

1     **The LGBTQ+ People-Animal Bond: A Systematic Review of the Effects**  
2             **of Companion Animals on LGBTQ+ People**

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**Abstract**

LGBTQ+ people tend to experience prejudice, stigma, and discrimination, which increases their risk of developing mental health difficulties. Support networks, including companion animals, can be used to cope with these challenges. We performed a systematic review of studies related to the effects of human-animal interactions on the LGBTQ+ population. The review included 18 empirical studies; the findings showed that participants tended to view companion animals as family members, as well as providers of love, acceptance, and social support. Thus, companion animals could alleviate stress and increase resilience. However, certain costs were also cited and, under some circumstances, poorer health was observed. The results are discussed considering three unique aspects of the “LGBTQ+ people-animal bond”: (1) it promotes self-acceptance, (2) provides a sense of protection against sexuality-based stigma and social acts of aggression based on sex or gender, and (3) exposes animal guardians requesting animal care services to potential discrimination. By characterizing the LGBTQ+ people-animal bond, more effective responses to meet their needs and promote inclusion may be achieved.

**Keywords:** Companion animals, gender minorities, LGTBQ, pets, sexual minorities

## 1        **Introduction**

2            LGBTQ+ people<sup>1</sup> face interpersonal and structural inequities associated with the  
3 subordination of their gender or sexual identities, which do not align with cisgender  
4 heteronormative social expectations. Heterosexual privilege and stereotypical gender norms  
5 can also increase these inequities (Hatzenbuehler, 2014); heterosexuality and binary gender  
6 identity are considered as normal and natural within the hierarchical societal system  
7 established by the heteronormative, which defines the boundaries of acceptable  
8 heterosexual behavior and gender identity (Scandurra, Monaco, Dolce, & Nothdurfter,  
9 2021).

10            Some authors evoke the concept of cisgenderism when discussing the  
11 heteronormativity of gender. Cisgenderism underscores the dominant societal view that  
12 socially assigned sex at birth should and will neatly align with one’s gender  
13 identity/expression (i.e., males being men/masculine and females being women/feminine).  
14 In this manner, cisgenderism becomes a systematic and cultural ideology that denies,  
15 stigmatizes, and pathologizes gender identities—as well as related behaviors and  
16 expressions—not aligning with those assigned at birth (i.e., transgender or non-binary  
17 gender; Ansara & Berger, 2016; Lennon & Mistler, 2014; Schilt & Westbrook, 2009). This  
18 ideology supports and perpetuates the belief that cisgender identities and expression are  
19 more valuable than transgender identities and expression, creating a system giving rise to

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<sup>1</sup> The acronym LGBTQ+ used in the current systematic review encompass diverse sexual and gender minorities. Sexual minority refers to individuals whose sexual orientation does not align with, or falls outside the scope of, the dominant culture of heteronormative sexuality (e.g., lesbian, gay, pansexual, bisexual, asexual, and queer-identified people), while gender minority refers to individuals whose gender identity and/or gender expression is different, or can be perceived as different, from their biological sex assigned at birth (e.g., transgender, non-binary, gender expansive, gender queer-identified people). Heterosexism is used to indicate the social expectation that one is heterosexual and, therefore, engages in opposite-sex romantic relationships. Cisgender describes a person whose gender identity is the same as their birth-assigned sex.

1 power and privilege for the former group. The cisgender ideology permeates various  
2 cultural institutions, including language and the law, thereby maintaining prejudice and  
3 discrimination against the transgender community (Lennon & Mistler, 2014).

4         The stressors faced by LGBTQ+ people in association with their sexual and/or  
5 gender minority status constitute a risk factor for the development of psychiatric and  
6 physical disorders (Hatzenbuehler, 2014). For instance, LGBTQ+ adolescents and young  
7 adults report more frequent and severe victimization and related stressors (e.g., rejection or  
8 discrimination) compared to their heterosexual and cisgender peers (Kosciw, Greytak,  
9 Zongrone, Clark, & Truong, 2018); this increases the risk of negative outcomes, especially  
10 self-harm and suicide (Williams et al., 2021). The effects of stigma and discrimination,  
11 along with deficits in social support, have also been highlighted in LGBTQ+ older adults,  
12 and include depression, anxiety, and loneliness (the most prevalent mental health problems  
13 in this population; Dikshit et al., 2021). Regarding physical alterations, sexual minority  
14 men have a significantly higher likelihood of elevated blood pressure and hypertension  
15 (López Castillo, Tfirm, Hegarty, Bahamon, & Lescano, 2021). Moreover, the  
16 marginalization that may be experienced by LGBTQ+ people (e.g., day-to-day  
17 discrimination or LGBTQ+ specific microaggressions) has been associated with worse  
18 physical health, i.e., poorer physical functioning, ability to perform activities of daily  
19 living, and general health, as well as acute and chronic health conditions such as heart  
20 attacks, heart disease, diabetes, etc. (Fredriksen-Goldsen, Kim, Bryan, Shiu, & Emler,  
21 2017).

22         LGBTQ+ people commonly cope with stress by seeking social support from family,  
23 friends, partners, and LGBTQ+ community groups (Choi & Meyer, 2016; McDonald,

1 2018). However, individuals who experience more stress in association with their status as  
2 gender or sexual minorities may be more reluctant to seek social support from partners,  
3 family, and friends (Doan Van, Mereish, Woulfe, & Katz-Wise, 2019; Ehlke, Braitman,  
4 Dawson, Heron, & Lewis, 2020). Interviews of LGBTQ+ people in rural and conservative  
5 areas indicated that companion animals (typically cats, dogs, and horses) are also included  
6 in their support networks. Remarkably, animal support was especially important for  
7 participants without partners, highlighting the importance of the bond between LGBTQ+  
8 people and their animals (Dakin, Kelly, & MacNamara, 2020).

9         Recent research on human-animal interactions has increased our knowledge and  
10 understanding of the benefits of pet ownership. Social support is among the most important  
11 theories used to explain the mechanisms by which pet ownership benefit people's health  
12 (Serpell, 2006). According to this theory, benefits are mainly derived from the social  
13 support provided by animals, which buffers the negative impact of everyday life stress  
14 (Allen, Blascovich, & Mendes, 2002; Allen, Shykoff, & Izzo, 2001; Kikusui, Winslow, &  
15 Mori, 2006; McConnell, Paige Lloyd, & Humphrey, 2019). Authors have highlighted  
16 particular features of the social support derived from human-animal bonds; for example, it  
17 mainly operates on the emotional level, with little contribution from the cognitive and  
18 social components that add complexity to relationships between humans (Kotrschal,  
19 Schöberl, Bauer, Thibeaut, & Wedl, 2009). Thus, compared with humans, companion  
20 animals offer a qualitatively different type of supportive relationship in a relatively non-  
21 evaluative context (Green, Mathews, & Foster, 2009), which could be especially beneficial  
22 for minorities exposed to stressors associated with social discrimination.

23         The 2021 edition of the annual survey conducted by the Community Marketing &

1 Insights showed that 65% of LGBTQ+ people from the US (n = 18,743) have at least one  
2 companion animal, similar to the percentage estimated for the general population.  
3 Specifically, 75% of cisgender women (i.e., lesbian, bisexual and other) and 54% of  
4 cisgender men (i.e., gay, bisexual and other) has at least one companion animal. In the case  
5 of transgender and non-binary people, the rate of pet ownership was 68% (Community  
6 Marketing & Insights [CMI], 2021). These high ownership rates suggest that human-animal  
7 interactions may be an important social factor when examining processes that promote  
8 resilience to stress in sexual and gender minority groups (McDonald, Murphy, et al., 2021).

9         Additionally, for LGBTQ+ couples, animals can serve as household “investments”  
10 that consolidate the heteronormative traditional family planning discourse; i.e., they confer  
11 futurity to the couple relationship by demonstrating commitment to the partnership project  
12 and shed light on imaginations of family. For child-free LGBTQ+ couples, human-animal  
13 relationships are valuable, as companion animals enable young queer individuals to acquire  
14 parenting skills (Gabb, 2019).

15         Despite the importance of companion animals to LGBTQ+ people, human-animal  
16 interactions have rarely been studied in this group (McDonald, Matijczak, et al., 2021; Riggs,  
17 Taylor, Signal, Fraser, & Donovan, 2018); the vast majority of studies of human-animal  
18 interactions focused on the relationship between heterosexual cisgender people and their  
19 companion animals. Thus, it remains unclear if the consequences of people-animal  
20 interactions are the same between LGBTQ+ people and the general population, or if these  
21 interactions produce unique benefits for the former group and can fulfil their needs and  
22 promote inclusion. Therefore, to improve knowledge of LGBTQ+ human-animal  
23 relationships, we conducted a systematic review of empirical studies on this population

1 analyzing 18 articles that met the inclusion criteria. This paper sheds light on the state of  
2 research on LGBTQ+ human-animal relationships, highlights particularly notable aspects  
3 thereof, and discusses the ability of companion animals to buffer the negative impact of  
4 cisgender heteronormative social expectations on LGBTQ+ people.

5

6 **Method**

7 For this review, we followed the Preferred Reporting Items for Systematic Reviews and  
8 Meta-Analyses (PRISMA guidelines; Page et al., 2021), which provide a clear framework  
9 for reporting systematic reviews. Original peer-reviewed studies were identified through  
10 searches of the PubMed, BVS, CORE, and Google Scholar electronic databases in  
11 September 2021. From the outset, we aimed to use at least three frequently used and  
12 comprehensive databases, given that we did not expect to find a high number of articles.  
13 Initially, we used PubMed, BVS, and CORE. However, given that the number of  
14 potentially relevant articles was lower than expected, we also used Google Scholar, given  
15 its wider penetration. The search terms were “LGBT” or “LGBTQ” or “Gay” or “Lesbian”  
16 or “Transgender” or “Transsexual” or “Sexual minority” or “Gender minority” and “pets” or  
17 “companion animals” or “dogs” or “cats”. In order to broaden and diversify the search, we  
18 conducted additional searches in Spanish using the search terms “LGBT” or “LGTBQ” or  
19 “Gay” or “Lesbiana” or “Transgénero” or “Transexual” or “Minoría sexual” or “Minoría de  
20 género” and “Mascotas” o “Animales de compañía” o “Perros” o “Gatos”. We also  
21 examined the reference sections of the included studies. Information extracted from the  
22 studies included the authors, year of publication, country, sample, design and main results  
23 (Table 1). Multiple articles derived from the same study were treated as different studies,

1 given that their objectives and results were different. Due to methodological heterogeneity,  
2 a meta-analysis would not have been suitable. The data extracted from all studies were  
3 pooled, and themes were identified for further discussion. We derived theme categories by  
4 conducting thematic categorial analyses using an inductive process. In this process, we first  
5 listed the main constructs as “units of record” for each investigation. Next, we identified  
6 reiteration (i.e., recurrent themes) across articles (e.g., discrimination). As a third step, we  
7 looked for constructs with similarities or direct links with units of record that were  
8 reiterative across studies (e.g., discrimination + acceptance + affirmation). Each unit of  
9 record had to belong to only one category. Then, we identified more indirect links to  
10 include the rest of the units of record within previous groupings (e.g., discrimination +  
11 acceptance + affirmation + self-esteem). Finally, we gave each grouping a sufficiently  
12 comprehensive name. The results are presented as a narrative summary.

13

14 [Table 1 near here]

15

16 Notably, we aimed to use terminology throughout the manuscript that avoids pathologizing  
17 or stigmatizing LGBTQ+ people. As such, we had to change some of the original terms  
18 used in some articles (e.g., transexual individuals). Likewise, we decided to use the term  
19 "companion animal" instead of "pet", and "guardian" instead of "owner", to avoid framing  
20 animals in terms of possession and to provide a more equitable and respectful  
21 representation of the human-animal relationship.

22



## 1 **Results**

2 Our systematic searches identified 56 articles, 20 of which were omitted due to being  
3 duplicates. Two authors (MDV and PC) independently searched the titles and abstracts to  
4 identify eligible studies. In total, 36 articles were identified, 12 of which ultimately met the  
5 inclusion criteria. A manual search of the reference sections of those articles yielded six  
6 additional studies (Figure 1). The paper by Dakin et al. (2020) was excluded because it  
7 pertained to general social support for LGBT people, i.e., was not specifically concerned  
8 with the human-animal bond. The papers of MacNamara (2019) and Murphy, Tomlinson,  
9 Matijczak, O'Connor, and McDonald (2021) were also excluded, because they were in the  
10 form of an online abstract and poster, respectively. Of the 18 articles included in our  
11 systematic review, 1 was in Spanish and 17 were in English. Nine of the studies used a  
12 quantitative design (exploratory, descriptive, or correlational), while eight used a  
13 qualitative design (interviews) and one used a mixed design. Ten studies included emerging  
14 adults (aged 18–21 years) and two included middle-aged or elderly participants; in the  
15 remaining studies, the age of the adults was not specified. All studies included participants  
16 aged  $\geq 18$  years. LGBTQ+ people were assessed in 13 studies, and 2 studies included only  
17 men (assumed to be cisgender, gay, or bisexual men, or men who have sex with men). Two  
18 other studies included only women (assumed to be cisgender lesbian women or LGBTQ+  
19 women). One study included transgender individuals only. Studies forming part of the same  
20 research were considered to be independent, as stated above. However, we pooled their  
21 results. Table 1 lists the study authors and main results. Results were also grouped  
22 thematically to facilitate data interpretation: (1) Animals as family members; (2)  
23 Discrimination, acceptance, and self-esteem; (3) Satisfaction and social support; (4)

1 Resilience; and (5) Cost and challenges.

2

3 [Figure 1 near here]

4

### 5 *Animals as family members*

6 LGBTQ+ guardians considered their animals to be trustworthy friends with whom they  
7 share their private lives (Rosenberg, Riggs, Taylor, & Fraser, 2020), as well as members of  
8 their families (Muraco, Putney, Shiu, & Fredriksen-Goldsen, 2018; Putney, 2014). In this  
9 sense, animals play a similar role to children in some respects (McDonald, Matijczak, et al.,  
10 2021), although others rejected this notion (Putney, 2014).

11 The benefits of the unique emotional connections forged with their animals was also  
12 highlighted by some respondents, who cited the reliability and predictability of animals, in  
13 contrast to humans. These unique connections fostered feelings of stability and control  
14 (Schmitz, Tabler, Carlisle, & Almy, 2021). In Jin's (2018) study, attachment to animals was  
15 a prominent theme across all interviews, even for respondents with strong family  
16 attachments and human support systems. According to these respondents, their animals  
17 fulfilled a variety of roles; moreover, while nonjudgmental affection and support was  
18 reportedly difficult to find from humans, unconditional love from animals was always  
19 available.

20 Considering companion animals as family members was also related to self-  
21 identification with certain animal characteristics. LGBTQ+ guardians could see idealized  
22 versions of themselves in their animals, which can be a source of inspiration (Putney,

1 2014). This phenomenon seemed to occur more often for dogs; the special connection that  
2 can be forged with these animals can promote personal growth, self-esteem and bonding  
3 (Jin, 2018).

4

### 5 ***Discrimination, acceptance, and self-esteem***

6 LGBTQ+ emerging adults reported experiencing various forms of social discrimination  
7 because their sexual or gender minority status does not align with the prevailing paradigm  
8 of cisgenderism as well as heterosexism (Jin, 2018). This discrimination directly impacted  
9 the well-being of both the individual and their animal. Fraser et al.'s (2020) study showed  
10 that, in some cases, LGBTQ+ people are discriminated against by animal health providers  
11 because of their sexuality, and highlighted the importance of inclusivity and nonjudgmental  
12 attitudes to ensure that veterinary treatment is sought when needed.

13 During the transition to adulthood, LGBTQ+ people highlighted how companion  
14 animals buffered stress in the context of the self-acceptance process, and enhanced self-  
15 esteem (Jin, 2018). These young people indicated that animals provided a sense of identity  
16 and purpose (associated with caring for them), promoted feelings of belonging and being  
17 needed, and improved self-efficacy. Additionally, the animals were viewed as extensions of  
18 their guardians' own identity (McDonald, Matijczak, et al., 2021).

19 These roles of animals were also important in adverse circumstances (e.g., in periods  
20 characterized by violence or housing instability) because they provided support and  
21 security to aid coping therewith. Transgender and non-binary women who were victims of  
22 violence indicated that their animals provided affirmation, nonjudgmental positivity and

1 security in times of crisis (i.e., during episodes of violence, and in post-separation and  
2 recovery periods). Companion animals allowed guardians to express themselves in more  
3 expansive manners (Rosenberg et al., 2020). In a study including a large and diverse  
4 sample of LGBTQ+ victims of violence, Taylor et al. (2018) found that animals were  
5 important sources of support, providing physical displays of affection and unconditional  
6 love. These feelings of closeness and safety engendered by companion animals, as well as  
7 relief during episodes of violence, decrease suicidal ideation.

8 In times of homelessness or extreme housing instability, LGBTQ+ young adults also cited  
9 a positive influence of their animals; in Schmitz, Carlisle, et al. (2021) study, the participants  
10 indicated that their animals enhanced their self-image, were responsible for a key part of their  
11 identity (i.e., as caregivers), and therefore helped prevent maladaptive behaviors (e.g.,  
12 substance use, as well as depressive symptoms).

13

#### 14 ***Satisfaction and social support***

15 For LGBTQ+ guardians, relationships with companion animals clearly influence their  
16 quality of life; they often promote feelings of happiness and increase life satisfaction  
17 (Hugues Hernandorena et al., 2015; Schmitz, Tabler, et al., 2021). More specifically, in a  
18 study examining LGBTQ+ people in Cuba, 84% of the participants indicated being very  
19 satisfied living with animals, and 97% considered them to be highly beneficial (i.e., they  
20 provided companionship, motivated guardians to take better care of their own health,  
21 provided relief from tension, etc.). Accordingly, 90% of the participants recommended pet  
22 ownership (Hugues Hernandorena et al., 2015).

1 Bonding with animals has potential implications for psychological well-being, especially  
2 in terms of self-acceptance, positive relationships with others, personal growth, and a sense  
3 of purpose in life (Putney, 2014). Furthermore, both emerging and older adults tended to  
4 highlight the importance of their companion animals in terms of protecting them from  
5 isolation and stressors (Jin, 2018; McDonald, Matijczak, et al., 2021), and promoting  
6 feelings of emotional and physical security (Schmitz, Carlisle, et al., 2021). Additionally,  
7 animals provided guardians with feelings of protection against public aggression due to  
8 their LGBTQ+ status (Fraser et al., 2020).

9 The attachment to companion animals was positively associated with social support  
10 (Matijczak, Applebaum, Kattari, & McDonald, 2021). The role of animals as supportive,  
11 non-judgmental confidants has been conceptualized as a buffer against stress, promoting  
12 positive and regulating negative emotions. Relatedly, many self-identified LGBTQ+  
13 guardians reported that their companion animals provided comfort, physical contact,  
14 companionship, and a stable and consistent (i.e., unconditional) form of love (McDonald,  
15 Matijczak, et al., 2021). A group of LGBTQ+ young adults stated that animals seemed to  
16 sense when they were stressed and in need of relief; simple compassionate behaviors  
17 displayed by animals were highly valued. Companion animals were also reported to be  
18 better listeners and more effective supporters than people (Schmitz, Carlisle, et al., 2021).

19 Some LGBTQ+ guardians might benefit more than others from the social support  
20 provided by companion animals. Siegel et al. (1999) studied 1,872 gay and bisexual men  
21 (of whom 38% were HIV-positive and 11% had AIDS). Neither animal ownership nor HIV  
22 infection was associated with depression. Likewise, comparisons between HIV-infected  
23 and uninfected men revealed no differences in attachment levels with companion animals;

1 the same results were obtained when comparing men with and without AIDS. However,  
2 when examining only HIV-positive participants, animal ownership moderated the  
3 association between AIDS and depression; persons with AIDS who owned companion  
4 animals reported less depression than those with AIDS who did not own companion  
5 animals. This difference was particularly marked in those men who did not have many  
6 close friends.

7 Animals also had a positive impact on the perceived social support of LGBTQ+ people  
8 who had experienced family abuse; Riggs, Taylor, Signal, et al. (2018) showed that, among  
9 LGBTQ+ people who experienced family abuse, those living with companion animals had  
10 greater perceived social support and less psychological distress than those who did not.  
11 However, these differences were not evident when comparing groups of LGBTQ+ people  
12 with and without animals who had not experienced family violence. The authors argued  
13 that animals produce positive effects, especially in LGBTQ+ people who have experienced  
14 family abuse, because they are seen as a source of trustworthy and uncritical support. The  
15 social support exerted by companion animals has also been studied in LGBTQ+ people  
16 with certain disabilities (e.g., physical problems) and a small social network (Muraco et al.,  
17 2018); the results indicated that animal ownership is especially beneficial for these groups  
18 (i.e., persons with companion animals had greater self-perceived social support than those  
19 without animals).

20 In addition to considering animals as part of their support networks, LGBTQ+ people  
21 indicated that animals helped them to expand their human social networks. Animals can  
22 promote social capital by facilitating positive relationships, promoting healthy family  
23 interactions and interpersonal trust, and building social networks; they also help initiate

1 conversations and diffuse social tension (McDonald, Matijczak, et al., 2021). As an  
2 example of this “dog effect” on human social networks, some authors found that older  
3 LGBTQ+ adults with companion animals had higher levels perceived social support  
4 (Muraco et al., 2018).

5

## 6 ***Resilience***

7 LGBTQ+ emerging adults attributed the personal, academic, and professional growth  
8 achieved during their sexual development to companion animal ownership (Jin, 2018). In  
9 other studies, guardians cited their animals as vital sources of support, helping them to  
10 overcome conflict-laden life events and helping them to thrive in everyday life. In this way,  
11 companion animals enhanced their resilience (Schmitz, Tabler, et al., 2021); which is  
12 understood as a dynamic process that reflects the capacity of an individual, or system, to  
13 successfully adapt and cope, particularly with current or past adversity and stress (Masten,  
14 2015).

15 Regarding abusive relationships, some transgender and non-binary people reported  
16 leaving relationships so that they could keep their animal companions (Rosenberg et al.,  
17 2020). Likewise, LGBTQ+ victims of domestic violence found it easier to care for their  
18 animals than themselves; moreover, acting to prevent violent behaviors directed toward  
19 their animals helped them to rethink their perceived victimhood, and showed how situations  
20 can be managed in healthier ways (Taylor et al., 2018).

21 Previous studies indicating that companion animals enhance guardian resilience were  
22 derived through interviews performed in qualitative studies. However, quantitative

1 investigations do not clearly show that animals contribute to resilience in LGBTQ+ people.  
2 For instance, in the study of McDonald, Murphy, et al. (2021), microaggressions  
3 (understood as a stressor for LGBTQ+ people) were associated with more human-animal  
4 interactions (i.e., attachment and emotional bonding with companion animals), moreover,  
5 these human-animal interactions mediated the relationship between microaggressions and  
6 personal hardiness (i.e., a central component of individual resilience, which refers to  
7 characteristics that allow someone to persevere in the face of stressful and adverse  
8 challenges; Smith & Gray, 2009)-. This suggests that the benefits of human-animal  
9 interactions in terms of personal hardiness may extend to emerging LGBTQ+ adults.  
10 Conversely, the mediating role of human-animal interactions in the relationship between  
11 microaggressions/victimization and psychological stress posited by the authors was not  
12 found, suggesting that human-animal interactions did not enhance resilience to  
13 psychological stress related to microaggressions/victimization in LGBTQ+ populations.

14 In another study performed on LGBTQ+ individuals cohabiting with dogs and cats  
15 (McDonald, O'Connor, et al., 2021), the emotional comfort derived from companion  
16 animals was positively associated with anxiety; the authors speculated that young LGBTQ+  
17 adults who have anxiety might be more likely to seek out opportunities to live with  
18 companion animals, and further posited that, as anxiety symptoms increase, so too does the  
19 comfort derived from companion animals. When examining the moderating role of relief  
20 derived from companion animals between exposure to violence and psychological well-  
21 being, contradictory results were found. Specifically, comfort from companion animals did  
22 not moderate the relationship between gendered-based victimization and symptoms of  
23 anxiety and depression, but its moderating effect between victimization and self-esteem



1 was significant, albeit only at low levels of comfort. Therefore, the authors highlighted the  
2 protective role of the comfort derived from companion animals in terms of the negative  
3 relationship between victimization and self-esteem, which is an important domain of  
4 psychological well-being in LGBTQ+ people.

5

## 6 ***Costs and challenges***

7 Despite the beneficial and rewarding effects of pet ownership, difficulties and costs may  
8 be experienced in relation to caring for and living with companion animals. Both emerging  
9 and older LGBTQ+ adults described different costs associated with their relationships with  
10 companion animals; animals could impose a caregiver burden, contribute to financial  
11 insecurity, limit access to housing, and be a source of stress (in association with the  
12 caregiving role) (McDonald, Matijczak, et al., 2021; Putney, 2014). These factors may be  
13 associated with worse health outcomes for some LGBTQ+ guardians. For example, in a  
14 study on gay and bisexual men, as well as men who had sex with men undergoing treatment  
15 for prostate cancer, patients with companion animals (vs. without) had worse mental quality  
16 of life parameters after controlling for sociodemographic variables; however, no differences  
17 were found in physical quality of life. Thus, for this particular population (i.e., gay and  
18 bisexual men who had undergone prostate cancer treatment), animals may be a net stressor  
19 (Wright et al., 2019).

20 In addition to the particular circumstances of individual guardians, specific factors  
21 associated with the bond with a companion animal can produce psychological stress, such  
22 as anticipated or actual injury or death of the animal. Animals can also disrupt relationships  
23 with peers, family members, partners or housemates, and keep guardians in a state of

1 dependency due to the requirement for assistance with in-home animal care (McDonald,  
2 Matijczak, et al., 2021; Putney, 2014).

3 Victimization of animals negatively impacts guardians. In total, 20% of LGBTQ+  
4 people whose partners had perpetrated violence reported animal cruelty by their partner.  
5 Cisgender women reported much higher levels of psychological distress in associated with  
6 an animal being abused than males, transgender and nonbinary people (Riggs, Taylor,  
7 Fraser, Donovan, & Signal, 2018). Companion animals can also influence the likelihood of  
8 leaving an abusive relationship. For example, in a study of transgender and nonbinary  
9 women who were victims of violence, although their animals generated joy and love, a lack  
10 of options in terms of animal care could delay their departure from the relationship;  
11 however, other participants highlighted that their companion animals actually triggered  
12 their departure (Rosenberg et al., 2020). In a study examining the influence of companion  
13 animals on the likelihood of confronting perpetrators of violence, while some LGBTQ+  
14 victims found it easier to stand up to perpetrators for the sake of their animals rather than  
15 for themselves, other did not because of fear of retribution by their violent partners against  
16 their animals, or deflected their partners' violence onto themselves to protect their animals  
17 (Taylor et al., 2018).

18 Sacrificing one's well-being to preserve that of companion animals has been noted in the  
19 context of the COVID-19 pandemic, especially in LGBTQ+ people. Compared to non-  
20 LGBTQ+ samples, sexual and gender minorities with high levels of attachment to their  
21 companion animals, as well as those with low or moderate levels of social support, were  
22 more likely to delay or completely avoid COVID-19 testing. Thus, LGBTQ+ people who  
23 are highly attached to their companion animals and have a weak social support network

1 (which can make it difficult to find alternative companion animal care arrangements) may  
2 be forced to choose between caring for their companion animals or risking its safety by  
3 being separated from it (e.g., due to hospitalization or quarantine). In this manner, concerns  
4 related to companion animal care and well-being could be a barrier to seeking medical care  
5 (Matijczak et al., 2021).

6

## 7 **Discussion**

8 The current systematic review summarizes 18 studies on the effects of human-animal  
9 interactions on the LGBTQ+ population. The LGBTQ+ guardians considered their animals  
10 to be members of their families, particularly valuing their consistent and nonjudgmental  
11 affection, which reportedly contrasted with their human relationships.

12 Additionally, animals are valuable sources of social support, providing a sense of  
13 emotional and physical security (e.g., Putney, 2014; Taylor et al., 2018). Although some  
14 results for LGBTQ+ individuals were similar to those of studies examining more general  
15 samples (e.g., Allen et al., 2002; Kikusui et al., 2006), there is evidence of unique aspects  
16 of the “LGBTQ+ people-animal bond”: (i) animals are important during the process of self-  
17 acceptance of sexual and/or gender diversity, improving self-esteem and mitigating stress;  
18 (ii) companion animals can provide a sense of safety and protection against social  
19 aggression for LGBTQ+ people; and (iii) providers of services required for companion  
20 animals may discriminate against their LGBTQ+ guardians.

21 The precise nature of the LGBTQ+ people-animal bond often depends on the  
22 discriminatory context. According to the minority stress model (Meyer, 2003), sexual

1 and/or gender minority individuals face both distal (e.g., victimization, rejection) and  
2 proximal (e.g., internalized stigma) stressors. According to the studies reviewed herein,  
3 companion animals provide a buffer against both types of stressors; therefore, animals have  
4 an important role in supporting LGBTQ+ individuals, who frequently lack support (even  
5 from family members) (Riggs, Taylor, Signal, et al., 2018).

6 A lack of support is especially problematic for LGBTQ+ young adults, given that  
7 attachments can buffer the negative effect of societal homophobia (Jin, 2018). In cases  
8 lacking such support, companion animals can provide a base from which the individual can  
9 pursue self-discovery, and explore their sexuality and gender; the animal can serve as a  
10 “safe haven” providing relief from the stress and distress associated with the self-discovery  
11 process. The benefits of human-animal interactions can be understood within the  
12 framework of Bowlby's attachment theory (1969, 1998), which is widely used to explain  
13 the bond between people and their companion animals, including the related benefits (Díaz-  
14 Videla, 2020). According to Bowlby, attachment is a primary motivation because it  
15 provides love, security, and other non-material resources, rather than food, nourishment,  
16 and other material resources. This theory is crucial to understand how social relationships  
17 promote health (Berkman & Glass, 2000).

18 The human-animal bond has been conceptualized as a form of familial love (*storge*).  
19 This concept not only applies to bonds that occur within the family (i.e., between close  
20 relatives), but also to external social bonds, i.e., to bonds that go beyond typical social  
21 relationships conceptualized as familial (Fine & Mackintosh, 2016). Familial love can be  
22 linked to Weston's (1997) concept of “Families of Choice”, which refers to how LGBTQ+  
23 people construct their own notions of kinship by drawing on the symbolism of love and

1 friendship. However, the inclusion of companion animals in families goes beyond  
2 LGBTQ+ people: in the general populations of Western countries, more than 80% of pet  
3 guardians consider their dogs and cats as family members (Cohen, 2002; McConnell et al.,  
4 2017). Although some theoretical proposals highlight the importance of multispecies  
5 households for LGBTQ+ people (e.g., Gabb, 2018), empirical studies performed in this  
6 population did not focus on this issue.

7       It is worth noting that only one study in this review directly compared heterosexual  
8 cisgender and LGBTQ+ individuals (Matijczak et al., 2021). Thus, although the human-  
9 animal bond has distinctive features in the context of discrimination, certain aspects might  
10 be overlooked. Additionally, due to the diversity within the LGBTQ+ community,  
11 considering LGBTQ+ individuals as a homogeneous group may obfuscate certain  
12 characteristics of particular sexual and/or gender minorities, who may be exposed to  
13 different stressors; for example, while both same-sex orientation and gender nonconformity  
14 were linked to poorer well-being, gender-atypical traits may be more relevant to  
15 psychological health than same-sex sex orientation (Rieger & Savin-Williams, 2012). The  
16 differences among cisgender LGBTQ+ individuals may explain the variation in pet  
17 ownership rate between women (75%) and men (54%) (CMI, 2021). Similarly, there are  
18 also differences in responses to animal cruelty; LGBTQ+ women who observed an animal  
19 being abused reported greater psychological distress and lower levels of social support than  
20 male and nonbinary participants (Riggs, Taylor, Fraser, et al., 2018). In studies grouping  
21 participants in a binary manner (i.e., without consideration of sexual and/or gender  
22 minorities), women had better attitudes toward, and more empathy for, animals than men  
23 (Apostol, Rebeaga, & Miclea, 2013). Those differences might be partially explained by

1 socio-cognitive differences between men and women in the tendency to experience  
2 emotions associated with nurturing and caregiving (Paul, 2000), which, in turn may  
3 manifest in a dissociable manner between cisgender and transgender women.

4 The particular circumstances of sexual and gender minorities seem to impact in how  
5 animal social support is experienced. Lesbian women who grew up in homophobic  
6 environments—and remain afraid to publicly acknowledge their sexuality—found animals to  
7 be especially supportive (Putney, 2014). Similarly, LGBTQ+ guardians benefit more from  
8 bonding with their animals when they lack close friendships. In these cases, animals help to  
9 integrate and expand support networks, thereby promoting positive relationships and  
10 interpersonal trust (McDonald, Matijczak, et al., 2021; Schmitz, Carlisle, et al., 2021).  
11 However, in certain adverse situations, such as receiving a diagnosis of prostate cancer,  
12 animals may become additional stressors for LGBTQ+ individuals that actually worsen  
13 quality of life. In the context of domestic or intimate partner violence, studies examining  
14 the dog effect did not provide unequivocal results. While Taylor et al. (2018) demonstrated  
15 that witnessing animal abuse could lead to the LGBTQ+ guardian leaving the abusive  
16 relationship, Rosenberg et al. (2020) reported that companion animals negatively impacted  
17 transgender and non-binary people (e.g., caused difficulties in leaving an abusive  
18 relationship due to a lack of options for animal care and the potential for their companion  
19 animals to also experience psychological or physical abuse). These problems are similar to  
20 those reported in cisgender populations, as revealed by the recent review by Cleary et al.  
21 (2021); in most of the studies, animal abuse prevented or delayed female victims of  
22 domestic violence from seeking help. Such contradictory findings point to the need for  
23 further research in this area, to examine the particular characteristics of the companionship

1 provided by animals to sexual and/or gender minorities experiencing partner violence.

2       Regarding other types of violence, such as gender-based violence, previous studies  
3 failed to clearly identify the effects of the LGBTQ+ people-animal bond. For example,  
4 McDonald, Murphy, et al. (2021) found that human-animal interactions mediated the  
5 relationship between microaggressions (a known stressor for LGBTQ+ people stressor) and  
6 personal hardiness, but not that between microaggressions/victimization and psychological  
7 stress. Moreover, other studies showed that comfort derived from companion animals did  
8 not moderate the relationship between gendered-based victimization and symptoms of  
9 anxiety and depression (although comfort derived from companion animals did moderate  
10 the relationship between victimization and self-esteem; McDonald, O'Connor, et al. 2021).  
11 Taken together, the findings suggest that comfort derived from companion animals or  
12 human-animal interactions may not be an important risk/protective factor moderating  
13 associations between victimization and anxiety/depression/personal hardiness. However,  
14 this conclusion should be drawn with caution; comfort derived from companion animals  
15 and human-animal interactions might play a key modulatory role in the relationship  
16 between gender-based victimization and other markers of psychological well-being and  
17 health, such as antisocial behaviors, suicidal ideation, and substance use. Relatedly, other  
18 constructs linked to the bond with companion animals (e.g., attachment and caregiving  
19 behaviors) could also moderate the relationship between gender-based victimization and  
20 psychological well-being; this merits further exploration.

21       Remarkably, previous studies found that the level of comfort derived from bonding with  
22 animals and intensity of attachment correlated positively with anxiety levels (Matijczak et  
23 al., 2021; McDonald, O'Connor, et al., 2021; Tomlinson, Pittman, Murphy, Matijczak, &

1 McDonald, 2021). The cross-sectional nature of these studies necessitates careful analysis;  
2 it is not clear whether LGBTQ+ emerging adults who derived more emotional comfort  
3 from their animals had higher levels of psychological stress (and thus were more inclined to  
4 turn to their animals for relief) or whether owning and caring for animals may result in  
5 additional psychological stress (Tomlinson et al., 2021).

6 The utility of companion animals as a resource to manage stress or promote thriving in  
7 LGBTQ+ individuals has been suggested (Schmitz, Tabler, et al., 2021), although others  
8 stated that there is insufficient evidence to recommend companion animals as a “method”  
9 to increase patients' quality of life (Wright et al., 2019). Indeed, there is currently no  
10 evidence of the effectiveness of this type of strategy (i.e., guardianship of a companion  
11 animal), where the nature and quality of the relationship with a companion animal tends to  
12 be a better predictor of health and well-being than the mere presence of an animal  
13 (McDonald, O’Connor, et al., 2021). Due to structural inequalities (e.g., insecure living  
14 arraignments, vulnerability to emergencies and disasters, help-seeking by violent partners,  
15 and problems accessing health care), personal preferences, and other individual-level  
16 factors, animal ownership should not be considered in isolation as a resource to increase  
17 LGBTQ+ individuals' well-being. Instead, community-level programs and public policies  
18 to alleviate structural inequalities are recommended, which would in turn improve people  
19 and animals’ health and well-being (McDonald, O’Connor, et al., 2021).

20 Providing more accessible and supportive services for LGBTQ+ people is crucial, as  
21 they often experience significant social rejection and may be more distrustful of authority  
22 figures and people in general. The inclusion of companion animals in such services may be  
23 beneficial for LGBTQ+ people experiencing marginalization (Schmitz, Carlisle, et al.,



1 2021).

2       Considering both human and animal health in the context of community-level social  
3 resources may enhance the resilience of marginalized populations, given the benefit that  
4 they derive from their relationships with their companion animals. Professionals working  
5 with individuals and families should be cognizant of animals in the household; similarly,  
6 veterinarians and animal welfare professionals should consider the difficulties facing  
7 individuals and families keeping companion animals in homes (McDonald, Murphy, et al.,  
8 2021). Similarly, health workers should consider the LGBTQ+ people-animal bond; some  
9 studies found that its importance is minimized, especially by mental health professionals  
10 (Fraser et al., 2020). This situation may be due to a lack of consideration of the human-  
11 animal bond during academic training, rather than to the attitudes and characteristics of the  
12 professionals. One study showed that psychologists frequently considered the relevance of  
13 companion animals as family members and attachment figures, but usually failed to  
14 incorporate them into treatments (Ceberio et al., 2020). In this sense, we recommend  
15 incorporating the human-animal bond as a novel and useful content of the curricula of  
16 health professionals—of both humans and animals—particularly for those who provide  
17 mental health support and assistance.

18       We recommend that veterinary clinics be more inclusive with respect to the LGBTQ+  
19 population. This could be achieved by avoiding making assumptions based on cisgenderism  
20 and heteronormativity, and by making overt efforts to include same-sex couples, avoiding  
21 subtle gestures of bemusement toward or discounting of diversity, and displaying visual  
22 symbols of inclusion such as pride flags (Fraser et al., 2020). Through these strategies,  
23 practitioners can better reach and engage with LGBTQ+ people, which will directly impact

1 animal welfare.

2 Although we performed an exhaustive review of the literature, some limitations should  
3 be borne in mind when interpreting our results. First, we considered studies stemming from  
4 the same research to be different, given that some authors tended to divide extensive  
5 research projects into multiple publications. This is important because use of the same  
6 sample could explain the recurrent themes found in several articles. Additionally, the  
7 samples of the included studies tended to be biased toward sexual rather than gender  
8 minorities, such that generalizing our conclusions to the whole LGBTQ+ community might  
9 be problematic (given that it cannot be considered a homogeneous group). Finally, the 18  
10 reviewed studies all included individuals aged above 18 years; however, examining human-  
11 animal interactions in a sample of LGBTQ+ adolescents could shed light on whether this  
12 bond exerts a positive influence in a critical period for the development of mental health  
13 problems (Kessler et al., 2007). In this sense, of the LGBTQ+ community, adolescents are  
14 the most vulnerable to mental health difficulties due to both the characteristics of this  
15 developmental phase and external events: e.g., LGBTQ+ adolescents tend to face violence,  
16 bullying, and discrimination at schools (Berry, 2018). Notwithstanding those limitations,  
17 our review is the first to focus on the bond between LGBTQ+ people and their companion  
18 animals, and could serve as a starting point for new lines of research.

19

20

## 21 **Conclusions**

22 Based on the results of our systematic review, we conclude that, similar to the general

1 population, LGBTQ+ people view their companion animals as providers of consistent and  
2 non-judgmental love, as well as companionship and social support. In addition, the studies  
3 included in this review support the existence of unique aspects of the LGBTQ+ people-  
4 animal bond; animals promote self-acceptance with respect to gender and sexuality, and  
5 engender a sense of protection against social aggression. However, there is also a risk that  
6 LGBTQ+ animal guardians will face discrimination from animal healthcare personnel. It is  
7 worth noting that the samples of the included studies tended to be biased toward sexual  
8 minorities, with little consideration of gender minorities. More research is therefore needed  
9 on this topic, focusing on specific LGBTQ+ minority groups and companion animal  
10 species. Additionally, future research should aim to determine whether human-animal  
11 bonding impacts the relationship dynamics of couples and families that are diverse in terms  
12 of gender and sexuality, as this was not addressed in the reviewed literature. Finally, the  
13 lack of studies examining LGBTQ+ adolescents prevents us from ascertaining the effect of  
14 human-animal interactions in a critical phase with respect to the development of mental  
15 health difficulties; this is another issue meriting further research.

16 Failure to consider the unique aspects of the bond between LGBTQ+ people and animals  
17 may lead to inappropriate heteronormative and cisgenderist assumptions. On the other  
18 hand, identifying these unique characteristics in specific LGBTQ+ minority groups may  
19 allow us to effectively respond to their needs and improve inclusion. Moreover, the  
20 uniqueness of the LGBTQ+ people-companion animal bond can be harnessed by preventive  
21 and intervention programs to promote resilience to, and buffer the negative impact of,  
22 sexuality- and gender-based discrimination.

23

1     **Declaration of interest statement**

2     None

3

4     **Disclosures statement**

5     The authors report there are no competing interests to declare.

6

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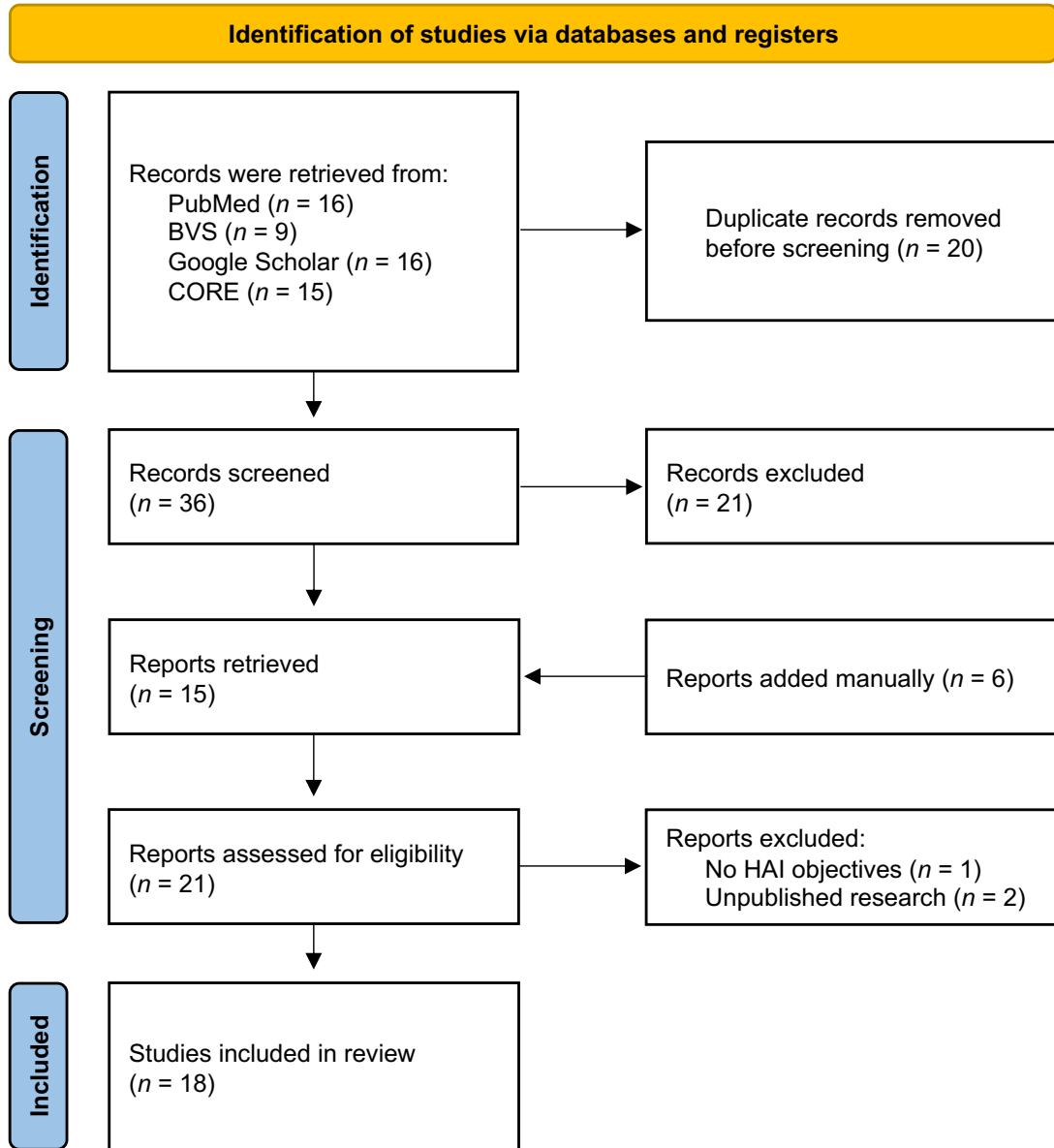
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## Figures

**Figure 1.**  
Flow diagram of study selection



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## Tables

**Table 1.**

Main results of empirical studies on the LGBTQ+ people-animal bond.

Authors	Year	Country	Sample	Design	Results
Siegel et al.	1999	USA	Gay and bisexual men ( $n = 1872$ ).	Correlational (survey)	Among AIDS-positive participants, those who lived with companion animals were less likely to have depression. The effect was greater among those with few close friends.
Putney	2014	USA	Lesbian women aged $\geq 65$ years with companion animals ( $n = 12$ ).	Qualitative (interview)	Two interrelated aspects with potential implications for well-being were identified: (1) love, including subthemes of companionship, mirroring in animals, and family; and (2) caregiving; including rewards, challenges, and the symmetry/asymmetry of human and animal well-being.
Hugues Hernandorena et al.	2015	Havana, Cuba	LGBTQ+ adults ( $n = 60$ ) cohabiting with companion animals.	Descriptive (survey)	All participants recognized that animals influenced their quality of life; 84% were very satisfied to be living with animals, and 97% considered it very beneficial.
Jin	2018	Philadelphia and New Jersey, USA	LGBTQ+ emerging adults aged 18-25 years ( $n = 10$ ) with emotional attachments to companion animals of various species.	Qualitative (interview)	Participants emphasized attachment to their animals—even those with significant human attachments and support systems—and its importance for self-acceptance, personal growth, and protection against isolation and external stressors such as social discrimination.
Muraco et al.	2018	USA	LGBTQ+ adults aged $> 50$ years: Study 1: $n = 59$ . Study 2: $n = 2,560$ .	Mixed (interview and survey)	Study 1: animals were typically characterized as family members and companions who provided social support. Study 2: pet guardians had higher perceived social support. Those with disabilities and a poor social network who had a companion animal had significantly higher perceived levels of social support than those without a companion animal.
Riggs, Taylor, Fraser et al.	2018	Australia and UK	LGBTQ+ adults ( $n = 503$ )	Correlational (survey)	One-fifth of the participants who had experienced violence or abuse also indicated that their partner had perpetrated animal abuse. In addition, women who had witnessed animal cruelty had greater psychological distress and lower levels of social support, and both lesbians and bisexuals who had witnessed animal cruelty had lower levels of social support.

Riggs, Taylor, Signal et al.	2018	Australia and UK	and	LGBTQ+ adults ( $n = 503$ )	Correlational (interview)	Among participants who experienced family abuse, those living with animals (vs. those who did not) had lower psychological distress levels and greater perceived social support. This difference was not found among participants who did not experience family abuse.
Taylor et al.	2018	Australia and UK	and	LGBTQ+ adults ( $n = 137$ ) who experienced domestic violence.	Qualitative (interview)	Animals are important sources of support; physical demonstrations of affection and unconditional love engender a sense of closeness and security, and also provide relief from violence, thereby decreasing suicidal ideation. People actively protect companion animals, either by not resisting violent situations, deflecting their partners' violence onto themselves or, occasionally, leaving the abusive relationship.
Wright et al.	2019	USA and Canada	and	Gay men, bisexual men, and men who had sex with men who were post-treatment prostate cancer survivors ( $n = 189$ ).	Descriptive (survey)	Participants owning only cats or dogs had lower mental quality of life scores than those who had no companion animals. Participants with both types of companion animals did not differ from those without companion animals. No differences in physical quality of life were observed between groups.
Fraser et al.	2020	Australia		LGBTQ+ adult women ( $n = 19$ ; cisgender = 14, transgender = 5) with strong relationships with companion animals.	Qualitative (interview)	Participants highlighted the importance of human and animal health professionals recognizing the relevance of their companion animals in their lives, as well as animal health professionals being inclusive of their gender and sexual identity.
Rosenberg et al.	2020	Australia and UK	and	Study 1: transgender and non-binary individuals ( $n = 23$ ). Study 2: transgender and non-binary women ( $n = 8$ ).	Qualitative (interview)	Animals provided feelings of affirmation, nonjudgmental positivity, and security in times of crisis. While animals could provide relief from domestic violence, they could also be involved in abusive situations. This can either be a catalyst for leaving the relationship or make it harder to leave.
Matijczak et al.	2021	Not reported		Adults ( $n = 1453$ ; 21.8% LGBTQ+) who lived with pets of various species.	Correlational (survey)	LGBTQ+ individuals were more likely than non-LGBTQ+ individuals to delay or avoid COVID-19 testing when they had high attachment to their companion animals, and moderate or low levels of social support.
McDonald,	2021	USA		LGBTQ+ emerging adults	Qualitative	In terms of the relationship with their companion animals,

Matijczak et al.			(aged 18-21 years) ( $n = 117$ ) who had lived with animals of various species in the past year.	(interview)	participants described both benefits and drawbacks: (1) benefits included buffering against stress, building social capital, acting as a coping mechanism (and thus improving mental health), and providing a sense identity and purpose; (2) drawbacks include potential caregiver overload, barriers to relationships, and psychosocial stress.
McDonald, Murphy et al.	2021	USA	LGBTQ+ emerging adults (aged 18-21 years) ( $n = 136$ ) who had lived with dogs and/or cats in the past year.	Correlational (survey)	Increases in microaggressions were associated with increases in human-animal interactions; in turn, increases in HAI were associated with higher levels of personal resilience.
McDonald, O'Connor et al.	2021	USA	LGBTQ+ emerging adults (aged 18-21 years) ( $n = 134$ ) who had lived with dogs and/or cats in the past year.	Correlational (survey)	The effect of victimization on self-esteem was moderated by the comfort derived from companion animals, although this relationship was statistically significant only at low levels of comfort. The authors found no evidence that the comfort derived from animals moderated (i.e., risk/protective factors) the relationships between gendered-based victimization and symptoms of anxiety and depression.
Schmitz, Carlisle & Tabler	2021	Oklahoma, USA	LGBTQ+ emerging adults (aged 18-25 years) experiencing homelessness or markedly unstable living arrangements ( $n = 17$ )	Qualitative (interview)	Participants reported that their companion animals provided vital emotional support, improved their self-image and sense of identity, and provided feelings of stability and purpose. In turn, this promoted feelings of security and the ability to cope with stressors linked to marginalization and depressive symptoms.
Schmitz, Tabler et al.	2021	USA	LGBTQ+ adults with pets who they considered a member of their family ( $n = 45$ ).	Qualitative (interview)	Participants highlighted benefits of the unique emotional connections established with their companion animals (e.g., constancy and predictability). Companion animals were seen as sources of support that promoted resilience, prosperity, happiness, and life satisfaction.
Tomlinson et al.	2021	USA	LGBTQ+ emerging adults (aged 18-21 years) ( $n = 138$ ) who had lived with pets in the past year.	Factorial (survey)	The Comfort from Companion Animals Scale scores correlated with Pet Attachment and Life Impact Scale scores, indicating construct validity. Moreover, although comfort from companion animals was not significantly associated with depression or interpersonal sensitivity, it was correlated with anxiety.



*Note:* articles are listed in chronological order.