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Title: 'Obedient, but cheeky': Human Expectations of Canine Behaviour and Companionship

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Abstract

Whilst dogs are adored companions worldwide, with an array of benefits associated with their companionship, high numbers continue to be relinquished each year due to perceived behavioural concerns. Subsequently, this paper addresses the question; What are guardian's expectations of canine behaviour and companionship? A total of 175 participants responded to a qualitative semistructured survey, distributed online via social media and dog-related networking sites. Following a reflexive thematic analysis (Braun & Clarke, 2019), five themes are discussed; A well-balanced dog, Obedient, Affection and Connection, Shared Interests, and Commitment.- The findings highlight a wide range of expectations typically moving beyond realistic behaviour and capabilities for both dogs and guardians. Resultantly, we call for clearer conceptualization of canine behaviour, particularly in relation to the distinction between observable behaviour and behavioural interpretations (personality, temperament etc.). Clarification on the facets of dog behaviour, in addition to better understanding guardian expectations, will aid the development of educational materials aimed at supporting existing human-dog relationships and the adoption matching process within canine adoptions. Cumulatively, this would aid successful human-dog bonding, reducing the risk for relinquishment. These findings build on the recently proposed Perceived Canine Reactivity Framework (see (Stephens-Lewis et al., 2022) aimed at accounting for the interplay between canine characteristics, human expectations and human capabilities when interpreting dog behaviour.

Key words:

Dog Behaviour; Canine Behaviour; Guardian Expectations; Relinquishment; Human-Canine Bond
Introduction

Research demonstrates how sharing your life with a dog can support human mental health (Liu et al., 2019) as well as physical health outcomes such as better cardiovascular health, and lower stress levels (Hughes et al., 2020; Martos-Montes et al., 2020; Morales-Jinez et al., 2018). Such benefits are typically attributed to the sense of companionship gained through living with a dog (Carr et al., 2021; Knight & Edwards, 2008; Liu et al., 2019; Oliva & Johnston, 2021) -increased physical activity (Christian et al., 2018; Peel et al., 2010; Powell et al., 2018; Westgarth et al., 2017)}, and the physiological responses from positive interactions (Amiot et al., 2016). Importantly, such benefits have also been reported in companion dogs (Amiot et al., 2016; Coppola et al., 2006; Odendaal & Lehmann, 2000; Schöberl et al., 2012), highlighting the far-reaching benefits that human-canine companionship can have on the welfare of both parties.

Generally, from a human perspective, in order for human-canine dyads to cohabit harmoniously, dogs are required to behave in accordance with human and societal ideas of what is considered appropriate behaviour (Salman et al., 2000a; Stephens-Lewis et al., 2022; Wells & Hepper, 2000a).

However, there have been growing reports of problematic or unwanted dog behaviour among canine guardians, with 'Reactivity' or reactive behaviours being cited as a key reason for canine relinquishment (Diesel et al., 2010; Friend & Bench, 2020; New et al., 2000), and even euthanasia (Diesel et al., 2008; Friend & Bench, 2020; Kwan & Bain, 2013; Lambert et al., 2015; Salman et al., 2000b; Wells & Hepper, 2000b). Indeed, relinquishment is a global concern with approximately 130,000 and 200,000 dogs reportedly entering shelters in the UK and Australia (respectively) in 2012/13 (Chua et al., 2017; Clark et al., 2012). While such estimates are over a decade old, such figures are likely to have increased, and continue to increase, given the significant growth in dog guardianship in the UK as a result of the SARS-CoV-2 (COVID-19) pandemic (Dog Ownership in the UK 2022; Hargrave, 2020). This is particularly plausible given the emerging evidence of an increase in perceived unwanted behaviours due to the difficulty of socialisation and training during the lockdown restrictions implemented to control the spread of COVID-19 (Christley et al., 2020; Hargrave, 2020; Holland et al., 2021)–. However, little research has considered how humans conceptualise canine behaviour, particularly in relation to those they deem appropriate or inappropriate.

Despite an increase in perceived problematic behaviours such as 'Reactivity', there is little understanding regarding how they are conceptualised in relation to human perspectives of canine behaviour. We recently demonstrated how the concept of Reactivity, in particular, is more complicated than first thought, highlighting a complex relationship between canine characteristics and human-specific factors (see Stephens-Lewis et al., 2022). Subsequently, we proposed the Perceived Canine Reactivity Framework to encapsulate the multi-faceted way in which canine behaviour is interpreted. This framework proposed three distinct but overlapping elements that were found to be relevant in conceptualising 'Reactivity' as canine behaviour;

1. Canine Characteristics: a facet encompassing canine epigenetics, emotions, learning, experiences and so on, that influence behavioural expression.
2. Human Expectations: Considering the perceptions of humans in relation to their expectations around appropriate and inappropriate dog behaviour.
3. Human Capability: Including a variety of factors determining a guardian's capability in assessing, managing and responding to canine behaviour.

This framework provides a basis for defining 'Reactivity' as "canine behavioural displays (based on multiple developmental, cognitive and physiological factors), which are contrary to human expectations, and often outside of human capability for managing effectively." (Stephens-Lewis et al., 2022, p.12). Specifically, this research highlighted the inconsistencies in terms of human expectations of canine behaviour due to variations across perceptions, understanding, and experience (among other factors). Moreso, this research demonstrated the importance of understanding how the categorisation of canine behaviour as (in)appropriate, (un)wanted or (dis)ordered, is socially constructed. For example, while some canine behaviours may be perfectly normal for a dog (e.g., chasing, alerting to sounds), whether this behaviour is categorised as inappropriate is dependent on an array of human characteristics as well as current societal norms around appropriate canine behaviour. Whilst this research focused specifically on the human understanding of the term Reactivity, there continues to be a lack of insight on what humans expect more generally in terms of appropriate behavioural displays in canine companions. Thus, further

research is needed to determine what canine guardians deem as (in)appropriate behaviour, and how these pertain to normal canine behaviour to provide insight into perceived 'problem behaviours'.

This insight is particularly important when considering the changing role of the dog in human society. Whilst once bred with specific tasks in mind (i.e., hunting, guarding livestock, herding, pulling carts), modern society renders many of these jobs obsolete (Coppinger & Coppinger, 2001). However, for many breeds, the predispositions that made them perfectly equipped with the instinctual behaviours primed for these roles are still present, but are now often seen as inappropriate (Coppinger & Coppinger, 2001). Indeed, dogs are often expected to inhibit perfectly natural canine behaviours (e.g., chasing and resource guarding), whilst also demonstrating adaptability across a multitude of novel settings and situations (Olsen, 2018). Such behavioural expectations are incredibly demanding on the dog, requiring great restraint and the ability to hold knowledge of how humans have reacted to offered behaviours across various settings in their working memory, enabling them to respond appropriately (Olsen, 2018). Furthermore, acquiring such skills depends not only on a dog's individual social, communicational and behavioural skills (Topál et al., 2005), but also on the extent to which they have been adequately trained to offer the behaviours expected of them. Consequently, adding a new dog (or puppy) into a household can be challenging for both human and dog (Shore, 2005), with additional responsibility, dog training and behavioural issues all reported as expected challenges by those seeking canine guardianship (Powell et al., 2018). Whilst in many cases, such challenges can be overcome through environmental adjustment and sufficient training (Blackwell et al., 2008; Vaterlaws-Whiteside & Hartmann, 2017), research demonstrates how the presence of perceived behavioural difficulties can negatively impact the formation and maintenance of the human-dog bond (Salman et al., 2000; Wells & Hepper, 2000). This of particular concern, given that, as aforementioned, perceived behavioural difficulties can also result in relinquishment or canine euthanasia. As such, in order to support the human-canine bond, it is imperative that human expectations for canine behaviour and companionship are understood, assessed and addressed. Such insight can support the development of educational initiatives and resources tailored towards the reality of canine guardianship, whilst reducing the risk for relinquishment.

As such, there is a clear need to understand more about canine guardian expectations for canine behaviour and companionship. Such knowledge will not only guide further research in determining the feasibility of these guardian expectations, but could also guide the human-dog matching process at rehoming centres. In understanding guardian expectations, more tailored support and behavioural counselling could be provided to support the human-canine bond, and reduce canine relinquishment. As such, this paper addresses the question: What are human expectations of canine behaviour and companionship?

Methodology

Design and Materials

Drawing from a realist lens (Wiltshire & Ronkainen, 2021), a qualitative survey was developed to explore human understanding of, and expectations around, dog behaviour in those aged 18 and over (including current guardians, canine professionals and non-guardians). Specifically, this lens views 'objects' as having a real existence that can be observed and studied empirically. However, such

observations are never complete due to the various processes through which it is observed (i.e. language, culture, social norms etc.). As such, in designing this research, methods of data collection and the process of analysis viewed and positioned canine behaviour as the 'object' of interest, whilst appreciating that guardian expectations around this would be invariably nuanced due to their differing experiences, social locations and cultural positions (Wong et al., 2013). As such, the survey questions were developed in order to allow for such nuance to be captured, while acknowledging that the behaviours reported by participants were part of their reality. Over several sections the survey collected data pertaining to demographics, human self-reported perceptions on what canine behaviours they considered appropriate and inappropriate, their understanding of the term Reactivity, and their experiences of seeking support with dog behaviours. The survey was developed in consultation with a research steering group (consisting of guardians, canine researchers, training and behaviour professionals and canine rescue organisations).

While this survey was developed for a larger research programme, within this paper we consider the specific aspects that relate to human expectations around dog behaviour and companionship as outlined in Table 1 (for an analysis of understandings of Reactivity and perceived inappropriate behaviours, see Stephens-Lewis et al., 2022 and support-seeking, see Schenke & Stephens-Lewis, 2023).

Table 1 here

Recruitment and Participants

Following ethical clearance from the University of Gloucestershire ethics panel, the online survey was distributed across a number of lay and professional social media pages (including Facebook groups, Twitter, Instagram and some professional organisation pages) using the JISC Survey Platform, aiming for a minimum of 150 respondents to attain data saturation (Tran et al., 2016). The survey was open to current and past dog guardians as well as canine professionals.

A convenience sample of 175 adults (163 female, 10 male, 1 non-binary, 1 prefer not to say, Mean age = 43.2 years, SD = 13.4) aged 18 and above completed the survey. Within the sample, the majority of participants were current dog guardians (n=159) with 28% indicating that they had worked with dogs professionally (though only 14% reported holding canine qualifications). Whilst the majority (n=114) were from the UK, data was collected from participants from 21 countries worldwide. Whilst 4% did not provide their level of formal education, 5% had primary education (up to G.C.S.E or equivalent), 13% had secondary education (up to AS/A Level or equivalent), 12% had a foundation degree or higher diploma, 34% had an undergraduate degree, 26% had a postgraduate degree, and 6% had a doctoral degree.

Data Analysis

A reflexive thematic analysis was led by the first author, following Braun and Clarke's (2021) six steps informed by a realist lens. Subsequently, while specific canine behaviours such as lunging, chasing or barking were viewed as objective and observable behaviours for the participants recruited, this analysis aimed to examine the nuanced ways in which guardians created meaning around such

behaviour, as well as what this meant for their understanding of companionship. As such, the data corpus was coded descriptively. Initial labels were created to capture key elements associated with dog behaviour and companionship (e.g., 'supportive', 'happy', 'loves to play', 'good recall'). Initial labels were subsequently reviewed for commonalities by both authors, resulting in more interpretive labels to capture the more nuanced meaning associated with the behaviours. For example, initial descriptive codes (as presented above) were reviewed for similarity in meaning, resulting in a more theoretically driven label (e.g., 'enjoying shared activities', 'seeking affection', 'demonstrating attentiveness'). During this process, both authors aimed for labels to capture patterns of shared meaning in expectations for dog behaviour. Interpretative codes were then clustered by the first author to construct more coherent theme structures. Clusters were reviewed again by both authors, assessing whether the meaning attributed overlapped with one another (e.g., 'non-anxious', 'happy and loyal', 'resilient', 'non-aggressive' became clustered under the title 'Well-Balanced'). This clustering was then reviewed alongside a sub-set of the data based on the codes applied and the original dataset. In keeping with the realist lens, final theme development aimed to capture both the objective behaviours expected in canine companions, and the varying meanings ascribed to such behaviours and their relation to companionship.

Findings

Following analysis of the data, five themes were developed regarding human expectations of dog behaviour and companionship, namely; A well-balanced dog, Obedient, Affection and Connection, Shared Interests, and Commitment. These expectations were multi-faceted, often moving beyond behaviour itself to interpretations of these behaviours in terms of the perceived emotions and temperaments thought to underly them. From general temperament to intellect and obedience, themes encapsulated participants expectations of what they wished to see in their companion dog, as well as how they should or could fit into their lifestyle.

A 'Well-Balanced' Dog

Generally, this theme encapsulated general wishes for a confident, well-rounded, trustworthy dog as captured succinctly by the excerpts below;

Well adjusted, well balanced (Q1. Please see table 1 for details on which question responses are associated with).

Confidence-so I could leave my house without having to check what's coming down the road.

Friendly to other dogs- a dog who was confident with new dogs, not seeing them as a threat. A dog I could trust with visitors and children (Q2)

As well as being confident, the ability to adjust to being with various people (children included), environments and novel contexts without concern of distress was seen as essential;

Ok to be left with most other humans or doggy daycare places - would be comfortable here and happy until I return, and not cause any damage or be distressed in any way. Is happy

and confident visiting other people in their houses, even for the first time, and is also not phased by having visitors over to ours, but not super excited. (Q1)

Is good around children, likes them and is happy and calm to be petted by them. (Q1)

As part of such confidence, the above is illustrative of the emphasis on self-reliance and regulation within companion dogs. This emphasis on an ability to adjust and adapt, regulating their emotional responses as needed, is further illustrated below;

Knowing how to relax so they do not become too stressed. (Q2)

A dog that doesn't need to be 'watched' all the time (Q2)

Nonetheless, this theme further captured the importance of communication from companion dogs. Not only was there an expectation that dogs should be "able to understand", the notion of responsiveness as well as being able to communicate their needs and desires in response to their guardians, was highlighted;

Dog just need to be able to respond appropriately to good owners. (Q1)

Able to clearly signal when they have had enough or aren't comfortable. So if we are doing training and they are tired, or we meet another dog that they are unsure about, being able to communicate this without resorting to snapping or displays of aggression. (Q2)

Finally, this emphasis on a well-adjusted dog was further exemplified by the importance placed on a having a companion dog who does not display anxiety, aggression or is overly 'shutdown';

Anxiety, this can lead to chewing in the home or lack of toilet control, generally aloof, if I wanted a pet that didn't really care I'd get a cat. (Q3)

Anxiety - this could cause the dog to injure itself physically under certain circumstances. (Q3)

Having anxious dogs myself, I think ideally dogs should be confident as it saves them from a lot of worry, which I worry impacts their lifestyle. (Q1)

Any signs of aggressive behaviour is undesirable in a dog. To keep everyone around them and the dog themselves safe from harm. (Q2)

Subsequently, this theme highlighted the importance that, to have a well-adjusted, confident dog, means having a dog without adverse mental health concerns such as anxiety or aggressive tendencies.

Obedient

When considering the behavioural requirements for dogs, there were consistent patterns across the data around general obedience. First, Table 2 provides the frequencies of self-reported desirable behaviours that participants reportedly wanted to see in their dogs.

Table 2 here

This array of desirable skills was also highlighted qualitatively as being a key expectation for companion dogs;

Sit on command for food and treats. Down on command. Spin on command. Paw, this is useful for cleaning muddy paws. Wait is essential because my dog refuses recall but freezes on wait while I walk up and put on the lead. (Q2)

In contrast to this, Table 3 highlights the least desirable behaviours that participants least want to see within their canine companions.

(Table 3 here)

Within the qualitative response, a number of behaviours were raised as undesirable and potentially concerning in a companion dog;

Barking or growling (Q3)

Lunging, snapping, biting, guarding behaviour (Q3)

Destructive behaviour like chewing or shredding items which aren't dog toys or their bedding

(they can do what they want to their toys). Toileting at home and destroying things at home (whether through chewing, digging or any other means) (Q3)

High prey drive. Unwillingness to work with me. High energy (Q3)

Concern was particularly evident for behaviours perceived as being rooted in anxiety, fear or aggression;

Aggression would be the worst - snarling, growling or biting (beyond any genuine threat of course) (Q3)

Additionally, moral judgement was seen as essential for such behaviours, with this theme encapsulating the expectation for dogs to have the ability to understand and/or make determinations between right and wrong in relation to their behaviour;-

Barks to alert family of people at door then stops. Plays with humans gently. Chews own possessions but not ours. (Q1)

Additionally, as part of this, dogs were expected to not only 'understand' what was required of them, but also actively wish to "obey" or follow their "leader", with such characteristics being illustrative of a "loyal" companion;

A dog who understands and obeys (Q2)

Obedience – they should respect you as the pack leader (Q2)

Loyal Responsive to commands Driven to please owner. (Q2)

Loyalty and trust respect for each other. I feel it's very important to have an equal understanding. Of shared time together value each other's space when required. I firmly

believe that my dog will always be loved and cared for and also understand her place in our family. (Q2)

Associated with this, there was some expectation that the undesirable or concerning behaviours previously noted, could be excusable based on dog's exercising moral judgement. For example, the below highlights how aggressive or alerting behaviour may be justifiable should it be in response to a perceived threat;

Dog on dog aggression, unless a form of defense (Q3)

Not alerting when someone enters property (would be seen as undesirable in a dog). (Q3)

Barks to alert family of people at door then stops (Q1)

Furthermore, based upon this, there was an expectation that dogs should be able to demonstrate restraint around their natural instincts, displaying the ability of self-control in relation to human expectations of good behaviour. The below are just some examples behaviours participants wanted dogs to inhibit, including aspects of canine communication;

Chasing livestock, other dogs, cats (Q3)

Minimal destructive behaviours including chewing/digging. (Q2)

Walk next to handler. No biting, growling etc. (Q2)

However,- obedience was also viewed as attenuating the true character of the companion dog. As such, a level of disobedience enabled a dog to demonstrate their character; something seen as desirable;

Obedient, but cheeky. If they're asked or told 'no' they'll comply, but they like a little bit of mischief every now and again. (Q1)

He is of course, sometimes very naughty, etc, but he is also a living, sentient creature with his own desires. (Q1)

Generally, there was a view that canine companions should be "smart" or intelligent enough to work with their guardians, but not so much so that it could cause issues for the dog or for them. As such, ultimately it was expected that a companion dog must be compliant and controllable;

They're smart enough that they're trainable and pick up commands fairly easily, but not so smart they find ways to get themselves into trouble a lot. (Q1)

[not] out of control (Q2)

Listens to every command. Not obeying commands [would be undesirable] (Q2)

Subsequently, this theme highlighted how intelligence and an ability make contextual judgments to inform their behavioural displays were seen as desirable in canine companions. As well as being attuned to when and where some behaviours were acceptable, dogs should demonstrate a willingness to follow and obey their guardian. Thus, canine companions were expected to be thoughtful but compliant.

Affection and Connection

Across the data, participants used adjectives such as “loyal”, “loving”, “protective” and “affectionate” in describing their wishes for the relationship between them and their companion dog. Affection, or the active display of seeking connection, was a consistent requirement deemed important for bonding;

The most important thing for me is that they're loving and affectionate. I like to have a cuddle with my dog, and couldn't imagine having a dog that's really aloof. (Q1)

Further to this, a sense of trust from the dog was considered key for such bonding;

Trust - they need to believe that I always have their best interests at heart. (Q2)

As such, participants often described behaviours that they would expect to see as indicative of such trust and affection;

Bounding up to greet me when I get home. (Q2)

I love a dog that's happy to see you come home. (Q1)

Sitting/lying together - I prefer this to be initiated by the dog (Q2)

Within this, participants often articulated how their companion dog should display some intuition. That is, that the dog should have some sense of understanding around their guardian's emotional state, and the ability to respond to these accordingly;

Can pick your energy so comes for cuddles when you've had a bad day. (Q1)

Affectionate - dogs seem to have a brilliant sense of understanding when a person is upset and providing comfort, which is why they make fantastic counselling pets. As a rather emotional person, I think having an affectionate dog would be very grounding and helpful. (Q2)

However, such attentiveness and connection should be adaptive. Across the data, the notion of separation anxiety and distress was deemed inappropriate;

Independent enough to be left at home alone with no issues, but still likes to cuddle up on the sofa. (Q1)

Subsequently, while companion dogs should display a wish to have a connection with their guardian, the ability to be contented whilst alone was considered a key expectation for a secure guardian-dog relationship.

Shared Interests

Participant lifestyles, and the ability for their companion dogs to adapt to these, were also highlighted as important;

enjoy spending time with me doing whatever we want together (holidays in the caravan at the seaside, partaking in dog sports including Flyball, agility, obedience & the like). (Q1)

A dog that can accompany me on camping trips, hikes, pubs and restaurants and would be happy in these situations. (Q1)

I want to be able to take my dog on long walks and little adventures. (Q1)

Calm and not phased by being taken to pubs, cafes, other people's houses, big days out, and going out and about in London. Also calm and not phased by going on trips away to the countryside (or wherever). (Q1)

This included not only the ability for dogs to enjoy the same activities as their guardians, but also to be able to provide or be actively involved in daily tasks in order to support them in one way or another.

For example, below illustrates how dogs could be seen as offering tangible support for assisting with medical care, as well as supporting the personal needs of guardians;

Calm when walking. I am a wheelchair user and hope to train my 2 year old newfoundland as an assistance dog. (Q2)

Do what's asked of the, come help with livestock ect (Q2)

Protective of persons and property. (Q1)

Subsequently, such activities and the bond developed from these, were seen as providing guardians with a sense of 'purpose' and responsibility, akin to the relationship between parent and child,-

I love having a dog for the companionship and purpose she gives to my life. Although she is far too old now (15), long walks and play sessions were a part of almost every day. People often speak of the unconditional love a dog offers, and I believe that is an important factor both for children and adults. We all need someone who thinks we hung the moon. (Q1)

Activities would include, companionship, cuddle on sofa/sleep, walking, exploring together; play games, dog sports like agility, scent work, training including tricks as well as behaviour.

The bond between human and dog is important, the care, attention and work each needs, its reciprocal. In many ways like human and infant. (Q2)

Captured within this theme, was a sense of inter-specific cooperation between dog and guardian, not only in terms of adapting to lifestyle choices and behaviour, but also in assisting in tasks where necessary. While such cooperation was based on guardian leadership, 'reciprocity' was viewed as central to the bond between guardian and canine.

Commitment

Finally, there was a shared pattern around the role of the guardian in terms of their commitment to their companion dog. In terms of undesirable behaviours, a sense of responsibility was encapsulated within this theme, in highlighting the extremes that guardians should go to in supporting their dog. Below, a participant details the lengths they would go to support their dog due to their 'responsibility';

As the owner of a pet dog it is my responsibility to train the dog & provide it with the care it needs to live a happy & fulfilled life. All inappropriate behaviours can be worked on & modified, if not eradicated completely, with the correct training. If the inappropriate behaviours are insurmountable then I would ensure that I take appropriate precautions so that the dog can still enjoy life. Eg. Wearing a muzzle when out walking if the dog is prone to attack others or eat anything that it comes across on a walking. Or keeping it away from other dogs if it finds it too stressful to be around them. (Q4)

Only if such behaviours posed a risk to family or society, would breaking such commitment be viewed as acceptable. A clear pattern arose, demonstrating how aggression and dangerous behaviour that was not responsive to training or other intervention would render the guardian responsible for keeping others safe;

Behavior involved aggression/biting, and all else had failed I would consider humane euthanasia (Q3)

If the dog was aggressive then it would be a dangerous in the home and outdoors (Q4)

However, for many, even at the point of heightened risk, the responsibility of a guardian to their companion dog was considered permanent. This is illustrated by one participant in their response to a question asking them at which point they would consider rehoming their dog;

It wouldn't be fair on him, I'd work with him until we found his triggers and could live a life avoiding them. (Q4)

I think if I felt I'd exhausted all the other options (e.g. behaviourists, trainers) or simply couldn't afford to keep doing it, as I know it's quite expensive and it was causing genuine misery for either me, the dog or both of us. (Q4)

Furthermore, the needs of the companion dog were viewed as a key priority in determining this commitment. While commitment itself was held as a high standard, it was the ability of the guardian to meet the needs of their companion dog that determined how responsibility was conceptualized. For example, should a guardian become incapable of meeting the needs of their dog (for whatever reason), then the responsibility was on them to ensure they sought professional support or rehoming solutions to ensure the needs of their dog would be met;

If the level of life quality was so low that the dog is shut down...I would consider (rehoming). (Q4)

Subsequently, this theme highlighted the complexity of what was deemed 'responsibility' in the human-canine dyad. More than simply addressing the needs of their dogs, guardians highlighted the importance of assessing responsibility on a number of levels, including their own needs and safety of others.

Discussion

Following analysis, five themes were developed across the data corpus, in addressing the question; What are human's expectations of dog behaviour and companionship? Themes were entitled, A wellbalanced dog, Obedient, Affection and Connection, Shared Interests, and Commitment. Similar to existing understanding of canine behaviour, these themes demonstrated the nuanced, multi-faceted ways in which the - behavioural characteristics of dogs are conceptualized and assessed.

Similar to previous literature (see Holland, 2019), dogs were expected to be well-balanced, happy, independent and confident. Further to this, dogs were expected to be resilient and adaptable. In order to have such a disposition, participants often stressed the need for dogs to be absent of anxiety and/or fear, which are commonly cited reasons for canine relinquishment (Normando et al.,

2006; Sietou et al., 2014). Thus, affective disposition and emotional connectedness were further constructs considered important in dog behaviour. Furthermore, as outlined within the Frequencies of self-reported preferences for desirable canine behaviours (see Table 2), a clear emphasis was given to the skills required from companion dogs (Holland, 2019; Salman et al., 2000a; Wells & Hepper, 2000a), including recall, loose lead walking, the ability to learn tricks, as well as be calm when required. Conversely, behaviours such as pulling on the lead, excessive barking, destructiveness, lack of recall, and humping, among others, were considered undesirable in a companion dog (see Table 3). While such skills are perfectly rational when considering the need for dogs to adapt to modern human society (Stephens-Lewis et al., 2022), they are often contradictory to the genetic predispositions and needs of many canine companions (Coppinger & Coppinger, 2001). For example, many of the desirable behaviours (e.g., loose lead walking, focus on handler, recall, calmness) indicated by participants directly contradict natural canine behaviour. With the natural canine behaviours (e.g., seeking behaviour, chase drive, exploration) being perceived as undesirable in terms of human expectations. Furthermore, while obedience was a consistent expectation, tension arose between a desire for dogs to be obedient, while also having personality. Specifically, obedience was sometimes viewed as diminishing a dog's true character, with guardians wishing to see some 'cheeky' behaviour. This raises questions around the basis for viewing good behaviour and personality in opposition with one another. One potential explanation could stem from the historical use of aversive training processes in demonstrating high levels of obedience in dogs, resulting in a vast array of welfare concerns, including low affect; sometimes manifesting as a 'shut down' disposition (Casey et al., 2021; Castro et al., 2020). Despite growing evidence on the benefits (Rault et al., 2020; Rooney & Cowan, 2011) of positive reinforcement training techniques (both in terms of behaviour, and overall emotional welfare), outdated methods continue to dominate popular culture. This may help explain the view of obedience and personality as interconnected, highlighting potential difficulties resulting from inconsistent human expectations. Overall, while emphasis on trainability and human-centric skills can exacerbate human perceptions of misbehaviour, contradictory expectations around obedience can lead to inconsistencies in guardian responses, increasing canine frustration and potential management challenges. Both these issues have been cited as key reasons for relinquishment (Mondelli et al., 2004).

Such complex expectations are unsurprising given the nuanced way dog behaviour is conceptualized within the scientific, professional and lay communities. From observing behavioural cues and patterns, to assessing character, temperament, or personality, there is huge variance in how canine behaviour is defined and assessed (Miklosi, 2014). As such, an array of approaches currently exist in assessing dog behaviour (Brady et al., 2018). This includes experimental behavioural tests whereby a dog is observed across an array of contexts (i.e., recording specific postures or behaviours), as well as guardian-completed instruments. However, consensus across what facet of behaviour is captured across these assessments is lacking, with domains (i.e., temperament, biological traits, character, personality, objective behaviours) often considered interchangeably. This is problematic due to a reliance on the interpretation of observed behaviours and, therefore, on the ability of guardians and/or canine professionals to understand and accurately interpret canine behaviour. However despite reporting high understanding around canine behaviour (Tami & Gallagher, 2009), the actual ability of guardians and canine professionals in identifying canine behaviour is typically poor (Kerswell et al., 2013). This is unsurprising if standardized

instruments themselves 'muddy' the reporting by interchangeably asking for literal behaviours and interpretation as to the emotions, temperaments and personalities underpinning these behaviours.

This interchangeability between literal behaviours and their interpretations is evident within the current research. While specifically asked about dog behaviours, participants often, instead, reported temperaments or emotions (e.g., anxiety or fear) rather than literal behaviours (e.g., trembling or cowering). This highlights a need to clarify understanding around how to accurately interpret canine behaviour, including how this informs the expectations that humans have around which canine behaviours they perceive as (in)appropriate. Such insight is particularly important given the evidence of human misunderstanding and misinterpretation of dog behaviour, (especially around what is 'normal' canine behaviour that perhaps is just not appreciated within modern society; (StephensLewis et al., 2022)). Such misinterpretation further exacerbates the risk for relinquishment due to a disparity between the behavioural displays of canine companions and the expectations of their guardians in terms of appropriate behaviour (Powell et al., 2018). Thus, a clearer distinction between different dog behaviours and the emotions/temperament/personality traits that could be interpreted from them is essential. Such a distinction can only be achieved through clearer conceptualizations and use of language when discussing literal dog behaviour, as opposed to emotions, temperament and personality traits. Without such distinctions and clearer language around canine behaviour, it will continue to be difficult to determine the key behaviour profiles guardians truly expect from their companion dogs. As such, increasing understanding and comprehension around canine behavioural cues and descriptors could demonstrate considerable benefits for the welfare and wellbeing of both dogs and humans.

Companionship has been consistently reported as a key expectation and benefit of the human-canine bond (Endenburg et al., 1994; Jagoe & Serpell, 1996). Our findings in the current research echoes such a conception, with many participants revealing expectations of love, loyalty and protection from their companion dog, in addition to acceptance and trust. This was often associated with behavioural displays such as choosing to lay close with their guardian or wishing to 'cuddle', behaviours previously noted as important when deciding to adopt (Holland, 2019), as well as being central to companionship (Brown, 2007). Furthermore, a companion dog was expected to demonstrate an ability to assess, acknowledge and respond to their guardians' emotional states, providing support and affection when needed. While research has undoubtedly demonstrated the uncanny ability of dogs in reading and responding to human cues and behaviour (Gagnon et al., 2016; Soproni et al., 2002), our analysis revealed how such a response to communicative signals were viewed as indicative of a dog's ability to connect with their guardian on an emotional level. Again, such expectations may work to uphold unrealistic ideals, as while guardians have reported such empathetic-like responsiveness from pets (Vitulli, 2006), confirmation of such an ability remains inconclusive (Silva & de Sousa, 2011). Albeit unsurprising given the consistent research on the benefits and perceived benefits of canine companionship on psychological as well as physical health, the present research highlights the importance of such companionship not just in terms of the health benefits, but the general sense of acceptance and support derived from the human-canine bond (Brown, 2007) .

Such findings demonstrate parallels in terms of the typologies of support associated with human social relationships (Cohen, 2004). Specifically, between humans, support can be emotional (i.e., including shared empathy, care and trust), informational (i.e., providing provision of some sort in

support of coping with adverse situations), or instrumental (i.e., providing support such as financial or helping with daily tasks (Cohen, 2004). It has previously been posited that companion animals can only feasibly offer emotional support (Siegel, 2011). However, our findings highlight that expectations from guardians can include both emotional and instrumental support, particularly in relation to supporting them with daily tasks. Thus, companionship in the form of bonding and attachment is only one part of the expectation from guardians. Much like the dynamics found in significant human relationships, there is also an expectation of some level of support being offered by canine companions. Such findings support early theorization of animals being able to directly feed into a human's sense of self and overall wellbeing.

Finally, multiple responsibilities were considered a key expectation of the commitment required from a guardian. However, such commitment was nuanced. Similar to previous research, guardians were expected to show unwavering responsibility in accessing resources for ensuring the safety of their dog and those around them (Westgarth et al., 2019), even if that meant changing their own lives to accommodate their needs. However, responsibility was also conceptualized as making and responding to judgements of risk posed by their dog, and their own capability for meeting their needs. That is, demonstrating responsibility in seeking humane euthanasia or rehoming opportunities should the need arise (Buller & Ballantyne, 2020).

The current research was intended to be a preliminary exploration into the human expectations within—the general population for dog behaviour. As such, the aim was to gain a range of perspectives, inviting current and past dog guardians as well as canine professionals to participate from around the world. While the nature of this research was not to compare across different groups (guardian, professional etc.), further research assessing examining possible differences in expectations based on an array of personal factors may prove useful. Additionally, although this research does provide initial insight into the important area of human expectations, it fails to consider the interplay of such expectations in line with cultural, social, environmental aspects. Future research would be best placed in assessing these and examining how such factors may impact upon the expectations of guardians.

Implications

Two key recommendations are proposed from this research. First, there is a need for more clarity when conceptualising and discussing canine behaviour. In particular, there is a need to separate literal canine behaviours from interpretative assumptions of perceived emotions, temperament, character or the personality of a dog. Specifically, existing behavioural measures should be reviewed to ensure these distinctions are made. Where there is 'blurring' between literal behaviours and aspects requiring human interpretations, these should, at the very least, be differentiated clearly, and subsequently scored separately rather than considered within a single overall score. This distinction around canine behaviour also needs to inform education initiatives targeting current or prospective guardians as well as canine professionals. As previously highlighted, whilst many believe they have a good understanding around dog behaviour, research suggests that this is often not the case, even amongst canine professionals (Kerswell et al., 2013).

The second recommendation is for research to more comprehensively consider human expectations in terms of understanding canine behaviour. Here, it is important for further research to build on the

three elements informing the Perceived Canine Reactivity Framework (Stephens-Lewis et al., 2022). Such research needs to account for the multi-faceted interpretations of canine behaviour, including consideration of the interplay between canine characteristics, human expectations and human capabilities. Such an understanding would directly inform human-canine matching procedures as well as rehoming aftercare and behavioural counselling. Specifically, more nuanced insight into the interplay between canine characteristics, human expectations and human capabilities, would enable the development of more tailored procedures, aimed at increasing understanding and capability whilst supporting the formation and maintenance of the human-canine bond.

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Declaration of Interest

None to declare

References

- Amiot, C., Bastian, B., & Martens, P. (2016). People and Companion Animals: It Takes Two to Tango. *BioScience*, 66(7), 552–560. <https://doi.org/10.1093/biosci/biw051>
- Blackwell, E. J., Twells, C., Seawright, A., & Casey, R. A. (2008). The relationship between training methods and the occurrence of behavior problems, as reported by owners, in a population of domestic dogs. *Journal of Veterinary Behavior*, 3(5), 207–217. <https://doi.org/10.1016/j.jveb.2007.10.008>
- Brady, K., Cracknell, N., Zulch, H., & Mills, D. S. (2018). A Systematic Review of the Reliability and Validity of Behavioural Tests Used to Assess Behavioural Characteristics Important in Working Dogs. *FRONTIERS IN VETERINARY SCIENCE*, 5. <https://doi.org/10.3389/fvets.2018.00103>
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Brown, S.-E. (2007). Companion Animals as Selfobjects. *Anthrozoös*, 20(4), 329–343. <https://doi.org/10.2752/089279307X245654>
- Buller, K., & Ballantyne, K. C. (2020). Living with and loving a pet with behavioral problems: Pet owners' experiences. *Journal of Veterinary Behavior*, 37, 41–47. <https://doi.org/10.1016/j.jveb.2020.04.003>
- Carr, D., Friedmann, E., Gee, N. R., Gilchrist, C., Sachs-Ericsson, N., & Koodaly, L. (2021). Dog Walking and the Social Impact of the COVID-19 Pandemic on Loneliness in Older Adults. *Animals*, 11(7), Article 7. <https://doi.org/10.3390/ani11071852>
- Casey, R. A., Naj-Oleari, M., Campbell, S., Mendl, M., & Blackwell, E. J. (2021). Dogs are more pessimistic if their owners use two or more aversive training methods. *Scientific Reports*, 11(1), Article 1. <https://doi.org/10.1038/s41598-021-97743-0>
- Castro, A. C. V. de, Fuchs, D., Morello, G. M., Pastur, S., Sousa, L. de, & Olsson, I. A. S. (2020). Does training method matter? Evidence for the negative impact of aversive-based methods on companion dog welfare. *PLOS ONE*, 15(12), e0225023. <https://doi.org/10.1371/journal.pone.0225023>
- Christian, H., Bauman, A., Epping, J. N., Levine, G. N., McCormack, G., Rhodes, R. E., Richards, E., Rock, M., & Westgarth, C. (2018). Encouraging Dog Walking for Health Promotion and Disease Prevention. *American Journal of Lifestyle Medicine*, 12(3), 233–243. <https://doi.org/10.1177/1559827616643686>

- Christley, R. M., Murray, J. K., Anderson, K. L., Buckland, E. L., Casey, R. A., Harvey, N. D., Harris, L., Holland, K. E., McMillan, K. M., Mead, R., Owczarczak-Garstecka, S. C., & Upjohn, M. M. (2020). Impact of the First COVID-19 Lockdown on Management of Pet Dogs in the UK. *Animals*, *11*(1), 5. <https://doi.org/10.3390/ani11010005>
- Chua, D., Rand, J., & Morton, J. (2017). Surrendered and Stray Dogs in Australia—Estimation of Numbers Entering Municipal Pounds, Shelters and Rescue Groups and Their Outcomes. *Animals*, *7*(7), Article 7. <https://doi.org/10.3390/ani7070050>
- Clark, C. C. A., Gruffydd-Jones, T., & Murray, J. K. (2012). Number of cats and dogs in UK welfare organisations. *VETERINARY RECORD*, *170*(19), 493–+. <https://doi.org/10.1136/vr.100524>
- Cohen, S. (2004). Social relationships and health. *The American Psychologist*, *59*(8), 676–684. <https://doi.org/10.1037/0003-066X.59.8.676>
- Coppinger, R., & Coppinger, L. (2001). *Dogs: A Startling New Understanding of Canine Origin, Behavior & Evolution*. Simon and Schuster.
- Coppola, C. L., Grandin, T., & Enns, R. M. (2006). Human interaction and cortisol: Can human contact reduce stress for shelter dogs? *Physiology & Behavior*, *87*(3), 537–541. <https://doi.org/10.1016/j.physbeh.2005.12.001>
- Diesel, G., Brodbelt, D., & Pfeiffer, D. U. (2010). Characteristics of Relinquished Dogs and Their Owners at 14 Rehoming Centers in the United Kingdom. *Journal of Applied Animal Welfare Science*, *13*(1), 15–30. <https://doi.org/10.1080/10888700903369255>
- Diesel, G., Pfeiffer, D. U., & Brodbelt, D. (2008). Factors affecting the success of rehoming dogs in the UK during 2005. *Preventive Veterinary Medicine*, *84*(3–4), 228–241. <https://doi.org/10.1016/j.prevetmed.2007.12.004>
- Dog ownership in the UK 2022*. (n.d.). Statista. Retrieved 20 January 2023, from <https://www.statista.com/statistics/515333/dogs-ownership-in-the-united-kingdom-uk/>
- Endenburg, N., Hart, H. 't, & Bouw, J. (1994). Motives for acquiring companion animals. *Journal of Economic Psychology*, *15*(1), 191–206. [https://doi.org/10.1016/0167-4870\(94\)90037-X](https://doi.org/10.1016/0167-4870(94)90037-X)
- Friend, J., & Bench, C. (2020). Evaluating factors influencing dog post-adoptive return in a Canadian animal shelter. *Animal Welfare*, *29*(4), 399–410. <https://doi.org/10.7120/09627286.29.4.399>
- Gagnon, D., Gibson, T. W. G., Singh, A., Linden, A. R. zur, Kazienko, J. E., & LaMarre, J. (2016). An in vitro method to test the safety and efficacy of low-level laser therapy (LLLT) in the healing of a canine skin model. *BMC VETERINARY RESEARCH*, *12*. <https://doi.org/10.1186/s12917-0160689-5>

- Hargrave, C. (2020). COVID-19: Implications of self-isolation and social distancing for the emotional and behavioural health of dogs. *Companion Animal*, 25(4), 1–8. <https://doi.org/10.12968/coan.2020.0032>
- Holland, K. E. (2019). Acquiring a Pet Dog: A Review of Factors Affecting the Decision-Making of Prospective Dog Owners. *Animals*, 9(4), 124. <https://doi.org/10.3390/ani9040124>
- Holland, K. E., Owczarczak-Garstecka, S. C., Anderson, K. L., Casey, R. A., Christley, R. M., Harris, L., McMillan, K. M., Mead, R., Murray, J. K., Samet, L., & Upjohn, M. M. (2021). “More Attention than Usual”: A Thematic Analysis of Dog Ownership Experiences in the UK during the First COVID-19 Lockdown. *Animals*, 11(1), Article 1. <https://doi.org/10.3390/ani11010240>
- Hughes, M. J., Verreyne, M.-L., Harpur, P., & Pachana, N. A. (2020). Companion Animals and Health in Older Populations: A Systematic Review. *Clinical Gerontologist*, 43(4), 365–377. <https://doi.org/10.1080/07317115.2019.1650863>
- Jagoe, A., & Serpell, J. (1996). Owner characteristics and interactions and the prevalence of canine behaviour problems. *Applied Animal Behaviour Science*, 47(1), 31–42. [https://doi.org/10.1016/0168-1591\(95\)01008-4](https://doi.org/10.1016/0168-1591(95)01008-4)
- Kerswell, K. J., Bennett, P., Butler, K. L., & Hemsworth, P. H. (2013). Self-Reported Comprehension Ratings of Dog Behavior by Owners of Adult Dogs. *Anthrozoös*, 26(1), 5–11. <https://doi.org/10.2752/175303713X13534238631317>
- Knight, S., & Edwards, V. (2008). In the Company of Wolves: The Physical, Social, and Psychological Benefits of Dog Ownership. *Journal of Aging and Health*, 20(4), 437–455. <https://doi.org/10.1177/0898264308315875>
- Kwan, J. Y., & Bain, M. J. (2013). Owner Attachment and Problem Behaviors Related to Relinquishment and Training Techniques of Dogs. *Journal of Applied Animal Welfare Science*, 16(2), 168–183. <https://doi.org/10.1080/10888705.2013.768923>
- Lambert, K., Coe, J., Niel, L., Dewey, C., & Sargeant, J. M. (2015). A systematic review and meta-analysis of the proportion of dogs surrendered for dog-related and owner-related reasons. *Preventive Veterinary Medicine*, 118(1), 148–160. <https://doi.org/10.1016/j.prevetmed.2014.11.002>
- Liu, S., Powell, L., Chia, D., Russ, T., McGreevy, P., Bauman, A., Edwards, K., & Stamatakis, E. (2019). Is Dog Ownership Associated with Mental Health? A Population Study of 68,362 Adults Living in England. *Anthrozoös*, 32, 729–739. <https://doi.org/10.1080/08927936.2019.1673033>
- Martos-Montes, R., Ordóñez-Pérez, D., Ruiz-Maatallah, J., & Martínez-Cobos, M. (2020).

Psychophysiological effects of human-dog interaction in university students exposed to a stress-induced situation using the Trier Social Stress Test (TSST). *Human-Animal Interaction Bulletin*, 8(2), 93–107.

<https://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2021-45496-001&site=ehost-live&scope=site>

Miklosi, A. (2014). *Dog Behaviour, Evolution, and Cognition*. OUP Oxford.

Mondelli, F., Prato Previde, E., Verga, M., Levi, D., Magistrelli, S., & Valsecchi, P. (2004). The Bond That Never Developed: Adoption and Relinquishment of Dogs in a Rescue Shelter. *Journal of Applied Animal Welfare Science*, 7(4), 253–266. https://doi.org/10.1207/s15327604jaws0704_3

Morales-Jinez, A., López-Rincón, F. J., Ugarte-Esquivel, A., Andrade-Valles, I., Rodríguez-Mejía, L. E., & Hernández-Torres, J. L. (2018). Allostatic load and canine companionship: A comparative study using biomarkers in older adults. *Revista Latino-Americana de Enfermagem (RLAE)*, 26, 1–7. <https://doi.org/10.1590/1518-8345.2755.3071>

New, J. C., Salman, M. D., King, M., Scarlett, J. M., Kass, P. H., & Hutchison, J. M. (2000).

Characteristics of Shelter-Relinquished Animals and Their Owners Compared With Animals and Their Owners in U.S. Pet-Ownning Households. *Journal of Applied Animal Welfare Science*, 3(3), 179–201. https://doi.org/10.1207/S15327604JAWS0303_1

Normando, S., Stefanini, C., Meers, L., Adamelli, S., Coultis, D., & Bono, G. (2006). Some factors influencing adoption of sheltered dogs. *Anthrozoös*, 19(3), 211–224. <https://doi.org/10.2752/089279306785415556>

Odendaal, J., & Lehmann, S. (2000). The role of phenylethylamine during positive human-dog interaction. *ACTA VETERINARIA BRNO*, 69(3), 183–188. <https://doi.org/10.2754/avb200069030183>

Oliva, J. L., & Johnston, K. L. (2021). Puppy love in the time of Corona: Dog ownership protects against loneliness for those living alone during the COVID-19 lockdown. *International Journal of Social Psychiatry*, 67(3), 232–242. <https://doi.org/10.1177/0020764020944195>

Olsen, M. R. (2018). A case for methodological overhaul and increased study of executive function in the domestic dog (*Canis lupus familiaris*). *Animal Cognition*, 21(2), 175–195. <https://doi.org/10.1007/s10071-018-1162-6>

Peel, E., Douglas, M., Parry, O., & Lawton, J. (2010). Type 2 diabetes and dog walking: Patients' longitudinal perspectives about implementing and sustaining physical activity. *British Journal of General Practice*, 60(577), 570–577. <https://doi.org/10.3399/bjgp10X515061>

Powell, L., Chia, D., McGreevy, P., Podberscek, A. L., Edwards, K. M., Neilly, B., Guastella, A. J., Lee,

- V., & Stamatakis, E. (2018). Expectations for dog ownership: Perceived physical, mental and psychosocial health consequences among prospective adopters. *PLoS ONE*, *13*(7).
<https://doi.org/10.1371/journal.pone.0200276>
- Rault, J.-L., Waiblinger, S., Boivin, X., & Hemsworth, P. (2020). The Power of a Positive Human–Animal Relationship for Animal Welfare. *Frontiers in Veterinary Science*, *7*.
<https://www.frontiersin.org/article/10.3389/fvets.2020.590867>
- Rooney, N. J., & Cowan, S. (2011). Training methods and owner-dog interactions: Links with dog behaviour and learning ability. *Applied Animal Behaviour Science*, *132*(3), 169–177.
<https://doi.org/10.1016/j.applanim.2011.03.007>
- Salman, M. D., Hutchison, J., Ruch-Gallie, R., Kogan, L., New, J. C. Jr., Kass, P. H., & Scarlett, J. M. (2000a). Behavioral reasons for relinquishment of dogs and cats to 12 shelters. *Journal of Applied Animal Welfare Science*, *3*(2), 93–106.
https://doi.org/10.1207/S15327604JAWS0302_2
- Salman, M. D., Hutchison, J., Ruch-Gallie, R., Kogan, L., New, J. C., Kass, P. H., & Scarlett, J. M. (2000b). Behavioral Reasons for Relinquishment of Dogs and Cats to 12 Shelters. *Journal of Applied Animal Welfare Science*, *3*(2), 93–106.
https://doi.org/10.1207/S15327604JAWS0302_2
- Schöberl, I., Wedl, M., Bauer, B., Day, J., Möstl, E., & Kotrschal, K. (2012). Effects of Owner–Dog Relationship and Owner Personality on Cortisol Modulation in Human–Dog Dyads. *Anthrozoös*, *25*(2), 199–214. <https://doi.org/10.2752/175303712X13316289505422>
- Shore, E. R. (2005). Returning a Recently Adopted Companion Animal: Adopters’ Reasons for and Reactions to the Failed Adoption Experience. *Journal of Applied Animal Welfare Science*, *8*(3), 187–198. https://doi.org/10.1207/s15327604jaws0803_3
- Siegel, J. M. (2011). Pet Ownership and Health. In C. Blazina, G. Boyraz, & D. Shen-Miller (Eds.), *The Psychology of the Human-Animal Bond: A Resource for Clinicians and Researchers* (pp. 167–177). Springer. https://doi.org/10.1007/978-1-4419-9761-6_10
- Sietto, C., Fraser, I. M., & Fraser, R. W. (2014). Investigating Some of the Factors That Influence “Consumer” Choice When Adopting a Shelter Dog in the United Kingdom. *Journal of Applied Animal Welfare Science*, *17*(2), 136–147.
<https://doi.org/10.1080/10888705.2014.883924>
- Silva, K., & de Sousa, L. (2011). ‘Canis empathicus’? A proposal on dogs’ capacity to empathize with humans. *Biology Letters*, *7*(4), 489–492. <https://doi.org/10.1098/rsbl.2011.0083>
- Soproni, K., Miklosi, A., Topál, J., & Csányi, V. (2002). Dogs’ (Canis familiaris) Responsiveness to Human Pointing Gestures. *Journal of Comparative Psychology (Washington, D.C. : 1983)*,

116, 27–34. <https://doi.org/10.1037/0735-7036.116.1.27>

- Stephens-Lewis, D., Johnson, A., Turley, N., Naydorf-Hannis, R., Scurlock-Evans, L., & Schenke, K. C. (2022). *Understanding Canine 'Reactivity': Species-Specific Behaviour or Human Inconvenience?* PsyArXiv. <https://doi.org/10.31234/osf.io/g24dm>
- Tami, G., & Gallagher, A. (2009). Description of the behaviour of domestic dog (*Canis familiaris*) by experienced and inexperienced people. *Applied Animal Behaviour Science*, *120*(3), 159–169. <https://doi.org/10.1016/j.applanim.2009.06.009>
- Topál, J., Gácsi, M., Miklósi, Á., Virányi, Z., Kubinyi, E., & Csányi, V. (2005). Attachment to humans: A comparative study on hand-reared wolves and differently socialized dog puppies. *Animal Behaviour*, *70*(6), 1367–1375. <https://doi.org/10.1016/j.anbehav.2005.03.025>
- Tran, V.-T., Porcher, R., Falissard, B., & Ravaud, P. (2016). Point of data saturation was assessed using resampling methods in a survey with open-ended questions. *Journal of Clinical Epidemiology*, *80*, 88–96. <https://doi.org/10.1016/j.jclinepi.2016.07.014>
- Vaterlaws-Whiteside, H., & Hartmann, A. (2017). Improving puppy behavior using a new standardized socialization program. *Applied Animal Behaviour Science*, *197*, 55–61. <https://doi.org/10.1016/j.applanim.2017.08.003>
- Vitulli, W. F. (2006). Attitudes toward Empathy in Domestic Dogs and Cats. *Psychological Reports*, *99*(3), 981–991. <https://doi.org/10.2466/PRO.99.3.981-991>
- Wells, D. L., & Hepper, P. G. (2000a). Prevalence of behaviour problems reported by owners of dogs purchased from an animal rescue shelter. *Applied Animal Behaviour Science*, *69*(1), 55–65. [https://doi.org/10.1016/S0168-1591\(00\)00118-0](https://doi.org/10.1016/S0168-1591(00)00118-0)
- Wells, D. L., & Hepper, P. G. (2000b). Prevalence of behaviour problems reported by owners of dogs purchased from an animal rescue shelter. *Applied Animal Behaviour Science*, *69*(1), 55–65. [https://doi.org/10.1016/S0168-1591\(00\)00118-0](https://doi.org/10.1016/S0168-1591(00)00118-0)
- Westgarth, C., Christley, R. M., Marvin, G., & Perkins, E. (2017). I Walk My Dog Because It Makes Me Happy: A Qualitative Study to Understand Why Dogs Motivate Walking and Improved Health. *International Journal of Environmental Research and Public Health*, *14*(8), 936. <https://doi.org/10.3390/ijerph14080936>
- Westgarth, C., Christley, R. M., Marvin, G., & Perkins, E. (2019). The Responsible Dog Owner: The Construction of Responsibility. *Anthrozoös*, *32*(5), 631–646. <https://doi.org/10.1080/08927936.2019.1645506>
- Wiltshire, G., & Ronkainen, N. (2021). A realist approach to thematic analysis: Making sense of qualitative data through experiential, inferential and dispositional themes. *Journal of Critical Realism*, *20*(2), 159–180.

Wong, G., Greenhalgh, T., Westhorp, G., Buckingham, J., & Pawson, R. (2013). RAMESES publication standards: Realist syntheses. *BMC Medicine*, 11(1), 21. <https://doi.org/10.1186/1741-701511-21>

Table 1. The survey questions around participant expectations of dog behaviour

Q1	Describe the characteristics of your perfect dog. (Please include the kind of behaviours you would like to see from them, activities you would like to with them and anything else you think is important).
Q2	What specific behaviours would you perceive as being appropriate or desirable from your dog? (Please be as detailed as you can and explain why you think this behaviour or behaviours are appropriate. You can use examples to illustrate your points if needed).
Q3	What behaviours would you perceive as being unwanted or inappropriate from your dog? (Please be as detailed as you can and explain why you think this behaviour or behaviours are inappropriate. You can use examples to illustrate your points if needed).
Q4	At what point would you surrender or relinquish guardianship/ownership of a dog?
Q5	Please list the five behaviours you would consider desirable in a companion dog.
Q6	Please list the five behaviours you would consider undesirable in a companion dog.

Table 2: Frequencies of self-reported preferences for desirable canine behaviours

Behavioural Category	Number of Participants
Sociable with others/ animals/dogs/people/children	164
Obedience/Listens Well/Trainable/Engaged	
Good lead walking, Recalls	
Calm/laid back/easily contented/Quiet	
Confident/Playful/fun/enjoys life	
Attentive/affectionate/cuddly/Loving	
Loyal/Respectful	144
	92
	89
	71
	62
	30
	24
	23
	19
	18
	18
Happy	
Protective when appropriate /Alert/Brave	
Gentle/Patient/Safe	
House trained/Clean	
Impulse control/ignores distractions/Low Prey drive	
Unreactive/Non-aggressive/No-Guarding	16
Trusting/Kind	15
Intelligent/Understanding	14
Healthy attachment/no separation anxiety	
Excited/enthusiastic/ Curious/Inquisitive/Stamina	
Well-mannered/Polite	
Not destructive/No-Chewing	
Good drop/retrieve	
Good temperament	
Fit/healthy	

Independent/has free will	<u>11</u>
	<u>9</u>
	<u>8</u>
	<u>8</u>
	<u>8</u>
	<u>6</u>
	<u>5</u>
	<u>4</u>
	<u>3</u>
	<u>3</u>
	<u>2</u>
	<u>1</u>
	<u>1</u>
	<u>1</u>
	<u>1</u>
Food driven/ Eats well	
Enjoys enrichment/Scent work	
Normal	
Personality	
Sense of humour	
Good traveller	
Doesn't steal food	
Enjoys walking/active /groomer/vet	1

Behaviour Category	Number of Participants
Aggression/Biting/Growling/snapping/Nipping/Lunging	171
Barking/Howling/whining	86
Poor lead skills/No Recall	55
Destructive/Chewing	52
Anxiety/Fear	38
Not house trained	37
Reactive	28
Disobedient	28
Nervous/lacking confidence	26
Jumping up	24

Separation anxiety/Over-attachment	23
Resource guarding	22
Prey drive	15
Hyperactivity or Over-excitement	15

Table 3: Frequencies of self-reported preferences for undesirable canine behaviours

Stealing	15
Poor socialisation	13
Unsociable with people/kids/animals	
Over-protective	
Inappropriate play/Bullying	
Mounting dogs/humping	
Aloof	
Stress	
Greedy/Begging	
Unpredictable	
Excessive grooming	13
	9
	9
	8
	6
	5
	5
	4
	4
	3
	3
	3
	2
	2
	2
	1
Scent marking	
Dominant	
Compulsive/repetitive/obsessive behaviours	
Shutting down	
Lazy	
Ignorance/Rude	
Snatching treats	