d = 0.28$, but not high levels of attachment avoidance (one SD above the mean), $\gamma_{01} = 0.05$, $SE = 0.07$, $t(1967) = 0.73$, $p = .46$, $d = 0.08$ (see Table 2 and Figure 1).

Table 3 provides full details and parameter estimates for analyses predicting negative emotion from: (a) attachment anxiety and avoidance (Question 1; Model 2), (b) caregiving episodes (Question 2; Model 3), (c) interactions between caregiving and attachment (Question 3; Model 4), and (d) interactions between caregiving and attachment, including covariates (Question 3; Model 5).

As depicted in Table 3, only attachment avoidance significantly moderated the association between caregiving and negative emotion, $\gamma_{05} = -0.07$, $SE = 0.03$, $t(1967) = -2.46$, $p = .01$. Analyses of simple effects revealed that caregiving was not associated with negative emotion at low levels (-1 SD) of attachment avoidance, $\gamma_{01} = 0.03$, $SE = 0.03$, $t(1967) = 1.04$, $p = .30$, $d = 0.16$, but it was marginally associated with lower levels of negative emotion at average levels of attachment avoidance, $\gamma_{01} = -0.04$, $SE = 0.02$, $t(1967) = -1.70$, $p = .09$, $d = -0.10$, and significantly associated with lower levels of negative emotion at high levels of attachment avoidance ($+1$ SD), $\gamma_{01} = -0.10$, $SE = 0.04$, $t(1967) = -2.77$, $p = .006$, $d = -0.20$ (see Table 3 and Figure 1).¹

Table 4 provides full details and parameter estimates for analyses predicting meaning from: (a) attachment anxiety and avoidance (Question 1; Model 2), (b) caregiving episodes (Question 2; Model 3), (c) interactions between caregiving and attachment (Question 3; Model 4), and (d) interactions between caregiving and attachment, including covariates (Question 3; Model 5).

As depicted in Table 4, neither attachment avoidance nor attachment anxiety moderated the association between caregiving and reported meaning, $|ys| < 0.12$, $ps > .46$, $ds < 0.08$, suggesting that regardless of attachment styles, all parents reported greater meaning in life when they were spending time with their children than when they were not (see Table 4).

All patterns remained consistent in models controlling for parenting satisfaction, parent age, age of youngest child, and proportion of caregiving episodes (see Tables 2–4, Model 5).

Do attachment avoidance and anxiety moderate the associations between spousal interactions and meaning, positive emotion, and negative emotion?

In models including spousal contact, attachment avoidance, and anxiety, along with spousal contact $\times$ attachment avoidance and spousal contact $\times$ attachment anxiety, neither attachment avoidance nor anxiety moderated the associations between spousal contact and meaning, positive emotion, or negative emotion, $|ys| < 0.10$, $ps > .17$.

Discussion

In the current study, we sought to enhance the specificity of what is known about the emotional experiences of providing care for one's children. In a sample of working parents with young children, we found that as compared to other experiences, caregiving was associated with relatively greater positive emotion but not negative emotion. Additionally, we found that attachment avoidance, but not attachment anxiety, was

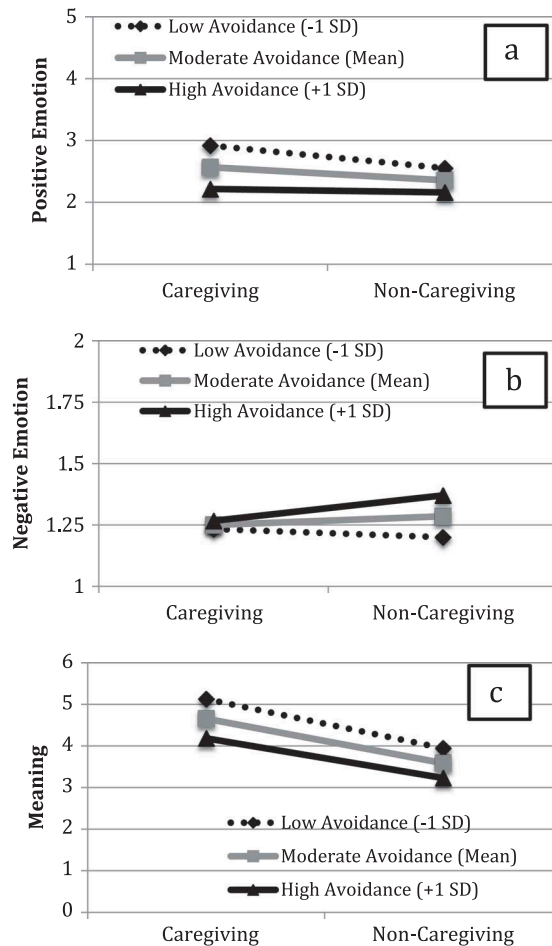


Figure 1. Attachment avoidance moderates the association between caregiving and positive emotion (a), negative emotion (b), and felt meaning (c).

associated with lower levels of positive emotion and negative emotion during caregiving relative to other activities. Finally, all parents in our sample – regardless of their attachment orientations – experienced elevated feelings of meaning when they were spending time with their children.

Caregiving and emotion

Our findings that spending time with children is associated with greater positive emotion and feelings of meaning replicates previous work indicating that parents report greater positive emotion and meaningful moments than nonparents during their daily lives and specifically during caregiving (Nelson et al., 2013). Moreover, these findings are consistent with theory suggesting that experiences of greater positive emotion and meaning in life are two mechanisms by which parents might enjoy greater overall well-being (Nelson et al., 2014).

By contrast, parents' time with children was not associated with greater negative emotion. Although spending time with children may elicit negative emotions on occasion, such as anger or frustration, our finding suggests that those negative experiences may balance out across the day and are no more frustrating than other aspects of parents' days. These results may seem inconsistent with previous evidence suggesting that parents experience greater stress than nonparents (Deaton & Stone, 2014). Notably, this prior work focused on understanding differences between parents and nonparents, whereas we examined within-parent differences between caregiving and non-caregiving activities. Thus, the meaning and positive emotion that parents experience while caring for their children may minimize their in-the-moment experience of negative emotion, or perhaps even their recall of negative emotion, given that the DRM method relies on retrospective reports. Furthermore, although previous research suggests that parents experience greater negative emotion than nonparents (Deaton & Stone, 2014), our data suggest that this effect may not be isolated to caregiving. Perhaps parents experience greater negative emotion overall if they feel frustration and anger while providing care for their children, along with stress and worry when they are away from their children. In future studies it would be interesting to directly evaluate this hypothesis, as well as to assess to what degree the negative emotion parents experience when away from their children is related to their children (e.g. worrying about child's adjustment to a new daycare routine versus worrying about retirement).

Parent attachment, caregiving, and emotion

We also found that attachment avoidance was associated with relatively lower levels of positive emotion and meaning and with greater negative emotion across the entire day. Moreover, attachment avoidance predicted relatively lower levels of positive and negative emotion during caregiving specifically. The relatively low levels of negative emotion during caregiving may indicate that parents high in attachment avoidance feel better when they are with their children. However, the similarly low levels of both positive and negative emotion during caregiving suggest that parents high in attachment avoidance may be emotionally detached or constricted when they spend time with their children.

These findings are consistent with prior research suggesting that romantic relationship dissatisfaction is related to disruptions in the parent-child relationship as well (Cowan & Cowan, 2000). Furthermore, our results are consistent with theory and evidence regarding attachment avoidance: By attempting to reduce or suppress their attachment needs, people high in attachment avoidance are more likely to deactivate their attachment systems (Mikulincer & Shaver, 2003; Shaver & Mikulincer, 2007), which can result in emotional detachment in the short term. This finding is consistent with other evidence linking attachment avoidance to suppressed negative emotion in response to negative relationship events, as well as indifference in the context of positive events (Mikulincer & Shaver, 2005), and may suggest that caregiving elicits indifference among parents high in attachment avoidance (cf. MacDonald, Locke, Spielmann, & Joel, 2013). We also found that parents high in attachment avoidance reported fewer caregiving episodes in their day, further suggesting relative indifference in the context of caregiving. Given the correlational nature of the study, the directionality of these effects is unclear. However, based on theory that attachment is rooted in

early childhood experiences (Bowlby, 1980), we suggest that avoidance may lead parents to spend less time taking care of their children. The indifference of parents with higher avoidance may restrict parents' abilities to perceive their child's signals, resulting in less sensitive parenting (Berlin et al., 2011; Borelli, Vazquez et al., 2016; Rholes et al., 1995). This finding may also provide some insight as to why parents high in attachment avoidance report lower levels of parenting satisfaction and closeness with children (Cohen et al., 2011, 2011; Rholes et al., 1995; Wilson et al., 2007).

By contrast, parents high in attachment avoidance did not report lower levels of meaning during caregiving. This result suggests that all parents – regardless of attachment orientation – reported higher levels of meaning in life when engaged in caregiving. This finding is consistent with previous research indicating that feelings of meaning in life are ubiquitous (Heintzelman & King, 2014; King et al., 2016) and that some demographic characteristics (parent age, gender, and marital status) moderate the association between parenthood and happiness, but not meaning (Nelson et al., 2013). Thus, caring for children may provide parents with a sense of purpose, significance, and coherence (King et al., 2016) that is independent of positive and negative emotion or attachment orientation.

Furthermore, we also examined whether attachment avoidance and anxiety evoked similar emotional responses during participants' interactions with their spouse relative to their other daily activities. In these analyses, neither attachment avoidance nor anxiety differentially predicted meaning, positive emotion, or negative emotion during spousal interactions. Coupled with our results regarding caregiving, these findings suggest that the act of parenting young children (i.e. providing care for them) poses a unique emotional challenge for parents high in attachment avoidance that is not mirrored in other relationship-relevant experiences. Although parents' relationships with their spouses and children are both theorized to be attachment relationships (Bowlby, 1969/1982), the dependency aspect of the parent–child relationship might be relatively more uncomfortable for people high in attachment avoidance and might yield lower levels of positive emotion.

Importantly, our findings extend prior research on attachment style, the majority of which has focused on emotion in romantic relationships or children's reactions to their parents. Few studies have examined how attachment styles are related to parents' experience of positive emotion (Burkhart, Borelli, Rasmussen, & Sbarra, 2015) or considered how attachment is related to parents' reactions to their children. The current study builds upon this work by demonstrating that attachment avoidance may have an inhibiting effect on positive emotion, as well as negative emotion, in the context of parents' responses to their children. Parents high in attachment avoidance may view their children's bids for attention as threatening and react by attempting to minimize their emotional response (e.g. Ainsworth et al., 1978; Dozier & Kobak, 1992; Main, 1981). Other work has indicated that when parents are instructed to write about a positive emotional experience with their children (i.e. to savor it), those high in attachment avoidance responded with relatively shorter and poorer quality responses (Bond & Borelli, *in press*; Borelli, Burkhart, et al., 2017), underscoring the argument that parents high in attachment avoidance may respond to emotionally charged moments with their children with emotional detachment or indifference.

Conversely, attachment anxiety was associated with elevated negative emotion (and marginally greater meaning) across the entire day, but not with positive emotion, negative emotion, or feelings of meaning during caregiving. These findings suggest that parents high

in attachment anxiety experienced elevated negative emotion consistently during their days, relative to parents low in attachment anxiety, but that negative emotion was not isolated to caregiving or non-caregiving experiences. Parents high in attachment anxiety may have been especially likely to experience feelings of frustration and anger when spending time with their children and feelings of anxiety and worry when they were apart from them. This pattern of negative emotion would explain why we did not find significant differences in negative emotion between caregiving and non-caregiving activities among parents high in attachment anxiety. Furthermore, previous work has indicated that people high in attachment anxiety demonstrate emotional ambivalence in response to positive relationship-relevant events in romantic relationships (Mikulincer & Shaver, 2005) and demonstrate less trait-like joy in parenting (Slade, Belsky, Aber, & Phelps, 1999). To the extent that parents high in attachment anxiety might respond to positive interactions with their children with both positive and negative emotion, then their mixed emotions might counterbalance one another, resulting in neither heightened nor reduced positive emotion with their children.

Strengths, limitations, and future directions

The current study looked within parents' experiences to understand how their actual experiences in caregiving compared to the many other aspects of their days. The use of a within-parent design strengthened our power and allowed us to investigate differences in parents' lived experiences. By allowing participants to categorize their own caregiving experiences, we likely captured a broad range of caregiving interactions. In addition, the current study extends previous research on adult attachment style, which has primarily focused on understanding patterns of emotions in romantic relationships (Jones et al., 2015), to patterns of emotions in parent-child relationships. Finally, the results of the current study were robust and remained consistent after controlling for parenting satisfaction, parent age, child age, and the proportion time spent in caregiving.

Despite these strengths, our findings should be interpreted in light of a few limitations. First, the effect sizes representing the association between attachment avoidance and emotions during caregiving were relatively small in size (Cohen's d s ranging from .10 to .21), suggesting that attachment avoidance does not have a particularly strong association with emotion during caregiving. These effect sizes are relatively unsurprising, given the many contributors to parents' emotions during caregiving (e.g. nature of the interaction and age of child). Notably, however, even small effect sizes have important implications. For example, the well-cited association between social support and health outcomes is comparably small in size ($d = .20$; Smith, Fernengel, Holcroft, Gerald, & Marien, 1994; for a comprehensive list, see Rosenthal & Rosnow, 2008, pp. 325–326).

Second, although children's ages in the current study ranged from newborn to 19, all parents had children between the ages of 1 and 3. Although we did not restrict caregiving in this study by children's ages and our findings regarding attachment avoidance are similar to other studies examining parents of adult children (Impett et al., 2011), children may have unique attachment needs during different age periods, which may have different influences on parents' emotions during caregiving. Future work examining attachment, parenting, and emotion when caring for adolescents and children in middle childhood would be informative. Additionally, our sample consisted exclusively of parents who work outside the home. Although this approach allowed us to best capture parents' experiences during caregiving

and other activities, working parents may face unique parenting challenges that do not compare to the challenges faced by stay-at-home parents.

Third, because of the broad age range and the diversity of parents' experiences, we were unable to classify specifically how parents were spending time with their children (e.g. whether engaged in play versus feeding). Future work could take a more detailed approach to understanding parents' time with children to better understand whether certain parent-child activities elicit different emotional responses from parents high and low in attachment anxiety and avoidance (e.g. Musick, Meier, & Flood, 2016). For example, parents high in attachment avoidance may respond more positively to times when children demonstrate independence rather than times when they reveal their need for care. In addition, parents' reports of their emotions during caregiving may have been biased, given that it is more socially acceptable for parents to view their time with children as highly positive. However, we did not find similar positive associations between emotions and spousal/partner interactions, which could theoretically also be prone to such biases, providing some support that our participants may have been honest in their self-reported emotions.

Similarly, investigating parents' discrete emotions during caregiving would be informative. One possibility may be that parents high in attachment avoidance respond to children's bids for attention with resentment, hostility, or disgust, whereas parents high in attachment anxiety respond with feelings of anxiety, despair, or sadness. Parents low in avoidance and anxiety (i.e. secure parents) might respond to children's distress with negative emotion as well, as has been demonstrated in parents of school-aged children (Borelli, Vazquez, et al., 2016), but the specific emotion might vary (e.g. secure parents responding with sadness or concern for their child); however, for this reason, analyzing differences in discrete emotions experienced in response to specific caregiving challenges may unveil yet even more fine-grained distinctions. Although analyses of discrete emotions in the current study revealed similar patterns to the broad emotion categories, studies focusing explicitly on understanding discrete emotions may be better suited to detect these nuanced patterns. Finally, given past evidence that attachment avoidance is related to self-reported emotional deactivation, but not physiological deactivation (e.g. Dozier & Kobak, 1992), studies incorporating physiological measures of emotion during caregiving would be informative.

Finally, an important future step in this line of work will be to investigate possible methods to improve parents' emotional experiences during caregiving. For example, one study found that when parents high in attachment avoidance savored a positive experience with their child, they demonstrated boosts in relationship satisfaction and closeness, along with reductions in negative emotion (Burkhart et al., 2015). Future work examining other methods to improve parents' experiences with their children would be informative.

Implications

The findings reported here have important implications for parenting behaviors, as well as both parents' and children's well-being. Parents' emotions during caregiving likely shape their caregiving behaviors. For example, prior work has indicated that parents' positive emotion is related to greater efforts to cognitively stimulate their children, as well as less expression of detachment and negative affect towards children (Belsky et al., 1995). Accordingly, felt emotion during caregiving may be an important mechanism

explaining the association between insecure attachment styles and less competent parenting (e.g. Cohn, Cowan, Cowan, & Pearson, 1992).

Moreover, our results suggest that parents with high attachment avoidance may be emotionally disengaged during interactions with their children, which in turn could result in behavioral disengagement among children. Indeed, the results of one study of substance-dependent mothers of toddlers suggested that maternal disengagement, as assessed via parenting interviews, prospectively predicted increases in toddlers' behavioral disengagement in interactions with their mothers (Rasmussen, Borelli, DeCoste, & Suchman, 2016). If future research demonstrates causal links between attachment avoidance, emotions during caregiving, and parenting behaviors, this would highlight the potential for interventions tailored to reduce parents' emotional detachment, thereby improving parental behavior. For example, strategies such as savoring positive memories with one's children (e.g. Borelli et al., 2017; Burkhart et al., 2015) may help parents high in attachment avoidance to experience their interactions with children as more rewarding and, in turn, increase sensitive parenting behavior, with benefits for their children as well.

Concluding remarks

Given the countless hours and immeasurable effort parents dedicate to caregiving, parents' time with children has important implications for their well-being more broadly. On average, parents in the current study found spending time with their children to be full of love, joy, and meaning, and at least no more negative than other aspects of their days. Consistent with other evidence citing the importance of positive emotions for overall well-being (Lyubomirsky, King, & Diener, 2005), parents' time with children may contribute positively to their overall happiness and well-being. Notably, however, our findings suggest that not all parents will enjoy greater fulfillment. Instead, we find that attachment avoidance minimizes the joys of parenting.

Note

1. Follow-up analyses using discrete emotion items as outcomes revealed similar patterns across the discrete emotions.

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No potential conflict of interest was reported by the authors.

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