



The 'pet effect' and trans people: Associations between living with animal companions and wellbeing, social support, and trans-related marginalization in three international studies

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ABSTRACT

Background: The love, joy and sense of connection between humans and animal companions can bring shared health benefits. Often this is referred to as the 'pet effect'. Previous research on the 'pet effect' suggests that living with an animal companion, and especially one who is considered part of the family, can increase human wellbeing, though to date research has rarely focused on trans people and the 'pet effect'.

Aims: This article explores the 'pet effect' in the lives of trans people, given that trans people may uniquely benefit from animal companionship as a counter to the negative effects of living in cisgenderist contexts.

Methods: A secondary analysis of three studies was undertaken ($N=857$ participants residing in Aotearoa New Zealand, Australia, the UK or the US). Studies included measures of psychological distress, human social support, and trans-related discrimination, with all participants being asked if they lived with animals and if so, if they considered animals to be part of the family.

Results: Trans-related marginalization explained the greatest amount of variance in psychological distress ($\beta = .398, p = .001$), with social support ($\beta = -0.198, p = .001$), living with animals ($\beta = .149, p = .001$), and animals being part of the family ($\beta = 0.196, p = .001$) explaining additional variance. Age ($\beta = -0.322, p = .001$) and employment status ($\beta = .147, p = .001$) were the only demographic variables that explained variance in psychological distress among participants who lived with animals considered part of the family.

Discussion: The findings suggest that animal companions make a unique contribution to the wellbeing of trans people. The article concludes by exploring implications of these findings for future research and practice with regard to the 'pet effect' and trans people.

KEYWORDS

animal companions; 'pet effect'; psychological distress; social connectedness; trans people; trans-related discrimination; wellbeing

Introduction

First coined by Allen, (2003), the term 'pet effect' refers to the positive impact of animal companionship on human wellbeing. This positive impact has been found to encompass physiological, social, and psychological benefits derived by humans from living with animal companions (operationalised in this article as domesticated animals who live in the home, as differentiated from animals who provide a service role or who may also live on a property but not within the home) (Peacock et al., 2012). There is now a

substantive body of literature exploring the 'pet effect', but most of this literature to date has focused on cisgender people, excluding a concerted focus on the potentially positive benefits of animal companionship for trans people. Given the often hostile interpersonal and social contexts in which trans people live (such as in terms of laws seeking to prevent trans people from accessing affirming care, negative or indeed violent responses from strangers or family members, Stewart et al., 2018), it is reasonable to theorize that trans people may especially benefit from

animal companionship. This article reports on a secondary analysis of three international studies that explored the relationship between animal cohabitation and kinship and trans people's well-being, social connectedness, and experiences of trans-related marginalization.

In terms of evidence for the 'pet effect' in cis-gender samples, Janssens et al. (2020), for example, asked 55 people living with dogs or cats to report whether an animal companion who was considered part of the family was present at ten timepoints each day for five days in a row, and the extent to which participants interacted with their animal companions. Participants were asked to report on their mood at each time point. The results suggest that psychological distress was lower when an animal was present and furthermore, the amount of interaction was positively associated with increases in feelings of pleasantness.

The study by Janssens et al. (2020) also found that when a human guardian considers an animal companion to be part of their family, overall wellbeing tends to be higher. To explore the effect seen when an animal is or is not considered a part of the family, McConnell et al. (2019) sampled both participants who lived with animals they considered to be part of their family and participants who lived with animals they did not consider to be part of their family. Participants' wellbeing was measured on a variety of psychological measures, with the findings suggesting that participants who considered their animal companion to be part of their family reporting higher overall wellbeing compared to those who did not (though we would note that the literature on the 'pet effect' is equivocal, with some studies finding negative effects of animal companionship, see Peacock et al., 2012).

The secondary analysis of three international studies reported in this article extends this previous research by considering whether the 'pet effect' is applicable to trans people's lives, and in particular whether the differentiation between animal companions who are part of the family, and animal companions who are not, is applicable to trans people's lives. Research specifically on trans people's relationships with animal companions (as opposed to broader research on LGBTQ people and animal companionship, which constitutes a

rapidly growing area of research, see Díaz Videla et al., 2023, for an overview) has to date been scant. Rosenberg et al. (2020) report on the experiences of 31 trans people living in Australia, focusing on how trans people who live with animal companions navigate domestic violence. The findings suggest that animal companions provide comfort and support to trans people in challenging times, but also that fears about the safety of animals can be a barrier to trans people leaving violent relationships. Riggs et al. (2021) explored the ways in which animal companions provide recognition to trans people who medically affirm their gender, specifically in terms of animals recognizing embodied changes produced by receipt of hormone therapy. Shifting relationships with animals as a result of commencing hormone therapies were typically valued by trans people as a form of recognition that their embodiment had changed.

The above previous research focused on trans people and animal companions would seem to suggest that living with animal companions—and in particular animals with whom humans share a close bond—is likely to be beneficial to trans people's wellbeing. A core question that remains unanswered from the limited previous research on trans people and animal companionship, however, is whether animal companions who are considered part of the family are unilaterally beneficial to trans people's wellbeing, or whether other factors may mitigate the perceived benefits of animal companionship. Two key areas are likely to play a role in whether or not animal companionship is beneficial to the wellbeing of trans people. First, are experiences of trans-related marginalization. While a loving animal companion may offset experiences of marginalization to a certain degree, it is not reasonable to suggest or expect that animals can entirely mitigate the harm of trans-related marginalization. Research with trans young people and their animal companions has found that while the relationship may buffer against marginalization, it does not prevent it from occurring and impacting trans young people (Riggs et al., 2023a; Wenocur et al., 2022).

Second, the broader literature on gender and sexuality diverse people and animal companionship suggests that while kin relationships with animals are valued by many gender and sexuality

diverse people, equally important are relationships with other humans (see Díaz Videla et al., 2023, for an overview). Given many trans people are socially marginalized and as a result experience fraught relationships with other humans (Stewart et al., 2018), it is not reasonable to expect that animals may entirely mitigate or compensate for these fraught human-human relationships. Research with gender and sexuality diverse people has found that for those who experience fraught human-human relationships, levels of social support were lower including for those who lived with animals, and such fraught relationships were most likely to be experienced by trans people (e.g. Riggs et al., 2021).

Research questions

In order to extend previous research on the ‘pet effect’, this article provides a secondary analysis of three previous international studies with a specific focus on the sub-sample of trans people within each study. Each study included questions about animal companionship and kinship. Based on the previous research, it was predicted that:

1. Trans people who live with animal companions will report lower levels of psychological distress as compared to those who do not live with animal companions,
2. Further, trans people who consider their animal companions part of the family will report lower levels of psychological distress as compared to those who live with animals but do not consider them part of the family, and
3. While cohabiting with animals and considering animals to be part of the family will explain variance in terms of psychological distress, social support and experiences of trans-related marginalization will explain a greater proportion of variance in distress.

Beyond these predictions, if hypotheses one and two are supported, we were also interested to explore whether particular demographic items were related to psychological distress for trans people who live with animal companions considered part of the family. Given the limited

previous research, non-directional hypotheses about these associations were tested.

Method

The present article involved the secondary statistical analysis of relevant data from three prior cross-sectional studies: (1) the trans relationship study (focused on trans people’s intimate and familial relationships); (2), the LGBTQ—animal wellbeing study (focused on human-animal relationships in the context of domestic and family violence); and (3) the suicidality study (a comparative study of suicidality among trans and cisgender people). In this section, each study is briefly introduced (with reference to the previous studies for further detail), along with information on how the studies were integrated to form a secondary data set.

Design

Participants

Detailed participant demographic information is provided in Table 1 for each of the three studies where uniform measures were asked or could be derived, including noting where there were significant differences across the three studies (p value provided). The following sections cover the sample sizes, age ranges, genders, sexualities, and recruitment method for each of the three studies, given these were not uniform.

Trans relationship study

A total of 345 trans individuals took part in this survey. All participants were 18 years or older (mean age of 27 years) and residing in the United States at the time. 109 of these participants were men, 106 were non-binary people, 85 were women and 45 were another gender. With regards to sexuality, 89 were pansexual, 57 were bisexual, 41 were lesbian, 36 were another sexuality, 34 were gay, 31 were queer, 25 were heterosexual, and 32 were asexual. These individuals were recruited through social media and community groups that assist trans people in the United States (see Fuller & Riggs, 2021 for additional details about recruitment).

Table 1. Demographic information of trans participants from the three studies.

Demographic	Trans-relationship (n)	Suicidality (n)	LGBTQ animal wellbeing (n)	<i>p</i>
Race	White (216)	White (358)	White (105)	.001
	Not white (84)	Not white (34)	Not white (15)	
Employment status	Employed full-time (144)	Employed full-time (85)	Employed full-time (38)	.001
	Employed part-time (93)	Employed part-time (119)	Employed part-time (22)	
	Unemployed (83)	Unemployed (129)	Unemployed (48)	
	Disabled/unable to work (24)	Disabled/unable to work (59)	Disabled/unable to work (12)	
Relationship status	In a relationship (220)	In a relationship (205)	In a relationship (198)	.004
	Not in a relationship (125)	Not in a relationship (187)	Not in a relationship (65)	
Companion animal cohabitation	Yes (242)	Yes (255)	Yes (83)	.001
	No (103)	No (137)	No (37)	
Companion animal considered part of the family	Yes (200)	Yes (210)	Yes (61)	.001
	No (42)	No (45)	No (22)	

LGBTQ – animal wellbeing study

A sample of 503 gender and sexuality diverse individuals were involved in this study. All participants were 18 years or older and residing in either the United Kingdom or Australia at the time, with the average age being 38 years. Given the focus of the current article, only trans participants were included ($n=120$) for the secondary analysis, with 58 residing in the United Kingdom and 62 residing in Australia. Of the trans participants 59 were non-binary people, 34 were women, and 27 were men. In terms of sexuality, 34 were pansexual, 23 were queer, 22 were bisexual, 14 were gay, 14 were lesbian, 8 were heterosexual, and 5 were asexual. Participants were all recruited through social media and emails through relevant organizations (see Riggs et al., 2018 for additional details about recruitment).

Suicidality study

A total of 700 people aged 18 years and over completed this survey, average age of 30 years. Of these 392 participants identified as trans, and 308 identified as cisgender. Regarding the trans participants, 177 were from New Zealand and 215 were from Australia. With regards to the gender of trans participants, 64 were female, 79 were male, and 249 were non-binary. With regards to the sexuality of trans participants, 121 were queer, 115 were gay/lesbian, 83 were pansexual, 65 were bisexual, 33 were asexual, 28 were questioning/undefined and 15 were heterosexual. Respondents were invited to take part in the study through community groups, professional organizations, Facebook advertisements, and direct recruitment through Qualtrics (see Treharne et al., 2020 for additional information about recruitment).

Materials

For this project, results from the Kessler Psychological Distress Scale (K10), and the Multi-Dimensional Scale of Perceived Support (MSPSS) were available for use across all studies, whereas results from the Gender Minority Stress and Resilience Scale (GMSR) were only available in the Trans-relationship and Suicidality studies. For all three studies the same two questions were asked about animal companions: ‘Do you live with animal companions’ (yes/no), and ‘Do you consider your animal companions to be part of the family’ (yes/no).

Kessler psychological distress scale (K10)

The K10 is a measurement of psychological distress, consisting of a series of ten questions (e.g. “In the past four weeks, how often did you feel nervous?”). These questions are specifically designed to measure an individual’s anxiety and depression related symptoms that have occurred four weeks prior. Participants rate each item on a scale of none of the time (scored 1) to all of the time (scored 5). Lower total scores (e.g. below 20) are considered to indicate no psychological distress, middle scores (e.g. 20–29) are considered to indicate a mild to moderate levels of psychological distress, and higher scores (e.g. 30+) are considered to indicate severe levels of psychological distress (Kessler et al., 2002). The K10 has been previously shown to be both a reliable and valid measurement of psychological distress among trans communities (Bariola et al., 2015).

Gender minority and stress scale (GMSR)

The GMSR is a measurement of trans-related marginalization and resilience among trans people. For

the four subscales that focus on trans-related marginalization (and which were those included in two of the studies), one focuses on gender-related discrimination (e.g. “I have had difficulty getting medical or mental health treatment because of my gender identity), one on gender-related rejection (e.g. “I have had difficulty finding a partner or have had a relationship end because of my gender identity or expression”), one on gender related victimization (e.g. “I have been verbally harassed or teased because of my gender identity or expression”), and one on non-affirmation of gender identity (e.g. “I have to repeatedly explain my gender identity to people or correct pronouns people use”). In the questions assessing discrimination (five questions), rejection (six questions), and victimization (six question), participants either answered Never (scored 0) or Yes (before or after age 18—scored 1). With regards to measuring gender non-affirmation participants were given a Likert scale, allowing them to answer from 0 (strongly disagree) to 4 (strongly agree), all scores were then combined and tallied out of 24 points, with higher scores indicating higher levels of perceived trans-related marginalization (Testa et al., 2015). The GMSR scale been previously shown to have good internal reliability and construct validity (Hidalgo et al., 2019).

Multi-dimensional scale of perceived support (MSPSS)

The MSPSS measures the level of perceived social support an individual experiences. This scale involves twelve individual questions (e.g. I get the emotional help and support I need from my family) that are answered on a seven-point Likert scale Very Strongly Disagree (scored 1) to Very Strongly Agree (scored 7). Items in the scale ask questions regarding the perceived supportiveness of partners, friends, and family members. Higher scores on this scale indicate greater perceived social support (Zimet et al., 1990). The MSPSS has been shown to have good internal consistency and test-retest reliability (Wongpakaran et al., 2011).

Procedure

All three of these studies were carried out online. For the Suicidality study this online survey was

carried out on Qualtrics, and for both the Trans-relationship study and LGBTQ Animal Wellbeing study these were carried out on SurveyMonkey.

Trans relationship study

After giving their consent, participants were asked several demographic questions (to confirm whether they were 18 years or older, trans, and living in the USA). Following this, participants were asked additional demographic questions, and then completed a resiliency scale, the K10, the MSPSS, and finally the four GMSR subscales (see Fuller & Riggs, 2021 for additional details, including reliability of measures).

LGBTQ – animal wellbeing study

All participants were first asked several demographic questions (gender, gender modality, sexuality, employment, disability, and cohabitation/relationship status, income, educational achievement). Those in Australia were then asked a set of demographic questions (Australian State or Territory and Indigenous status), while those in the United Kingdom were asked another set of demographic questions (National identity and race). Participants then had the option of filling out a questionnaire about domestic violence and animal cruelty. Following these demographic questions, participants were asked about their animal companions, then were asked to complete the K10, MSPSS, and measures of liking humans and liking animals (see Riggs et al., 2018 for additional details, including reliability of measures).

Suicidality study

Once participants had consented to undertake the study, they were asked to state their country of residence as well as their age. If participants were deemed eligible for the study another series of demographics was also then asked. These questions were gender, gender modality, intersex status, sexual orientation, indigeneity, employment status, rurality, and socio-economic status. After answering these demographic questions, participants then completed the MSPSS and the K10. Following the presentation of the K10,

participants were presented with the four GMSR subscales, and measures of suicidal ideation and self-harm (see Treharne et al., 2020 for additional information, including reliability of measures).

Data analysis

To begin the process of combining the studies into one database in SPSS, data measurements were first ensured to be consistent across all relevant variables, and once this initial process was complete relevant data labels were then also ensured to be consistent. Following this, the process of grouping variables began, which involved combining certain groups (e.g. disabled and unable to work grouped together, race into white or not white, gender into male, female, or non-binary: for the one study that included a fourth category all responses referenced a non-binary gender in some form) to form consistent groupings across relevant variables. Once this process had been completed, the three data sets were then finally merged to form one master SPSS database, and all the unrequired variables were either deleted (i.e. measures not used consistently across at least two studies) or were only used selectively (i.e. sexuality could not be collapsed into uniform shared categories, so is reported above but not included in the analyses performed below).

In terms of planned analyses, descriptive statistics were generated to provide an overview of the sample, focused only on trans participants in the three studies (see Table 1). One regression was performed to answer research questions 1–3. To address the question of which demographic variables explained variance in responses to the K10, a second regression was also performed, which

included all shared available demographic variables, though only included participants who lived with an animal companion and considered them part of the family. For both regressions, country of residence and study were controlled for given differences between these in terms of demographic variables (see Table 1).

Results

Of the combined sample, 580 participants lived with an animal companion, and 277 did not live with an animal companion. Of those who lived with an animal companion, 471 considered them to be part of the family, and 109 did not. The first regression outlined in Table 2 demonstrates that while the GMSR and MSPSS explained the greatest amount of variance, both living with animals (as compared to not living with animals) and considering animals to be part of the family (as compared to living with animals who are not considered part of the family) also explained unique variance, $F(2, 857) = 36.030, p = .001, R^2 = .527$). Importantly, those who lived with animals reported lower psychological distress than did those who lived without animals. Those who did not consider cohabiting animals part of the family reported higher levels of psychological distress. Greater experiences of gender-related discrimination were associated with higher levels of psychological distress, and higher levels of social connectedness were associated with lower levels of psychological distress.

In terms of demographic variables and the K10 for participants who lived with animal companions who were considered part of the family, the regression in Table 3 shows that only age and employment status explain variance in the K10, $F(2, 857) = 23.88, p = .001, R^2 = .413$). In terms

Table 2. Regression of key variables against K10.

Model		Unstandardised coefficients		Standardised coefficients		Sig.
		B	Std. error	Beta	t	
1	Study	-3.875	1.815	-0.208	-2.135	.033
	Country	-0.385	1.219	-0.031	-0.316	.752
2	Study	-2.710	1.616	-0.145	-1.677	.094
	Country	-0.656	1.066	-0.052	-0.616	.538
	Live with animal/s	3.692	1.358	.149	2.719	.007
	Pet is considered part of family	4.739	1.272	.196	3.727	<.001
	GMSR	.439	.041	.398	10.669	<.001
	MSPSS	-1.567	.291	-0.198	-5.389	<.001

Table 3. Regression of demographic variables against the K10 for participants who lived with an animal companion considered part of the family.

Model		Unstandardised coefficients		Standardised coefficients		Sig.
		B	Std. error	Beta	t	
1	Study	-3.166	.477	-0.229	-6.642	<.001
	Country	-0.168	.363	-0.016	-0.463	.643
2	Study	-1.870	.469	-0.135	-3.983	<.001
	Country	.047	.350	.004	.133	.894
	Age	-0.292	.031	-0.322	-9.407	<.001
	Gender	-0.227	.402	-0.019	-0.564	.573
	Employment status	1.116	.247	.147	4.525	<.001
	Race	-0.146	.356	-0.025	-0.723	.547
	In a relationship	.734	.626	.038	1.173	.241

of age, younger participants reported higher levels of psychological distress. In terms of employment status, participants who worked full-time reported lower levels of psychological distress as compared to participants who were part-time, unemployed, or disabled/unable to work.

Discussion

The results reported above provide support for all of the research questions. In terms of the first hypothesis, it was found that trans people who lived with animal companions reported lower levels of psychological distress. In terms of the second hypothesis, it was also found that when animals were considered part of the family participants reported lower levels of psychological distress than did those who cohabited with animals whom they do not consider to be part of their family. In terms of the third hypothesis, while higher levels of trans-related marginalization and a greater sense of social connectedness to other humans explained the most variance in terms of psychological distress, animal companionship still explained unique variance. In terms of demographic variables, while we cannot comment on causality given the cross-sectional nature of the three studies, older participants and those who worked full-time and who lived with animal companions considered part of the family reported lower psychological distress.

How might we interpret these findings? That trans people are likely to benefit from the 'pet effect' echoes previous research (e.g. Riggs et al., 2021), specifically in terms of the unique forms of non-judgmental recognition that trans people may perceive is offered to them by animal

companions. That this recognition would be especially valued when it is offered by animals who are considered part of the family is unsurprising. It is also not surprising, given previous research (e.g. Riggs et al., 2023a), that while animals play an important role in the lives of trans people, that they do not mitigate the effects of trans-related marginalization, or the lack of positive human-human relationships. Of interest are the relationships found between specific demographics and psychological distress for those who lived with animals considered part of the family. We might suggest that some younger trans people are less likely to benefit from the 'pet effect', perhaps because in living with animals they also live with family members who are less than supportive. This requires additional research to explore in further detail. In terms of employment, those who were unable to work may face additional challenges that cannot be mitigated by animal companionship.

Limitations of the secondary analysis reported in this article must, however, be acknowledged. A first limitation relates to the samples. These were convenience samples, whose experiences may not represent broader trans communities (either in the countries in question or globally, especially given that for all three studies the majority of the participants were white). Specifically, two of the studies had a relatively negative focus (suicidality and less-than-positive human-human relationships). This may mean that the samples in these two studies were more likely to report higher levels of psychological distress (though the levels of distress reported are on par with previous studies, see Farvid et al., 2021). A second limitation relates to the data collected. The GMSR was not

used for all three studies (and only the marginalization subscales were included), and there were only limited demographic variables shared across the three studies in a uniform fashion. It is also true that the MSPSS measures social connectedness, but not necessarily the strength of human-human bonds. Similarly, the K10 measures psychological distress but not flourishing or happiness. Further research is needed to include more 'positive' measures to ascertain their association with animal companionship. And obviously future studies will benefit from including measures of animal attachment, beyond the single-item measures used in the three studies. Finally, we would note that all three studies were cross-sectional, and hence the findings reported here cannot make claims to causality. This is an issue noted previously in the field of human-animal studies, constituting an ongoing concern about interpreting the directionality of findings (Stern & Chur-Hansen, 2013)

Despite these limitations, the strength of the findings reported in this article is the international nature of the samples, though acknowledging that all countries are westernized, meaning that there are likely shared views about animal companionship across the countries, but also that other views about animal companionship were not canvassed. The field of trans studies has only just begun to explore the role of the 'pet effect', and has thus far been limited in its cross-cultural focus. This definitely constitutes an area of focus for future research. While survey research will continue to be important in this regard, qualitative interview research will be important to explore cultural differences not simply as a variable, but rather as a significant contextual matter that may explain in greater detail differing views about animal companionship and the 'pet effect' across diverse trans communities. Also important will be future research that explores whether the 'pet effect' as experienced by trans people is differentiated by species. As Zasloff (1996) has noted, 'a dog is not a cat': differing relationships with differing species are likely to mediate the 'pet effect'. Unfortunately, in the present study species of animal companion was not uniformly asked so this remains a question for future research.

Trans people often live with multiple challenges due to broader marginalizing social contexts, and animals cannot be expected to mitigate this. Research on the 'pet effect' has been right not to suggest animal companions are—or even could be—a cure-all for their human guardians. While the pet effect is relevant to trans people, animal companions are no panacea for all their/our challenges. This is not to suggest that all trans people should want to live with animals, or even that this should be an idea that is floated. There are many personal, interpersonal, and social reasons why living with animals may not be feasible (i.e. not liking animals, being in a rental property that does not allow animals, not being able to afford to care for an animal). But for those trans people for whom living with animals is appealing and feasible, it is important that service providers engage with and harness the benefits of animal companionship for trans people, rather than simply seeing animals as background information (Fraser et al., 2020). The social marginalization of trans people by other humans needs to be remedied, as does the instrumentalisation of animal companions (implied by expecting them to counter all human difficulties).

Nonetheless, it is important to comment on how service providers might make use of the findings reported in this article. The work of Riggs et al. (2023b) with trans young people suggests that the presence of animal companions makes an important contribution when trans young people engage with healthcare professionals. This can be in providing physical comfort, and in providing distraction from challenging conversations. These were both especially true when professionals recognized the presence of animals, and discussed their own animal companions. Given that the findings reported in this article indicate a relationship between reduced psychological distress and animal companionship, it is vital that healthcare professionals actively ask about and engage with the animals in trans people's lives. For those who reported lower psychological distress (those working full-time and those who were older), talking about animals might help to further signal the benefits of animal companionship. For those who reported higher psychological distress (those working fractional roles or not working, and those who were younger), it might

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