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Four's a Crowd? Attachment Styles in Childless Women and First-Time Mothers Toward Their Pet Dog

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ABSTRACT

The transition to parenthood is a time of change and challenge, where new attachments are developed and old ones are re-appraised to fit the needs of the new family. Research on how this transition affects parental attachment to the family pet dog is scarce. This study explored attachment orientation differences among female dog owners without children and female dog owners who had recently become new mothers. Factors that may underpin these differences were also explored. New mothers ($n=98$) and childless women ($n=93$) completed an online survey that measured the degree to which they were anxiously and avoidantly attached to their pet dog. Significant differences in attachment orientations were found: the parent group had more avoidant, and less anxious, attachment styles toward their pet dogs, compared with the childless group. Qualitative insights revealed new mothers suffer from a lack of time, energy, and attention to afford their dog and that the role of the dog in the family may be re-appraised to accommodate the new family member. These outcomes provide insight into how Australian women experience their attachment relationships to their pet dogs. This study has implications for both pet and maternal welfare.

KEYWORDS

Attachment theory;
companion animal bond;
dog–owner relationship;
human–animal interaction;
human–dog bond

In 1955, Disney released the film *Lady and the Tramp* (Geronimi, 1955), which portrayed a once-treasured pet dog, Lady, who is neglected by her human “parents” upon the arrival of their baby. Today, similar stories are being retold across social media platforms of parents’ diminishing attachment to their once beloved pet after the birth of their child. For example, Benedikt (2013) states, “A very non-scientific survey of almost everyone I know who had a dog and then had kids now wishes they had never got the dog.” However, the academic literature on this phenomenon is scarce.

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Attachment Theory

Attachment theory offers a framework to explore how the owner–pet relationship may change with the introduction of a new baby to the family. The theory of attachment can be viewed from an evolutionary perspective, which suggests that human infants are biologically programmed to form attachment bonds with a significant other who can protect and nurture them for survival (Bowlby, 1969). Individuals with consistently available and supportive caregivers tend to develop “secure” attachment styles, while individuals with caregivers who are inconsistent in their caregiving tend to form “anxious” (or ambivalent) attachment styles (represented by a hyper-activation of attachment behaviors), and individuals with unresponsive or overly intrusive caregiving tend to form “avoidant” attachment styles (represented by a deactivation of attachment behaviors) (Ainsworth et al., 1978). Both anxious and avoidant attachment styles can be considered secondary strategies that provide a framework for the infant to function as optimally as it can given the environment it has been born into. However, when secondary strategies don’t work, because the responsiveness of the caregiver is so inconsistent, or frightening, or unpredictable, you end up with an infant who develops a disorganized or disoriented attachment style, represented by contradictory behaviors indicating helplessness in being soothed (Main & Solomon, 1986).

Internal working models of attachment developed in infancy (i.e. secure, anxious, avoidant, disorganized) are carried forward into adulthood (for a review, see Bretherton & Munholland, 2008) where they can influence relationships with other adults (Bartholomew & Shaver, 1998) and with pets (Zilcha-Mano et al., 2011). However, these are arranged hierarchically such that global attachment orientations predominate and represent core relational tendencies, but these may differ across different relationships within the same domain (i.e., one romantic partner to another), as well as different relationships across different domains (i.e., romantic relationships versus friendships versus parental relationships etc.) (Bartholomew & Shaver, 1998; Bretherton & Munholland, 2008; Overall et al., 2003; Sibley & Overall, 2008).

Adult attachment orientations are most commonly measured across the two orthogonal domains of anxious and avoidant using self-report measures (Brennan et al., 1998). Attachment to pets can be measured across the same orthogonal dimensions using the Pet Attachment Questionnaire (PAQ; Zilcha-Mano et al., 2011). Anxious attachment to a pet is characterized by a desire to be close to the pet out of fear that something bad might happen to them and often frustration when the pet does not reciprocate with the same need for closeness (Zilcha-Mano et al., 2011). Avoidant attachment is characterized by an avoidance of intimacy with the pet and feelings of discomfort when their pet gets too close to them (Zilcha-Mano et al., 2011). Low scores on both subscales are suggestive of a secure attachment, where the owner is comfortable with the level of intimacy their pet shows toward them (Zilcha-Mano et al., 2011). Like other self-report measures of adult attachment, disorganized attachment cannot be assessed with the PAQ. Current research suggests that having an anxious attachment to one’s pets can be advantageous for the pets as it affords them a high level of care and attention (Konok et al., 2015).

Human attachment styles are relatively stable across the lifespan (McConnell & Moss, 2011). However, evidence supports that a dog's role in the household may also influence the attachment formed to it. For example, Lockyer and Oliva (2020) demonstrated that temporary foster-type puppy "carers," who care for dogs that are destined to become Seeing Eye Dogs, have significantly higher attachment avoidance than owners of pet or "forever" dogs. Carers look after these puppies in their homes until they are fully trained and ready to be paired with their vision-impaired client, whom they will then live with, at which point ceasing their relationship with their previous carer. However, these carers' attachment styles toward *humans* with whom they share intimate relationships were not significantly different from pet owners (i.e., those who will presumably own their pet dog for its entire life). This suggests that it wasn't their global attachment style driving their choice to become a carer, but rather, the role of the dog in their lives that was driving their attachment toward it. That is, carers take on their roles knowing they will inevitably have to give the dog back, and so their more avoidant style of attachment is thought to be a protective mechanism from the emotional pain that separation may cause.

Researchers have also found that significant life events and relationships can see attachment styles change over time (Kirkpatrick & Hazan, 1994). While some life transitions may not be sufficiently impactful enough to elicit changes in attachment orientations, Bowlby (1988) regarded the transition to parenthood as having the potential to reinforce or contradict new parents' existing working models of attachment, leading them to re-evaluate their attachment models and beliefs. In keeping with this idea, Simpson et al. (2003) tested soon-to-be new parents for systematic shifts in their primary attachment orientations during their transition to parenthood. They found that working models of attachment could be shifted depending on participants' social perceptions and behaviors of themselves and their partner. For example, women who perceived less support and more anger from their partners became more ambivalent, while women who perceived more support and less anger became less ambivalent. Similarly, men who perceived themselves as offering more support to their partners and women who perceived seeking more support from their partners both became less avoidant. In other words, behaviors that were congruent with working models of attachment were reinforced during this period, while behaviors that were model-incongruent were destabilized (Simpson et al., 2003).

The Transition to Parenthood

A transition is a life change that induces change in roles and statuses and constitutes a clear departure from prior roles and statuses (Roy et al., 2014). It has been well documented that new parenthood can be interpersonally depleting and stressful in general (Cowan & Cowan, 2000). During this transition, new mental and physical adjustments are made by parents at both an individual level (learning new skills, new role demands, and perceptions), and at the dyadic level (evolving relationship dynamics), both of which pose significant life changes and social-role reappraisals (Carlson & Williams, 2011; Cowan & Cowan, 1995; Dyrdal & Lucas, 2013; Lang et al., 2006; Meleis et al., 2000; Roy et al., 2014). Parents transitioning to first-time parenthood experience the greatest change, with first-time mothers experiencing greater effects and role changes across the transition, compared with new fathers (Feldman & Nash, 1984; Harriman, 1983; Katz-Wise et al., 2010; Roy

et al., 2014). Studies suggest that family members take on different roles through different life stages, with the pet's role in the family also subject to change (Turner, 2005). Based on the notion that pets are frequently considered as family members, and owners assign specific roles to their pets, the reappraisal of the role of the pet may influence a shift in the attachment orientations a new parent has for their pet (Turner, 2005).

To date, much research regarding pet owners' attachment to their pets has focused on childless pet owners who perceive their pet as a "pre-child" (Power, 2008), child-like (Laurent-Simpson, 2017; Walsh, 2009), or a child substitute (Albert & Bulcroft, 1988; Blackstone, 2014; Greenebaum, 2004; Turner, 2005) and often see themselves as pet parents (Charles, 2016; Laurent-Simpson, 2017). But research exploring if other groups of pet owners, such as new parents, have different attachment styles to their pet remains scarce. Blouin (2013) interviewed 28 pet-dog owners who described shifts in their attachment relationships with their dog that coincided with changes in their lives. For example, a new mother in Blouin's study described how her relationship with her pets deteriorated so much after having a baby that she decided they no longer held a valuable role in her life. Blouin (2013) termed this change "switching" and argued that pet owners can switch between different logics and orientations regarding their pet attachment depending on their individual circumstances. Alternatively, this may reflect a simple shift in attachment hierarchy, whereby the pet dog's position as one of its owner's multiple attachment figures within a "network" has shifted from higher up to lower down the hierarchy (Fraley & Davis, 1997; Hazan & Zeifman, 1994; Trinke & Bartholomew, 1997).

Two qualitative studies compared childless pet owners with pet owners who had children, and both suggest that the pets' role in the family may change when owners become new parents. For instance, Owens and Grauerholz (2018) found that heterosexual couples with young children expressed guilt over their changed relationship and the lack of time they gave their existing pet since becoming parents. These parents also emphasized that parenting a young child was very different from parenting a pet, suggesting that their pet no longer held the role of "child" in the family. In contrast, pet parents with older children reported the joys of being able to provide love, attention, and intimacy toward their pet. Considering the contrast in responses between parents of very young and much older children, as the intensity of parenting very young children subsides and children become more independent, the pet's role in the family may change again whereby previously strong attachments to a family pet may be rekindled. In contrast, the childless pet parents in this study rarely mentioned feelings of guilt and more frequently referred to their relationship with their pet in a reciprocal parent-child manner than the parents of children (Owens & Grauerholz, 2018).

Similarly, Shir-Vertesh (2012) conducted a longitudinal study in Israel that explored heterosexual couples' attachments to their pet cats and dogs before and after having a child. After becoming first-time parents, most couples in this study experienced a changed perception of their pets, from being child-like to physically and emotionally distancing themselves from their pet, leading in some cases to neglect and relinquishment of their pet altogether. For example, one newly pregnant participant in the study spoke of the love she had for her first "baby," Albert the dog. As the pregnancy progressed, her attachment to the dog deteriorated: "Albert will be secondary" (p. 426). After the birth of her child, Albert the dog became "something that is in the house"

(p. 426). Contrastingly, couples that remained childless over the six-year study maintained their perception of their pets as family members and continued to enjoy loving attachments to them (Shir-Vertesh, 2012). The researcher concluded that the “personhood status” afforded to these family pets proved to be unstable and appeared to change, reduce, or disappear altogether with the change in circumstances as the families transitioned to parenthood: after having a baby, parents had reappraised the role of their pet dog and subsequently the dog was downgraded to “different from a child” to avoid the pet being compared with the “real” baby (Shir-Vertesh, 2012, p. 424). To the best of our knowledge, this study remains the only study to have observed prospective new parents’ attachment relations to their pet before and after the transition to new parenthood and therefore provides key insights into how and under what circumstances new parents’ attachment to their pets changes. Taking the findings of Blouin (2013), Owens and Grauerholz (2018) and Shir-Vertesh (2012) together, it seems likely that all three studies may be tapping into the same construct, where “flexible personhood” and “switching” involves the re-appraisal of the role of pets because of changing circumstances in their owners’ lives.

Outcomes from the above-mentioned studies suggest that the construction of the pet-parenting role can differ depending on the presence of children. Further, in these studies, the roles that pets played in the families and the attachment orientations owners had to them seemed to shift during different life stages such as the transition to parenthood. Taken together, the small amount of literature on this topic suggests this phenomenon may exist across cultures and could be an important issue for many new parents. The aim of the current study was to directly compare the attachment orientations that Australian first-time mothers to a child of less than 2 years of age have with their pet dogs versus Australian women without children. The study also aimed to investigate, through an inductive qualitative approach, the quality of the relationship these women have with their pets and, for mothers, how this relationship may have changed since having a child. Based on the findings from Owens and Grauerholz (2018) and Shir-Vertesh (2012) of a shift to a more distant owner–dog relationship following the birth of a child, and the maintained high level of importance that a pet dog plays in the life of childless women, it was hypothesized that childless female pet-dog owners would have a more anxious and less avoidant attachment orientation to their dog than pet-dog owners who have recently become first-time mothers.

Methods

Participants

Participants were recruited through convenience sampling from social media forums, such as Facebook, mothers group forums, and pet-dog group forums, using advertisements asking “dog mums” to participate in the study. Participants were required to meet inclusion criteria: being female Australian residents/citizens, 18–44 years old, who were the primary carers of their dog and had owned them for at least 12 months. Participants in the parent group were required to be first-time mothers of less than 2 years of age. The final sample consisted of 191 female adults. Of these, 93 were childless dog

Table 1. Ethnicity, education level, and marital status of the participants by group.

		Parent (%)	Childless (%)
Ethnicity	Caucasian	89.8	83.9
	Asian	5.1	4.3
	Hispanic/Latino	1.0	3.2
	Other	2.0	8.6
Highest level of education	High school or equivalent	7.1	9.7
	Technical or occupational certificate	10.2	8.6
	Diploma/advanced diploma	13.3	14.0
	Bachelor's degree	42.9	36.6
	Graduate diploma/certificate	4.1	12.9
Marital status	Postgraduate degree	22.4	18.3
	Married	50.0	23.7
	De facto	29.6	39.8
	Divorced	2.0	1.1
	Single	17.3	31.2
	Widowed	1.0	0.0
	Other	0.0	4.3

owners ($M_{\text{age}} = 32.4$, $SD = 6.7$) and 98 were dog owners who had become first-time mothers within the last two years ($M_{\text{age}} = 32.0$, $SD = 4.3$). The mean age of the children in the parent group was 10 months ($SD = 6.0$). The majority of participants in the parent group (89%) had owned their dog for two years or longer prior to having their child. The majority (77%) also reported having owned a dog during childhood. Of the childless group, the majority (82%) reported having owned their dog for two years or more, with 79% reporting a pet dog in childhood. Thirty-two percent of participants were childless by choice and 8% were unable to have a child; the remaining 60% did not specify why they were childless (see Table 1 for additional demographics).

Materials

A survey was used that consisted of three parts. First, demographic questions were asked relating to participant age, education level, marital status, ethnicity, parenthood status, age of child, and whether they had owned a dog in childhood. Second, participants were given one or two open-ended questions, depending on their group allocation. The first open-ended question asked all participants to describe the nature of their relationship with their dog. The second open-ended question was directed only to dog owners who had recently become mothers and related to ways in which these participants felt their relationship with their dog had changed since the birth of their child. These questions were based on those used in a previous study exploring human–pet attachment (Owens & Grauerholz, 2018). Third, a modified version of the Pet Attachment Questionnaire (Zilcha-Mano et al., 2011) was administered.

Pet Attachment Questionnaire (PAQ; Zilcha-Mano et al., 2011)

The PAQ is a 26-item self-report measure (two subscales with 13 items in each scale) created to assess attachment orientations of humans to their pets. For both subscales, participants are asked to read each item and then respond using a 7-point Likert scale (from 1 = strongly disagree to 7 = strongly agree). As the PAQ uses language that

applies to all pets, for the purposes of this study the statements were modified such that the word “pet” was changed to “dog.” The anxiety subscale comprises statements about intrusive thoughts, such as the need to be near one’s pet: for example, “I get frustrated when my pet is not around as much as I would like it to be.” The avoidant subscale comprises statements relating to the need to emotionally distance themselves from their pet: for example, “I get uncomfortable when my pet wants to be close to me.” Responses for each participant on each subscale were summed and divided by the total number of subscale items. Question one was reverse scored. Scores ranged from 13 to 91 for each subscale, with high scores on both indicating higher levels of attachment insecurity. Low scores on the two subscales represent trust in their pet and the ability to form secure attachments to them. The PAQ has good content and construct validity. The internal consistency (α) of PAQ scores range between 0.84 and 0.91 (attachment avoidance) and between 0.86 and 0.92 (attachment anxiety), with the two scales not significantly correlated with each other ($r = 0.1\text{--}0.4$; Zilcha-Mano et al., 2011). A test-retest reliability coefficient (r) of 0.75 has been found for the attachment anxiety subscale and 0.80 for the avoidant subscale (Zilcha-Mano et al., 2011). In the current study, the internal consistency of the avoidant subscale was 0.83, and it was 0.81 for the anxious subscale.

Procedure

Data were collected over a six-week period on the survey platform Qualtrics. Participants were recruited online through social media; they clicked on the hyperlink that directed them to the study using their own electronic devices. Consent was therefore implied via completion of the anonymous survey, which took between 5 and 12 minutes to complete. At the conclusion of the survey, participants were thanked for their time. Ethics approval was gained through the Monash University Human Research Ethics Committee (ID: 25418).

Quantitative Results

Raw data were exported directly from Qualtrics into IBM SPSS (Version 26). The dataset was scanned for missing data points; none were found. Scores were calculated for the anxious and avoidant subscales of the PAQ for the parent and childless groups separately. Outliers were identified as standardized scores greater than ± 3.29 . Two outliers (high scoring) were detected in the avoidant subscale responses, with one from the parent and one from the childless group. To minimize their influence, these values were winsorized down to the next highest value that was not an outlier in each group. Means and standard deviations were calculated on this revised dataset (see Table 2).

Mean Differences Between Groups

Normality of values for both the avoidant and the anxious subscales were tested with a visual inspection of the Q-Q plots and histograms for each group separately. The data were approximately normally distributed for both groups on the anxious subscale. However, data were found to be positively and moderately skewed for the avoidant

Table 2. Means, standard deviations, and minimum and maximum scores for the subscales (anxious and avoidant) of the Pet Attachment Questionnaire (PAQ) by group (parent and childless).

Subscale	Group	Minimum	Maximum	<i>M</i>	<i>SD</i>
PAQ Avo	Parent	1.00	4.00	1.86	0.73
	Childless	1.00	2.54	1.42	0.39
PAQ Anx	Parent	1.15	4.31	2.53	0.74
	Childless	1.54	4.92	2.91	0.83

PAQ Avo, Pet Attachment Questionnaire, Avoidant Attachment Scale. PAQ Anx, Pet Attachment Questionnaire, Anxious Attachment Scale.

subscale for both the parent (1.09, $SE = 0.24$) and childless groups (0.98, $SE = 0.25$). However, as the Central Limit Theorem states that normality is less important for larger sample sizes and that sample sizes greater than 85 generate stable means and standard deviations regardless of the level of skew (Piovesana & Senior, 2018), it was anticipated that the skewness of these distributions would not influence our results. Levene's test for equality of variances indicated that this assumption was violated for the avoidant subscale. Therefore, equal variances were not assumed for this subscale.

Two independent samples *t*-tests were conducted to explore average group differences on the PAQ subscales of avoidant and anxious attachment. For the avoidant subscale, the result was statistically significant, with the parent group significantly higher than the childless group ($t_{151.12} = 5.29$, $p < 0.001$, medium-large effect size, $d = 0.75$). For the anxious subscale, the parent group had a significantly lower score than the childless group ($t_{189} = -3.40$, $p < 0.001$, medium effect size, $d = 0.49$).

To ensure that there were no differences between groups based on age, an independent samples *t*-test was run, which revealed no significant difference ($t_{154.98} = -0.53$, $p = 0.60$). There were also no significant correlations between age and the avoidant subscale ($r = -0.093$, $p = 0.20$) and age and the anxious subscale ($r = -0.023$, $p = 0.76$). To ensure there were no differences between groups based on marital status, marital status was separated into two groups: i) married and/or defacto, and ii) single, widowed, divorced, other. While a chi-square test of independence revealed there was a significant association between group and marital status, with a greater proportion of married/defacto women to single women in the parent group, compared with the childless group, ($\chi^2 = 6.14$, $p = 0.01$), there were no differences between marital status groups on the anxious subscale ($t_{189} = -1.50$, $p = 0.14$) or the avoidant subscale ($t_{189} = 0.54$, $p = 0.59$). Therefore, the attachment style differences observed between the parent versus childless women were not able to be explained by differences in age or marital status within these two groups.

Qualitative Findings and General Discussion

To gain a deeper level of understanding of the attachment relationship between owners and their dogs, all participants were asked to describe it. Using two independent coders, a thematic content analysis was conducted to identify degree of endorsement of common themes in the data. Individual responses were split into excerpts according to themes, with each excerpt only coded once. The initial 10 responses to each question were

individually allocated to themes by two independent coders. Then both coders compared codes and themes and agreement on these was met through verbal discussion. Subsequent blocks of 10 responses were coded in this manner until an 80% inter-coder reliability for each question was reached, and then coding was continued by one independent coder (K.C.) and checked by coder J.O. At the completion of this process, rates of endorsement for each theme were calculated as the number of participants who endorsed the theme divided by the total number of participants who provided a valid response to that question. Themes endorsed by more than 5% of either group of participants were retained and are summarized in [Table 3](#).

As demonstrated in [Table 3](#), eight themes were identified across the two groups of participants: six that were common among both and one that was unique to each. The most frequently endorsed theme across both groups was one of mutual closeness between owner and dog. The second most frequently endorsed theme was that participants often perceived their dog as being like a child. Whilst both groups used descriptors such as “like child,” “is child,” and “fur baby” at similar frequencies, a minority of the parent group were unique in using the past tense to describe this relationship:

My dog was my child before.

A minority of participants across both groups similarly endorsed the theme of the pet as part of the family, without specific reference to a parent–child-like relationship:

Table 3. Frequency and percentage endorsement of common themes relating to the nature of female owners’ relationship with their dog.

Theme	Definition	Quote	Childless (n = 93)	Parent (n = 98)
Mutually very close	The relationship between dog and owner is close and bidirectional, with benefits to each member.	“We are very close and are a support for each other.”	37 (39.8%)	39 (39.8%)
Dog like a child	The owner refers to their dog as if it were a child or as if they are the parent of their dog.	“I’m his Mum and he’s my baby boy.”	28 (30.1%)	29 (29.6%)
Owner is reliant on dog for wellbeing	Owner appears to be emotionally dependent on their dog.	“She is my pet, my friend and my performance dog she goes with me to work and helps me with my health issues.”	11 (11.8%)	–
Part of the family	The owner perceives their dog as a member of their family.	“My dog is part of my family.”	6 (6.5%)	10 (10.2%)
Distant relationship	Either the owner or the dog have become emotionally distanced from each other.	“Used to be close.”	–	7 (7.1%)
Dog attached	Dog is described as being attached to owner and prefers to be in close proximity to owner.	“He is my shadow and goes everywhere with me.”	4 (4.3%)	5 (5.1%)
Caring role	The owner perceives themselves to support their dog in a caring way.	“I’m more of a carer because he’s a senior dog.”	6 (6.5%)	4 (4.1%)
Just a pet	Owner states the roles within the relationship, describes the relationship in simple terms, or describes the dog’s behavior.	“Pet.” “Owner.” “Good.”	10 (10.8%)	7 (7.1%)

Note: Frequencies were tallied by totaling the number of participants who responded to a theme. Participants could endorse multiple themes but could only endorse each theme once.

She is part of our family.

The theme that pet dogs contribute to wellbeing was endorsed exclusively by the childless group, making reference to their reliance on their dog for their general social, emotional and physical wellbeing:

He gives me confidence and a focal point in uncomfortable situations.

In contrast, a distant relationship with their dog was a uniquely endorsed theme by the parent group, with some new parents expressing that their relationship with their dog had become more distant since having their child:

close but not as close since having the baby.

Other minor themes with similar endorsement across the two groups include the dog's attachment to the owner, the owner plays a caring role in the dog's life, and the sentiment that the dog is "just a pet."

Question two was directed at the parent group only and asked in what ways participants' relationships with their dog had changed after becoming a new parent. Shown in Table 4, the most strongly endorsed theme (62.2%) centered on a lack of time and attention to afford their dog, sometimes leading to their pets being excluded from daily activities and resulting in neglect, for example,

No longer take him everywhere, less cuddles, more time alone

and

He needed my attention and I had very little at the time. I forgot to groom him, so he smelt which made me not want to be around him.

Table 4. Frequency and percentage endorsement of themes relating to how the relationship changed between owner and dog after the owner became a parent.

Theme	Definition	Quotes	Parent (<i>n</i> = 98)
Less attention/ more neglected	The dog no longer receives the level of attention or time with the owner that it did before the birth of the baby. The owner describes how they neglect their dog.	"I have a lot less time and energy to give him."	61 (62.2%)
More rules	Previous dog behavior is no longer acceptable, with boundaries put in place to restrict dog behavior.	"No longer allowed on bed."	13 (13.3%)
Change in dog	The dog has demonstrated an emotion or behavior change since the birth of the baby.	"His demeanor is much more sad and needy."	12 (12.2%)
No change in relationship	The relationship between owner and dog has not changed since the birth of the baby.	"Same as before my kid."	12 (12.2%)
Guilt	Owner has feelings of guilt toward dog.	"She has definitely taken a back seat which I feel so guilty about."	6 (6.1%)
Closer relationship	Owner's relationship with her dog has improved since the birth of her child.	"I appreciate him more."	6 (6.1%)
Putting time aside	The owner has realized that they now have to make a conscious effort to spend time with their dog.	"I'm more aware of making time for her."	6 (6.1%)

Note: Frequencies were tallied by totaling the number of participants who responded to a theme. Participants could endorse multiple themes but could only endorse each theme once.

When parents expressed negative emotions such as guilt toward their dog, it was in the context of the lack of time and attention they had given them:

I still love him the same, but I find that sometimes I'm so busy with the baby that (at) the end of the day I haven't given him as much attention as I used to, and I feel guilty.

Other themes centered on implementing more rules to restrict access to the dog in the home and around the baby. A small number of new parents felt their relationship with their dog had improved since becoming a new parent, but more parents felt the relationship had not changed at all. When new parents reported a change in their dog's emotional state it was almost always a negative emotion, such as jealousy, sadness, or neediness. Several parents spoke about the realization that they would have to make specific plans to factor in time to spend with their dog.

Findings in the Context of Attachment

Based on conceptualizations of attachment styles in humans (Bowlby, 1980), this study quantitatively provided support for the hypothesis that female childless pet-dog owners would have a stronger anxious and weaker avoidant attachment to their pet dog than female pet-dog owners who had recently become new mothers. Further, our qualitative findings support these results. For instance, new mothers had introduced rules for the dog that provided distance between them and other family members. Parents also reported that they had neglected their dogs' basic needs of attention, grooming, and exercise. These distancing behaviors are in keeping with the characteristics of avoidant attachment, where individuals employ distancing and deactivating strategies to deny or dismiss attachment needs (Bowlby, 1973). New mothers also did not seem to reap the same benefits to wellbeing from their dogs as childless women did (see Table 3). For example, a childless participant wrote,

He is my activity companion. He makes sure I get out to exercise. He has also helped me with my health issues

Other women in this group characterized them as "my entire world," "my shining light," "my everything" under the same theme. Changes that had occurred with new mothers since having their babies likely explain these findings, such as having a lack of time and having to implement more rules (see Table 4).

Why childless women are more anxiously attached to their pet dogs is unclear. Within the current study's group of childless women, 30% identified themselves as being childless by choice. This choice may strongly influence the dependency on pets to provide parenting opportunities for these women, as noted in Laurent-Simpson's (2017) study. Perhaps anxious attachment increases as the dependency on the pet increases. In a study that looked at the attachment relationship between individuals with disabilities and their assistance dogs, the results showed that the owners were much more anxiously attached to their assistance dog compared with companion-dog owners (White et al., 2017). The researchers suggested that this high level of dependency had facilitated an anxious attachment orientation in assistance-dog owners and we may see a similar phenomenon in women without children.

Aligning with avoidant attachment behaviors, the parent group spoke of a more distant relationship with their pet, suggesting a diminishing of their attachment to their dog in the transition to parenthood. Some new mothers spoke of the deterioration of their attachment relationship with their pet dog:

Sadly, when I had my baby, I resented my dog. He was always in the way, tripping me over ... I'm sad at myself for not prioritizing him better. Nearly two years on he still isn't a very high priority

My love for my dogs changed when I had my baby.

These responses indicate that the owners' attachment to their pet dog changed following the birth of their child, with one parent reflecting on this situation not only with sadness but an awareness of her inability to prioritize her dog in the present. This study's results support the findings of Owens and Grauerholz (2018), who found that parents of young children felt guilt and frustration over the lack of time and attention they afforded their pet, and Shir-Vertesh's (2012) study of Israeli new parents, which reported that once couples began to have children, their relationship with their pet diminished, pets were neglected, and new rules were enforced in relation to the pets' access to the family.

Avoidant attachment to pet dogs has also been observed elsewhere in the literature. Lockyer and Oliva (2020) found that foster carers of Seeing Eye Dog puppies were more avoidantly attached to the puppies in their care than puppy owners who intended to permanently own their puppies. The researchers concluded that the carers employed defense mechanisms to distance themselves from the puppies. However, while it may seem logical to not become too attached to puppies that will be given away, no such explanation can be afforded to the new parents in the current study, the majority of whom had owned their dogs for more than two years. For all intents and purposes, it would be reasonable to assume these dogs would be "forever dogs." These findings do, however, support the notion that the roles we assign to pets influence our attachment relationships with them. As these roles change, so do our attachments.

The Influence of Role Reappraisal on Attachment Models in the Transition to Motherhood

Role change is a defining element of the transition to parenthood: first-time parents redefine their pre-existing role to incorporate their new role as a parent. In doing so, other relationship roles within the family are also renegotiated (Simpson & Rholes, 2017). Although scarce, previous research suggests that this renegotiation of family roles is extended to the family pet (Owens & Grauerholz, 2018; Shir-Vertesh, 2012; Simpson & Rholes, 2017). That is, if the pet dog's role in the family was previously one of a child, with the arrival of the human child, the dog's role is renegotiated, and the parent redefines the role of their dog so as not to equate it with the role of the human child. In doing so, the value of the pet-as-a-child may be lost and the attachment to it is diminished. As a consequence, some new mothers may behave in a more avoidant way toward their pet dog as a way of dealing with the cognitive dissonance that

this role reappraisal brings. While we found some evidence for this in our qualitative findings, both groups of women still described their relationship with the dogs as “like a child” at similar frequencies, suggesting that this may not reflect all new mothers’ experiences or may reflect a shift in attachment or attachment hierarchy, as opposed to a total loss of the pet as an attachment figure. However, when describing their dog as child-like, some parents used past tense language not seen in the childless group: for example,

before our baby was born, she was our replacement fur baby.

This quote implies a shift in the dog’s rank in the family after the birth of the baby, suggesting that the dog no longer occupies the role of “replacement baby” as the baby role has now been filled by the human baby.

It remains unclear as to whether role reappraisal within the transition to new parenthood is consciously made. Regardless, strong evolutionary factors are at play when women become mothers. For example, results from fMRI studies show that when new mothers viewed images of their own child, a primitive part of the brain became active. Contrastingly, when new mothers viewed images of their pet dog, only the part of the brain that is involved in learned responding became active, suggesting biological differences that may reflect the evolutionary processes involved in parenting a human infant versus parenting a pet dog (Stoeckel et al., 2014).

Taken together, while the cause of new mothers’ avoidant attachment cannot be defined in this study, it is likely that role reappraisal and the overwhelming challenges of the transition to parenthood plays a part in a mother’s shifting attachment to her pet dog. Additionally, lack of sleep, lack of time, and lack of energy leave new mothers emotionally and physically depleted. New mothers have a biological drive and focus that directs their efforts and attention toward their infant (Swain et al., 2014). These factors may all play a part in creating the “perfect storm” for the once much-loved pet dog, especially if the dog previously held the role of a child.

Strengths, Limitations, and Future Directions

A significant strength of this study is that it is the first Australian study to explore differences in pet attachment orientations between new mothers and childless women. And, to the authors’ knowledge, this is the first study to combine qualitative and quantitative methods in the analysis of these attachments. A further strength of this study was the ability to study two separate but homogenous cohorts of Australian women with sufficiently powered sample sizes in each group. However, as the current study examined only females’ attachment to their pet dog, the generalizability of the findings is limited to this demographic. Further, our recruitment strategy, which utilized online social media platforms, may further limit generalizability. Future studies could add further understanding in this area by investigating attachment orientations of other gendered parents to pet dogs, as well as other pet species.

One significant limitation of this study was that the attachment orientations were explored at just one point in time. While the causality of new mothers’ avoidant attachment to their pet was unable to be established in this study, the results have far-reaching

implications for pet welfare agencies and pet–human attachment in general. It also provides grounds for longitudinal investigations that would offer the opportunity for pre and post measurement of the attachment orientations of new parents. Additionally, researchers may also seek to understand how the attachment relationship changes when children get older, as findings from Shir-Vertesh (2012) suggest the dog’s role may again change back to one that is more “child-like” in nature as the children become more independent. This could be addressed by utilizing ongoing waves of data across the first several years of parenting. Such results could inform the creation of educational and learning resources for parents and inform social discussion around the best time to establish healthy pet relations.

While the qualitative component of this study allowed researchers to gain a rich, unique understanding of new mothers’ evolving relationships with their pet dog after childbirth, a further question relating to how new parents felt about these relationship changes could have provided deeper insight into the experience of these new mothers. Guilt was the only emotion that could be deducted from the qualitative responses, but it is our belief that a richer emotional breadth of responses could be revealed by specifically asking participants about their feelings.

The outcomes of this study also have important implications for the welfare of new mothers who reported distress at their changed relationship with their dogs. Attachment styles are relatively stable over time but the relationship with a new parent’s pet dog can be weakened or changed. The findings of this study can help researchers understand the factors that contribute to this deterioration in human–pet relationships in order to provide appropriate intervention and education.

As most expectant mothers in Australia have access to pre-natal classes prior to the birth of their child, this would be an opportune moment for them to receive education about role transitions that take place in general and, more specifically, the influence of role transitions on pet attachment. Engaging the pet dog in some behavioral training before the arrival of the baby could make the transition easier for both mother and dog and ease the burden of guilt that comes from implementing more rules and/or neglecting the dog in order to keep the baby safe.

Conclusion

This study constitutes an important initial step for exploring how Australian women construct their attachment relationship with their pet dogs. Childless women were found to be more anxious and less avoidantly attached to their pet dog compared with new mothers. While both groups reported a mutually close relationship with their dogs and viewed them as “like a child,” some new mothers used these descriptors only in the past tense. New mothers also reported having less time for their dogs, resulting in their dogs receiving less attention or being neglected. For some dogs this coincided with emotional or behavioral changes, and some owners reported feelings of guilt. This research demonstrates that the transition to new motherhood can influence existing owner–dog attachment, which may have significant implications for understanding an often-neglected aspect of how female pet owners experience the transition to parenthood.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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