

**People of diverse genders and/or sexualities and their animal companions: Experiences  
of family violence in a bi-national sample**

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## **Abstract**

A significant body of research in the field of human-animal studies has focused on animals who live alongside humans within the home, with such animals often considered family members. To date, however, this research has focused almost exclusively on the experiences of heterosexual cisgender people, overlooking other diverse genders and/or sexualities. This paper seeks to address this gap by reporting on findings from a study of 503 people living in Australia or the United Kingdom. Specifically, the research sought to explore links between psychological distress, social support, family violence, and views about animal companions. Notable amongst the findings was an interaction between having experienced familial violence and living with an animal companion, and the impact of both on psychological distress and social support. The paper concludes by considering the implications of the findings for better understanding the lives of people of diverse genders and/or sexualities.

**Keywords:** animal companions, gender and sexual diversity, lesbian, gay, bisexual, transgender, queer, family violence, social support, psychological distress

## Introduction

A significant and growing body of research in the field of human-animal studies has focused on animal companions<sup>1</sup> who live alongside humans within the home, stressing that such animals are often considered family members and/or as kin by the humans they live with (e.g., Charles, 2014; Charles & Davies, 2008; Power, 2008). To date, however, this body of research has focused almost exclusively on relationships between heterosexual cisgender (i.e., non-transgender) humans and their animal companions. Missing, then, is a focus on other groups of humans and their relationships with animal companions. As outlined below, given that the small body of previous research suggests that animal companions may bring particular meaning to the lives of people of diverse genders and/or sexualities due to their socially marginalized status, further research is warranted.

The present paper therefore adds to the limited extant research on people of diverse genders and/or sexualities and their animal companions by reporting on findings from an international study of 503 people living in either Australia or the United Kingdom. The study focused more broadly on the well-established link between domestic violence and animal cruelty (e.g., Ascione, Weber & Wood, 1997; Ascione, 1998; Flynn, 2012; Gullone, 2012), examining instances of the link in the lives of people of diverse genders and/or sexualities, with a secondary focus on the nature of the relationships that this diverse population of

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<sup>1</sup> We use the term ‘animal companion’ over the term ‘pets’ to acknowledge that animals are more than simply ‘playthings’ for humans, and to move away from terminology that trivializes human relationships with other animals. When we do use the term ‘pets’ it is because this is how animals were referred to in source materials. In this paper our use of the term ‘animal companion’ is restricted to domesticated animals who live within the home (so excluding, for example, horses or wild animals).

people experience with animal companions. The present paper ties these two foci together by connecting human-animal cohabitation amongst people of diverse genders and/or sexualities with experiences of familial abuse amongst this population, and in so doing allows for the exploration of their intersecting relationships with psychological distress and social support.

### **Previous Literature**

As the field of human-animal studies has grown, researchers have increasingly explored and documented key facets of human relationships with, and attitudes towards, other animals (George, Slagle, Wilson, Moeller & Bruskotter, 2016; Herzog, 2007; Signal & Taylor, 2006). One key finding from this research is that animal companions are often considered a part of the family, as evidenced by, for example, naming practices, the celebration of animal birthdays and other holidays with/for them (see e.g., Arluke & Sanders, 1996). For instance, Charles and Davies (2008) asked participants in their study about family life to draw network diagrams, and found that animals were often included at, or close to, the centre of the diagrams, indicating their importance and their status as family. Indeed, Charles (2014) has gone on to argue that kinship often is experienced across species barriers.

Research into the various aspects of human-animal family life has become increasingly nuanced over time as scholars have learnt more about the complexities of human entanglements with other animals. However, what is still lacking is research regarding the relationships between people of diverse genders and/or sexualities and their animal companions. Specifically, there is scant empirical literature documenting the presence and roles of animal companions in lesbian, gay, bisexual, queer, and/or transgender (LGBTQ) households. To a degree we would suggest that this is the product of heteronormative and

cisgenderist assumptions built into previous research, which has almost exclusively focused on heterosexual cisgender humans with regard to relationships with animal companions. As a result, data on relationships with, and meanings of, animal companions amongst people of diverse genders and/or sexualities is extremely scarce, and often anecdotal.

That said, a small body of existing research has asked people of diverse genders and/or sexualities about their animal companions, and has found that that the former are as statistically likely to live with other species as are heterosexual and/or cisgender people. A case in point is the *HIV Futures* Survey, a key source of data about gay men in Australia. While not focusing specifically on animal companions, this survey, conducted biennially since 1997, has routinely asked about animal companions. In the seventh report (Grierson et al., 2013), for example, 1058 people completed the survey, of whom 83% were gay men. Forty nine percent of the sample reported living with animal companions. Data focused on trans and gender diverse people similarly suggest that 41% live with an animal companion (Riggs, Power & von Doussa, 2015). By way of comparison, the most recent survey of animal companion ‘ownership’ in Australia found 62% of households, or around 5.7 million of 9.2 million households, are currently home to an animal companion (Animal Medicines Australia, 2016). The published report did not mention gender and/or sexuality.

The little research that does exist investigating relationships with animal companions among people of diverse genders and/or sexualities supports the findings of research conducted with heterosexual cisgender communities, namely that animals offer a source of non-judgmental support and love and may improve human mental health (see for example, Taylor, Fraser & Riggs, 2017; Kailey, 2010; O’Haire, 2013; Putney, 2013, 2014). In the current study, support is conceptualized broadly as outlined by Collis and McNicholas (1998) drawing on the work

of Cobb (1976), to be relationships leading to “one or more of three outcomes: feelings of being cared for; the belief that one is loved, esteemed and valued; and the sense of belonging to a reciprocal network (1998, 114-115).

Other terms exist for this sense of support and connection between humans and animals. For example, Putney (2013) refers to this as relational ecology, a concept she uses to “explain how animals help shape humans’ identities and foster well-being” (2013, 57). Whilst the intersections of animal companionship and support may be relatively similar across groups, it is likely that such support may be particularly important to people of diverse genders and/or sexualities, for whom sources of support for issues specific to their social position vis-à-vis their gender and/or sexuality may often be lacking, including from family members. For instance, Putney’s (2014) interview study with 12 older lesbians suggests that the perceived capacity of animal companions to offer non-judgmental support was particularly salient for some of her participants who had grown up during a time when lesbianism was socially unacceptable, and who still feared disclosure of their sexuality to other humans. Findings from *HIV Futures Seven* (Grierson, Pitts & Koelmeyer, 2013) also suggest that for many HIV positive gay men companion animals are a significant source of support. Animal companions were the second highest group offering social support, with 63% of the 1058 participants indicating that they received a lot of support from their companion animal.

Given the pivotal role animals often play in family life, however, it is hardly surprising that they can become caught in abusive family dynamics (DeGue & DeLillo, 2009). Research into heterosexual, cisgender violent familial relationships indicates that animal companions are often used as pawns in the abuse, coercing victims to remain (Becker & French, 2004). Furthermore, animals are themselves often victims of abuse in these situations (Flynn, 2000).

The depth of relationships between some humans and their animal companions has also been found to be both a factor in decisions to remain in violent relationships, and a catalyst to leave, as well as being helpful to those recovering from abusive relationships (Flynn, 2000).

In terms of other contributions that animal companions make to the lives of people of diverse genders and/or sexualities, Putney (2014) suggests they may have specific roles to play in terms of mitigating social isolation and loneliness. Some of Putney's participants who were isolated due to illness, for example, reported that animal companions reduced the sense of loneliness. This mirrors research suggesting that the animal companions of heterosexual cisgender people may act as a catalyst for the development of friendships and social support (Crawford, Worsham & Swinehart, 2006; Wood et al, 2015). Finally, Siegel and colleagues (1999), in their survey of 1872 gay and bisexual men (36% of whom were HIV positive), found that those who lived with an animal companion and who were HIV positive reported lower levels of depression than did those who were HIV positive and did not live with a companion animal. This difference was particularly true for men who did not have many close friends. The question of the role that animal companions play in the context of other life stressors, however, requires further clarification in the context of people of diverse genders and/or sexualities

### **Research Questions**

Based on the previous research summarized above and the gaps identified, a questionnaire was designed to canvas the views of people of diverse genders and/or sexualities living in either Australia or the United Kingdom with regard to their views on relationships with both



other humans and animals, including relationships that involved violence or abuse. The questionnaire sought to identify:

- 1) The extent to which people of diverse gender and sexualities live with animal companions and which animals they live with,
- 2) Whether there were any key differences amongst the sample in regards to animal companionship

and to assess:

- 3) Whether or not animal companionship is associated with attitudes towards both animals and humans, and if such attitudes are related to psychological distress and social support, and
- 4) Any intersections between living with animal companions, life stressors (specifically here familial violence), and their combined impacts upon psychological distress and social support.

## **Method**

### **Participants and Procedure**

People of diverse genders and/or sexualities aged 18 years and over living in either Australia or the United Kingdom were recruited via posts on social media (i.e., Twitter, Facebook), in emails shared via organisations (i.e., the LGBTI Health Alliance), and in emails to listservs (i.e., human-animal studies).

Of the 503 participants, 258 lived in Australia and 244 lived in the United Kingdom.

Demographic information relevant to the present paper is provided in Table 1. The mean age of participants living in Australia was 39.40 ( $SD=30.04$ ) and in the United Kingdom the mean age was 38.45 ( $SD=12.46$ ). Ages ranged from 18 years to 81 years. Of the Australian participants, 83 (32.2%) lived in Victoria, 73 (28.3%) lived in South Australia, 30 (11.6%) lived in Queensland, 16 (6.2%) lived in Western Australia, 13 (5%) lived in the Australian Capital Territory, 4 (1.6%) lived in Tasmania, and 2 (0.7%) lived in the Northern Territory. Of the Australian participants 6 (2.3%) identified as Aboriginal, 1 (0.4%) as Torres Strait Islander, and the remainder as neither. In terms of UK participants, 158 (64.8%) identified as British, 37 (15.2%) as English, 12 (4.9%) as Scottish, 6 (2.5%) as Welsh, and 4 (1.6%) as Irish. In terms of ethnicity, 4 (1.6%) UK participants identified as being a member of a mixed ethnic group, 3 (1.2%) identified as Asian, 2 (0.8%) identified as Chinese, 1 (0.4%) identified as Black, and the remainder identified as white.

[INSERT TABLE 1 ABOUT HERE]

Participants completed a questionnaire designed by the authors, hosted on SurveyMonkey. The questionnaire design was non-experimental, between-subjects, intended as a scoping study given the relative lack of research on the topic, as outlined above. The questionnaire was open from January 15<sup>th</sup> 2016 and closed on August 5<sup>th</sup> 2016. The majority of participants (64%) completed the questionnaire within the first month it was open. A total of 578 people commenced the questionnaire, however of these only 503 completed all of the scales and are included in the analysis. Given that information about the questionnaire was shared widely, it is not possible to provide an estimate of response rates.

## **Survey Materials**

The first six questions were demographic, and were answered by participants living in both countries (see Table 1 and text above). Participants living in Australia then answered four Australian-specific demographic questions included in Table 1 and in the text above, whilst participants living in the United Kingdom answered the four UK-specific demographic questions also included in Table 1 and the text above. Further demographic questions were then completed by all participants, focused on cohabitation (see Table 1) and being in an intimate relationship (see Table 1). Participants were then asked for details about animal companion cohabitation and the species of companion animals (see results below).

Participants then chose whether or not to complete 42 questions about their experiences of domestic violence. A detailed outline of these questions is not provided in this paper given the paper does not primarily focus on either domestic violence or animal cruelty. One question, however, is considered in the results below. This question asked if participants had experienced any form of abuse (emotional, physical, sexual, financial, or identity-related) by a family member. Of the Australian participants, 72 (27.9%) had experienced familial abuse. Of the UK participants, 66 (27%) had experienced familial abuse. Having completed the demographic questions and answered questions about abuse, participants then completed four scales.

### **Pet attitude scale.**

The first was the *Pet Attitude Scale* (PAS) (Templer, Salter, Dickey, Baldwin & Veleber, 1981). The 18 items on the PAS are scored on a 7-point Likert scale, from strongly disagree

to strongly agree, and include two complementary types of questions. The first type endorses the idea that domesticated animals are part of the family and bring happiness to the lives of humans. The second type endorses the idea that animals do not bring humans happiness and should not be treated with positive regard. This latter type of questions are reverse scored before computing a composite score (possible range 18-126, with higher scores indicating more positive attitudes toward animal companions).

Templer and colleagues (1981) reported high reliability in their application of the scale ( $\alpha=.93$ ), and reported strong divergent validity when compared to a measure of psychopathology (indicating that attitudes toward animals as measured by the scale were indicative of positive attachment). The reliability of the PAS when applied to the sample was similarly high,  $\alpha=.916$ . The sample mean for the PAS was 101.45 ( $SD=15.21$ ), indicating that overall the sample had very positive attitudes toward animals.

### **Liking people scale.**

The second scale was the *Liking People Scale* (LPS) (Filsinger, 1981). The 15 items on the LPS are scored on a 5-point Likert scale, from strongly agree to strongly disagree, and again include two complementary types of questions. The first type endorses the idea that other humans are an important part of human wellbeing. The second type endorses the idea that other humans are inessential to human wellbeing. The former type of question is reverse scored before computing a composite score (possible range 15- 75, with higher scores indicating greater endorsement that other humans are an important part of human wellbeing).

In testing the scale Filsinger (1981) reported that across three studies it demonstrated high internal reliability ( $\alpha=.85$ ;  $\alpha=.75$ ;  $\alpha=.78$ ), and was negatively correlated with a measure of misanthropy, and positively correlated with measures of affiliation, suggesting strong construct validity. The reliability of the LPS when applied to the sample was similarly high,  $\alpha=.891$ . The sample mean for the LPS was 50.71 (SD=10.72), indicating that overall the sample had mostly positive views of other humans.

### **Kessler psychological distress scale (K10).**

The next scale was the *Kessler Psychological Distress Scale (K10)* (Kessler et al., 2002). The 10 items on the K10 are scored on a 5-point Likert scale, from none of the time to all of the time. Items focus on either anxiety or depression. The minimum possible score is 10 and the maximum is 50. Normative data from the K10 suggest that 88% of people are likely to score below 20, and that of those who score 25 or above, 66% are likely to meet the criteria for a diagnosis of clinical depression or anxiety (Andrews & Slade, 2001).

Andrews and Slade (2001) assessed the reliability of the K10 through comparing scores on the K10 with the probability of meeting a psychiatric diagnosis for psychological distress, finding a high association between the two. The reliability of the K10 when applied to the sample was high,  $\alpha=.931$ . The sample mean for the K10 was 22.53 (SD=8.83), indicating that overall the sample experienced greater levels of anxiety and depression than would be expected from normative data.

### **Multidimensional scale of perceived social support.**

The final scale included was the *Multidimensional Scale of Perceived Social Support* (MSPSS) (Zimet, Dahlem, Zimet & Farley, 1988). The 12 items on the MSPSS are scored on a 7-point Likert scale, from very strongly disagree to very strongly agree. Items focus on the degree of perceived supportiveness of intimate partners, friends, and family members. The minimum possible score is 12 and the maximum is 84, with higher scores indicating greater perceived social support.

In testing the reliability of the MSPSS, Zimet and colleagues (1990) reported coefficient alpha values of between .81 and .94 across various applications of the scale. The reliability of the MSPSS when applied to the sample was similarly high,  $\alpha=.92$ . The overall sample mean for the MSPSS was 34.92 ( $SD=9.21$ ), indicating that overall the sample reported perceived social support below the midpoint of the scale.

### **Analysis Design**

After the questionnaire was closed all data were exported into SPSS 21.0, where they were cleaned in the following ways. First negatively scored items on both the PAS and LPS were reverse scored, and composite scores generated for these scales in addition to the K10 and the MSPSS. Reliability testing was then run on each of the scales and descriptive statistics for these generated (see above).

Bonferroni corrected  $p$  values for determining significance were used in the case where multiple tests were run. Reported values are significant with this correction. For the analyses of variance, Levene's Test of Equality of Variance was used to test the assumption of equal variances, and to test the linearity of the data the Lack of Fit test was used. For each, results

were non-significant, indicating that there were equal variances across groups examined, and that the data were linear.

## **Results**

Chi Squared tests were performed to determine if there were any statistically significant differences between country of residence and the categorical variables. As reported in Table 1, in terms of cohabitation participants in the United Kingdom were less likely to live with children than would be expected in an even distribution, and participants in the United Kingdom were more likely to live alone than would be expected in an even distribution. In terms of sexuality, participants in the United Kingdom were less likely to identify as gay than would be expected in an even distribution, and participants in the United Kingdom were more likely to identify as bisexual than would be expected in an even distribution. Given these minimal differences between the two countries, the two populations were treated as one sample for the purposes of the analyses presented below.

### **Who Lives with Animal Companions and Which Species do they Live With?**

Of the sample, 72% ( $N=362$ ) of participants lived with an animal companion. Table 2 outlines who of each of the groups within the categories of gender, sexuality, and having ever identified as transgender lived with animal companions.

[INSERT TABLE 2 ABOUT HERE]

In terms of significant differences, only between sexualities were there statistical

associations. Specifically, lesbian participants were significantly more likely to live with animal companions than would be expected in an even distribution, and gay participants were significantly less likely to live with animal companions than would be expected in an even distribution,  $X^2(5, 465) = 12.214, p = .01$ .

In terms of the species of animal companions, of the sample 138 participants lived with cats, 170 lived with dogs, 5 lived with rats, 9 lived with reptiles, and 31 lived with fish. In terms of statistical differences with regard to the species of animal companions and either gender, sexuality, or being transgender, only the first two returned statistically significant associations. In terms of gender, men were less likely to live with cats and more likely to live with dogs than would be expected in an even distribution,  $X^2(8, 345) = 18.56, p = .01$ .

Conversely, people who reported a non-binary gender were less likely to live with dogs and more likely to live with cats than would be expected in an even distribution. With regard to sexuality, gay men were less likely to live with cats and more likely to live with dogs than would be expected in an even distribution,  $X^2(20, 326) = 29.54, p = .006$ . Conversely, both lesbian women and bisexual people were more likely to live with cats and less likely to live with dogs than would be expected in an even distribution.

### **Social Support, Psychological Distress, and Relationships Between Animal Companionship and Family Violence**

A series of bivariate correlational analyses indicated a number of interesting relationships between the four scales, as outlined in Table 3.

[INSERT TABLE 3 ABOUT HERE]



Given our focus on animal companions in this paper, it is notable that the PAS was not significantly correlated with any of the other scales. The LPS, however, was negatively correlated with the K10, meaning that participants who reporting liking people more reported lower levels of psychological distress, and the LPS was positively correlated with the MSPSS, meaning that participants who liked people more experienced greater social support. These correlations, however, were weak to moderate, so should be interpreted with caution.

Given the overall focus of the study, further tests were undertaken to assess the relationships between both living with a companion animal and experiences of familial abuse, and their impact upon psychological distress, social support, and attitudes towards both humans and animals. With regard to the former, a one-way MANOVA returned statistically significant differences on the LPS, PAS, MSPSS, and K10 based on whether or not participants lived with animal companions,  $F(1, 265) = 13.352, p < .001$ ; Wilk's  $\Lambda = 0.831$ . Participants who lived with animal companions liked animals more ( $F(1, 265) = 15.58; p < .001$ ), liked humans less ( $F(1, 265) = 1.696; p < .05$ ), had lower scores on the K10 ( $F(1, 265) = 2.014; p < .05$ ), and lower scores on the MSPSS ( $F(1, 265) = 1.258; p < .05$ ).

Looking at familial abuse, a one-way MANOVA again returned statistically significant differences on the LPS, PAS, MSPSS, and K10 based on whether or not participants had experienced such abuse,  $F(1, 265) = 15.398, p < .001$ ; Wilk's  $\Lambda = 0.924$ . Participants who had experienced abuse by a family member liked animals more ( $F(1, 265) = 4.281; p < .05$ ), liked humans less ( $F(1, 265) = 7.603; p < .001$ ), had higher scores on the K10 ( $F(1, 265) = 14.334; p < .001$ ), and lower scores on the MSPSS ( $F(1, 265) = 8.344; p < .01$ ).

Given these findings, and the research focus on psychological distress and social support,

two-way ANOVAs were conducted to examine the influence of both having experienced familial violence and living with animal companions on scores on the K10 and MSPSS. The interaction effect was significant both for the K10,  $F(3, 405) = 8.465, p < .001$ , and for the MSPSS,  $F(3, 405) = 3.557, p < .01$ . Specifically, participants who lived with an animal companion and who had experienced familial abuse reported less psychological distress than did participants who had experienced abuse and did not live with an animal companion. The same was true with regard to social support, with those who had experienced familial abuse and who lived with animal companions reporting higher social support than those who had experienced familial abuse and did not live with an animal companion. Importantly, and as noted in the second MANOVA reported above, those who had not experienced familial abuse reported lower levels of psychological distress and higher social support than those who had experienced familial abuse, with the ANOVAs reported here confirming that this was true regardless of whether or not they lived with animal companions. Figure 1 below provides a tentative conceptual map of the findings presented in this section, which may be used in future research to further test the relationships between the variables with a sample including greater numbers of participants who have experienced familial abuse, so as to increase the statistical power required to perform structural equation modelling.

[INSERT FIGURE 1 ABOUT HERE]

## **Discussion**

Whilst much research exists documenting the physical and mental wellbeing of cisgender and/or heterosexual people who live with animal companions, little research exists investigating relationships between those of diverse genders and/or sexualities and their

animal companions. The current paper begins to fill this gap by reporting on questionnaire responses from 503 people of diverse genders and/or sexualities regarding their relationships with animal companions, measures of social support and psychological distress, and experiences of familial abuse.

In our analyses we focused on two main areas: the extent to which people of diverse gender and/or sexualities live with animal companions (and the animals they live with), and the contribution that relationships with animal companions make to the social support and psychological distress of people of diverse genders and/or sexualities, especially in the context of familial abuse. In regards to the first area, the current findings align with extant research in Australia and the UK, in that the majority of respondents reporting living with at least one companion animal. Broad gender based differences were apparent, with women more likely to have cats as companions, while men were more likely to live with dogs, a pattern reported in previous research on human-animal relations amongst heterosexual cisgender populations (e.g., Franklin, 2007; Westgarth et al., 2010).

In regards to the second area, the results of this study suggest that relationships with animal companions for those of diverse genders and/or sexualities may facilitate social support and reductions in psychological distress. This was particularly the case for those who had experienced familial abuse, and it may be that animals provide a non-judgmental and easy to trust source of support for this specific group. These findings add to the substantive body of research that demonstrates positive links between animal companionship and cisgender, heterosexual, human health and wellbeing (e.g., Gilbey & Tani, 2015; Hutton, 2015; Netting et al, 2013), but extends them by considering human-animal relationships among those of diverse genders and sexualities and in the context of familial abuse.

It is important to note that research shows animals offer powerful forms of support to (some of) those who have experienced trauma. This may be through formal, organized, animal assisted interventions, which have been shown to successfully help various groups overcome some of the consequences of trauma, including stigma (e.g., Signal, Taylor, Prentice, McDade & Burke, 2017). Similarly, research also shows that animals offer informal supports, that is, as trusted companions and as members of the family (e.g., Brooks, Rushton, Walker, Lovell & Rogers, 2016). The latter may be particularly important for those who regularly face discrimination and marginalization. For example, Flynn (2009) found that animals offered cisgender women who were fleeing domestic violence in a heterosexual relationship a powerful source of non-judgmental support in a time of crisis, particularly when experiencing negative stigma from others. Similarly, recent research has outlined the importance of companion animals to those living with mental health concerns, particularly where other relationships are ‘fractured’ (Brooks et al.).

Given that research has consistently identified that people of diverse genders and/or sexualities experience poor mental health at rates far higher than would be expected from normative data (Cochran, Sullivan & Mays, 2003; Warner et al., 2004), largely due to the effects of discrimination and marginalization (Meyer, 2003; Robles et al., 2016), and that many people of diverse genders and/or sexualities experience familial abuse (Balsam, Rothblum & Beauchaine, 2005; Rogers, 2017), the non-judgmental aspect of support from animal companions therefore may be particularly salient. This may be especially the case in the context of familial rejection or non-acceptance, both of which may exacerbate or indeed cause the high rates of poor mental health identified amongst people of diverse genders and/or sexualities (Ryan, Huebner, Diaz & Sanchez, 2009; Smith et al., 2014).

## **Limitations of the Current Study**

More research is needed into the roles that animal companions play in the lives of (potentially) marginalized humans. This includes those who have experienced abuse. In the current study, the intersections of familial abuse and animal companionship were particularly of note, highlighting the role that animals may play in mitigating psychological distress caused by experiencing abuse, potentially by facilitating connections with other humans (i.e., during outings with an animal). However, animal companionship should not be considered a panacea for all ills and problems, particularly not among groups vulnerable to multiple and competing marginalizations and oppressions. As our results demonstrate, the sample mean for the K10 was high, and the sample mean for the MSPSS was below the midpoint, meaning that experiences of abuse aside, participants were still faring less well than we would expect from normative data. This signals that across the board, members of our sample experienced marginalization and its mental health effects to such a degree that we cannot expect relationships with animals to fully mitigate. Other – often structural – variables likely compound this level of marginalization, and oppression and inter-personal relations (with any species) may help mitigate some of the consequences of this, but cannot hope to address them all. Future research might also benefit from a different conception of wellbeing, specifically as a multi-dimensional concept that taps into the aforementioned structural variables, as opposed to psychological distress, as measured in the current study.

There were also limitations inherent to our study design. The LPS and MSPSS, while useful, are used as proxy measures for social support. In large part this is due to the lack of any one agreed upon measure that accurately gauges social support via the broad conceptualization of it discussed above (Villalonga-Olives & Kawachi, 2015). Future research would benefit from

assessing social support provided by animals specifically, as opposed to making inferences from measures of human to human social support. We would also note the fact that most of the participants were financially well off and highly educated and almost all were white, which is another limitation of the current study. Finally, the high number of people in the study who lived with animal companions suggests that it was likely a motivated sample.

### **Suggestions for Further Study**

Much of the previous research that shows links between animal companion and social support has focused on human-dog relations in general, and dog-walking in particular (e.g., Netting et al., 2013; Wood et al., 2015). As such, extending investigations to the roles of other species would be fruitful, including animals who do not live within the home. Similarly, further investigating the roles of home-bound animal companions (e.g., rabbits, rodents) in the provision of social support would add to the growing evidence base. It is important to note that not all studies into human-animal relations demonstrate that the presence of animals offer support (see Gilbey & Tani, 2015 for a review), particularly in alleviating loneliness. Qualitative studies that can investigate these relationships in depth and account for such differences are also needed.

Our findings also suggest that experiencing abuse (by a human) does not necessarily affect perceived closeness to other animals, and may in fact increase the likelihood of the human indicating close emotional bonds with other animals. Given links between attitudes to animals and empathy towards humans, including measures of empathy in future research might shed light on links between empathy, attitudes to animals and propensity for violence. Further research is also needed on how people of diverse genders and/or sexualities

specifically understand the role of animal companions in the home in terms of kinship. Whilst our findings indicate that in the broader context of kinship (and specifically familial abuse) animal companions were important, this is different to exploring how kin relationships with animals are experienced by people of diverse genders and/or sexualities, absent of abuse.

Finally, the findings reported in this paper emerge from a sample that in other respects might be expected to have relatively high social and cultural capital – the sample was dominated by individuals identifying as white, and who were relatively wealthy and well educated. Given that even this relatively privileged group reported relatively low levels of social support and relatively high levels of anxiety and depression, this signals the need for further research focusing on Indigenous people, Black, Asian and other ethnic minority groups, working class, impoverished and less well educated people of diverse genders and/or sexualities, and their experiences of family abuse and relationships with animal companions.

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Table 1. Australian and United Kingdom Demographics

Category		Australian N (%)	United Kingdom N (%)	$\chi^2$	<i>p</i>
Gender *	Female	148 (57.3)	156 (63.9)	3.64	.162
	Male	75 (29.0)	55 (22.5)		
	Non-binary	28 (10.9)	26 (10.7)		
Ever identified as trans*	Yes	46 (17.8)	50 (20.5)	0.68	.409
	No	212 (82.2)	189 (77.5)		
Sexual orientation*	Lesbian	92 (35.7)	79 (32.4)	21.02	.001***
	Gay	68 (26.4)	45 (18.4)		
	Bisexual	36 (14.0)	70 (28.7)		
	Heterosexual	4 (1.6)	7 (2.9)		
	Pansexual	30 (11.6)	27 (11.1)		
	Asexual	6 (2.3)	1 (0.4)		
	Queer	20 (7.76)	15 (6.1)		
	Employment status*	Employed full time	115 (44.6)		
Employed part time	57 (22.1)	39 (16.0)			
Not employed	11 (4.3)	15 (6.1)			
Student	54 (21.0)	37 (15.2)			
Retired	10 (3.9)	13 (5.3)			
Disabled, unable to work	10 (3.9)	12 (4.9)			
Disability*	Physical	23 (9.0)	28 (11.5)	1.34	.854
	Mental	78 (30.2)	68 (27.9)		
	Learning	11 (4.3)	12 (5.0)		
	HIV	8 (3.1)	9 (3.7)		
Cohabitation**	Partner/s	158	126	5.47	.368
	Child/ren	59	37	15.23	.006***
	Extended Family	31	24	3.21	.735
	Housemate/border	23	16	.98	.739
	Friends	20	17	2.45	.324
	Animals	194	168	2.50	0.69
	Alone	35	62	8.37	.007***
In a relationship*	Yes	193 (74.8)	175 (71.7)	.610	.435
	No	65 (25.2)	69 (28.3)		
Income	Under £12, 000		39 (16.0)		
	£12,001 - £22, 999		39 (16.0)		
	£23, 000 - £32, 999		34 (13.9)		
	£33, 000 - £40, 999		32 (13.1)		
	£41, 000 - £50, 999		32 (13.1)		
	£51, 000 - £60, 999		19 (7.8)		
	£61, 000 - £70, 999		12 (4.9)		
	£71, 000 - £80, 999		10 (4.1)		
	£81, 000 - £90, 999		7 (2.9)		
	£91, 000 - £100, 000		4 (1.6)		
	Over £100, 001		11 (4.5)		
	\$0 - \$18,200	27 (10.5)			
	\$18,201 - \$37,000	35 (13.6)			
\$37,001 - \$80,000	69 (26.7)				

	\$80,001 – \$180,000	101 (29.1)	
	\$180,001 and over	23 (8.9)	
Educational Achievement	UK GCSE/Standard grade		3 (1.2)
	UK NVQ/SVQ		10 (4.1)
	UK A and AS level/BTEC/(Advanced)		39 (16.0)
	UK Higher Degree		87 (35.7)
	UK Postgraduate Degree		87 (35.7)
	UK Professional/vocational qualification		17 (7.0)
			1 (0.4)
	UK No formal qualifications	14 (5.4)	
		31 (12.0)	
	AU SACE	47 (18.2)	
	AU Certificate	75 (29.1)	
	AU Diploma	65 (25.2)	
	AU Higher Degree	14 (5.4)	
AU Postgraduate Degree			
AU No formal qualifications			

\* Not all participants answered this question

\*\* Cohabitation categories are not mutually exclusive

\*\*\* *p* value is significant with Bonferroni correction

Table 2. Animal companion cohabitation by gender, sexual orientation, and identified as transgender

	Category	YES <i>N</i> (%)*	NO <i>N</i> (%)*
Gender	Female	229 (74.8)	77 (25.2)
	Male	92 (68.7)	42 (31.3)
	Non-binary	39 (66.1)	20 (33.9)
Sexual Orientation	Lesbian	134 (79.3)	35 (20.7)
	Gay	72 (64.3)	40 (35.7)
	Bisexual	76 (71.7)	30 (28.3)
	Heterosexual	8 (80.0)	2 (20.0)
	Pansexual	40 (72.7)	15 (27.3)
	Asexual	4 (66.7)	2 (33.3)
	Queer	21 (60.0)	14 (40.0)
Identified as Transgender	Yes	67 (69.8)	29 (30.2)
	No	293 (72.7)	110 (27.3)

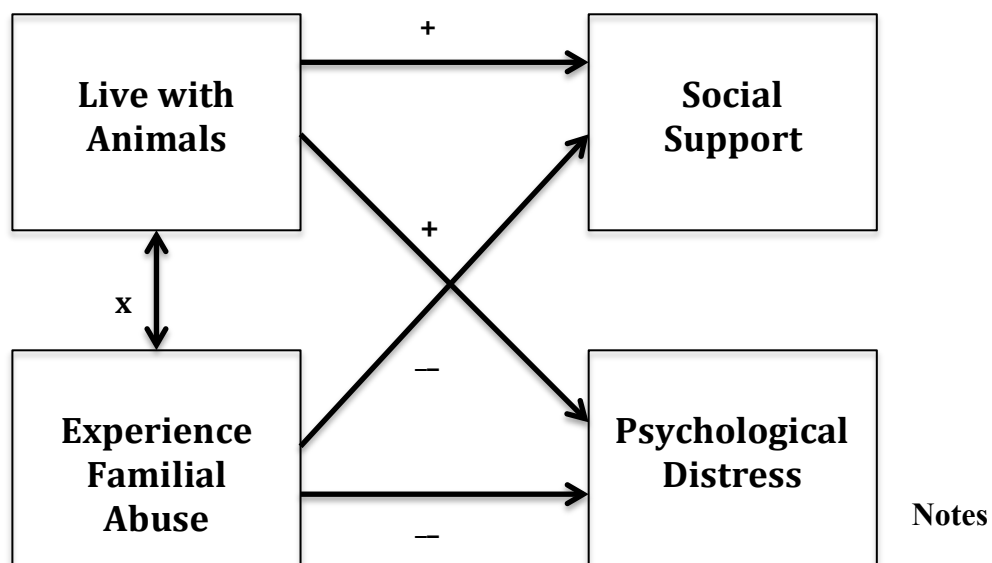
\* Percentage provided is within each category grouping, rather than across category groupings

Table 3. Correlations between scales

		PAS	LPS	K10	MSPSS
PAS	<i>r</i>	1	-.132	.107	-.028
	<i>p</i>		.018	.072	.637
LPS	<i>r</i>		1	-.195*	.363*
	<i>p</i>			.000	.000
K10	<i>r</i>			1	-.396*
	<i>p</i>				.000

\* Significant with Bonferroni correction

Figure 1. Conceptual map of relationships between key variables



x Interaction

+ Positive relationship

- Negative relationship