



Exploring the Recognition of Dogs as Sentient Beings: Understanding the Evolution of Dog Psychology

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Abstract

Dogs have a profound history of companionship with humans, evolving from utilitarian tools to cherished sentient beings deserving empathy and consideration. This study explores the transformation of society's perception of dogs from historical, scientific, and philosophical viewpoints. **Objectives:** This study sought to achieve three main objectives: 1) explore historical and cultural perspectives on dog sentience, 2) analyse scientific evidence supporting the concept of dog sentience, and 3) investigate philosophical arguments concerning the moral worth of dogs. **Methods:** A systematic review methodology was employed, involving rigorous steps, such as database selection, search queries, criteria for inclusion/exclusion, screening, data extraction, synthesis, quality assessment, and reporting. Ethical approval was not deemed necessary because the study analysed publicly available literature. **Results:** 1) **Historical and Cultural Perspectives:** The paper examines how ancient civilisations revered dogs as symbols of loyalty, protection, and companionship. It also explores how Eastern and Western cultures have recognised and valued dogs throughout history, emphasising their deep-rooted connections to human societies. 2) **Scientific Evidence:** Scientific research highlights dogs' impressive cognitive abilities, emotional intelligence, and critical thinking skills. Neuroscientific studies have revealed the neural correlates of dog emotions, social cognition, and communication, thus providing evidence for their complex inner lives. 3) **Philosophical Perspectives:** Philosophical arguments on animal ethics and the moral status of dogs challenge the traditional views of animals as property. They advocate for the moral consideration, rights, and protection of dogs based on their consciousness, emotions, and social interactions. **Conclusion:** The recognition of dogs as sentient beings evolved through the interplay of historical, cultural, and societal influences. Understanding these multifaceted perspectives enriches our appreciation of the

human-dog bond and underscores their responsibility to ensure their well-being and ethical treatment. This study contributes to a growing body of knowledge advocating the recognition and protection of dogs as valued members of our shared existence.

Subject Areas

Animal Behaviour, Neuroscience, Veterinary Medicine

Keywords

Dogs, Sentience, Companionship, Emotional Depth, Recognition

1. Introduction

Dogs as Companions and Shifting People's Perspectives

Dogs have an extensive history of coexistence with humans and serve as companions, working partners, and loyal family members. Over time, dogs have played multifaceted roles in human society, ranging from practical purposes to being considered valuable sentient beings. The evolving perception of dogs has shifted from mere utility tools to cherished companions, with their human counterparts expressing love, care, and acknowledgement.

Humans have formed strong bonds with dogs for centuries, relishing unwavering loyalty, companionship, and unconditional love. Dogs consistently demonstrate a remarkable ability to forge deep emotional connections and provide empathy, solace, and a sense of security. Furthermore, their therapeutic qualities have been harnessed to enhance human well-being, particularly in therapy sessions, hospitals, and rehabilitation centres.

However, the recognition of dogs as sentient is sometimes universal. Historically, the human-dog relationship has focused primarily on the practical advantages dogs offer, such as hunting assistance, herding livestock, or guarding property. This perspective views dogs as utility objects without fully acknowledging their emotional and cognitive capabilities.

Over time, a profound shift in perspective has occurred as human society has progressed. Growing appreciation has marked this transformation in dogs' emotional depth and complex social behaviours. The rise of the Romantic era, accompanied by increased humanitarian sensibilities, played a significant role in this change in thinking. During this period, the capacity for compassion towards animals, including dogs, became a subject of contemplation, leading to re-evaluating our relationship with them.

Consequently, a shift in the recognition of dog sentience occurred, recognising dogs' inherent worth and emotional lives beyond their functional value. This change in mindset transformed how we perceived, understood, and interacted with our canine companions. Dogs ceased to be mere objects, transitioning into

valued members of our families with a human emphasis on the deserving of care, empathy, and consideration (Miklosi, 2014) [1].

The contemporary recognition of dogs as sentient beings has gained momentum. Scientific research, cultural beliefs, and philosophical arguments have contributed to a deeper understanding of dog psychology, emotions, and cognitive abilities. These advances have further solidified the position of dogs as sentient beings that deserve respect, ethical treatment, and protection.

This article delves into the multifaceted journey of dogs as companions and explores shifting perspectives that have reshaped our understanding of their sentience. By examining historical and cultural perspectives, scientific evidence, and philosophical debates, we strive to gain insight into the remarkable evolution of dog psychology and increasingly recognise its significance in their emotional lives and cognitive capacities. Through this exploration, we can foster a deeper appreciation of humans' unique bonds with dogs and ensure their continued well-being.

2. Objectives

The objectives of this study are threefold. First, it explored the historical and cultural perspectives that have influenced the recognition of dog sentience. By examining how different societies and civilisations have viewed and valued dogs throughout history, we can gain insight into the evolution of our perceptions of their emotional lives and cognitive abilities.

Second, this article examines the scientific evidence supporting that dogs are sentient. We will analyse studies and experiments to explore dogs' emotional and cognitive abilities, highlighting their empathy, problem-solving, communication, and social bonding capacity. By drawing on neuroscientific findings, behavioural studies, and comparative research, we can shed light on the fascinating realm of dog psychology.

Finally, this article investigates philosophical arguments surrounding animal sentience with a particular examination of various ethical frameworks and debates and whether dogs, as well as other animals, should be considered sentient beings with moral worth and deserving of moral considerations engaging with these philosophical discussions. We can gain a deeper understanding of the ethical implications of recognising dogs as sentient beings and the implications for their treatment and welfare.

Overall, this article aims to explore dogs' recognition as sentient comprehensively. By delving into historical and cultural perspectives, scientific evidence, and philosophical arguments, we hope to contribute to a richer understanding of dog psychology and to promote a more compassionate and empathetic relationship between humans and their canine companions.

3. Method

This section presents the methodology employed in conducting a collective re-

view to gather and analyse data for the research paper. A *collective review* is a systematic approach that involves synthesising and analysing existing research findings from multiple sources. This review provides a comprehensive overview of the current knowledge on this research topic.

Before initiating a collective review, defining research objectives and scope is essential. The primary objective of this review is to synthesise the existing literature on the recognition of dogs as sentient beings by examining the evolution of dog psychology. This review included studies published between 2013 and 2023.

The following steps were adopted to ensure a comprehensive and systematic search of relevant literature.

3.1. Database Selection

Appropriate academic databases, including PubMed, Scopus, Web of Science, and Google Scholar, were used to search for relevant articles. These databases were chosen for their coverage of multidisciplinary research.

3.2. Search Queries

Search queries were developed using relevant keywords and Boolean operators. The search queries were designed to capture the breadth of the literature related to our research objectives. The sample search strings included “Dogs as sentient beings,” “Human-Dog bond,” “Canine companionship,” “Historical Perspectives of humans and canines,” “Cultural Perspectives of dogs,” “Dogs in Eastern Cultures,” “Dogs in Western Cultures,” and “Recognition of emotional depth of canines.”

3.3. Inclusion and Exclusion Criteria

Clear inclusion and exclusion criteria were established to identify the relevant studies. Studies were included if they met the following criteria: 1) published within a specified period; 2) written in English; 3) peer-reviewed; and 4) addressed one or more aspects of the research question. Studies that were not peer-reviewed or did not pertain to the research objectives were excluded.

3.4. Screening Process

Independent review was conducted during the initial screening of the articles based on titles and abstracts. Full-text screening was performed for the articles that met the initial criteria. Discrepancies were resolved by elimination.

3.5. Data Extraction

Once the relevant articles were identified, a structured data extraction form was developed to collect information systematically (University of South Australia). [2] **Figure 1** shows the sample of systematic review data extraction form.

Data synthesis involves the organisation and analysis of extracted information. Thematic analysis was employed, and content analysis was used to identify

System Review Data Extraction Form

Fill in the form with relevant data and finds from the study.

Study Title: [Enter the study title]

Authors: [List of authors]

Abstract: [Summarize the study's abstract here]

Objectives:

1. [Enter the first study objective]

- **Key Findings:** [Provide key findings related to the first objective]

2. [Enter the second study objective]

- **Key Findings:** [Provide key findings related to the second objective]

3. [Enter the third study objective]

- **Key Findings:** [Provide key findings related to the third objective]

Methods:

- **Methodology:** [Describe the study's methodology]

- **Ethical Approval:** [Indicate whether ethical approval was obtained and provide details if applicable]

- **Key Methodological Steps:**

- **Database Selection:** [List databases used for the study]
- **Search Queries:** [Describe the search queries employed]
- **Criteria for Inclusion/Exclusion:** [Specify criteria used for including or excluding studies]
- **Screening:** [Explain the process of screening studies]
- **Data Extraction:** [Detail the data extraction process]
- **Synthesis:** [Explain how data was synthesized]
- **Quality Assessment:** [Describe any quality assessment methods]
- **Reporting:** [Explain how study results were reported]

Results:

[Section Title]:

- [Subsection Title]
 - **Key Findings:** [Summarize key findings related to this subsection]

[Additional Sections]:

- [Subsection Title]
 - **Key Findings:** [Summarize key findings related to this subsection]

Conclusion:

- **Key Conclusions:** [Summarize the main conclusions of the study]

Figure 1. Systematic review data extraction form sample.

common themes, patterns, and trends across the selected studies. Quantitative data were analysed using descriptive statistics technique, whereas qualitative data were analysed thematically.

3.6. Quality Assessment

Appropriate assessment tools, such as the Distiller SR, were used to evaluate the quality of the included studies. Quality assessment was conducted independently, and discrepancies were resolved.

3.7. Reporting

The findings of the collective review were reported in a structured manner, fol-

lowing the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page *et al.*, 2020) [3].

A summary of the key findings, thematic analysis, and statistical analysis is presented. The total number of articles included in the systematic review is 29 (Figure 2).

3.8. Ethical Considerations

No ethical approval was required for this collective review, as it involved the analysis of publicly available published literature, and no human subjects were directly involved in the research.

3.9. Limitations

It is essential to acknowledge the limitations of this collective review, including

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases only

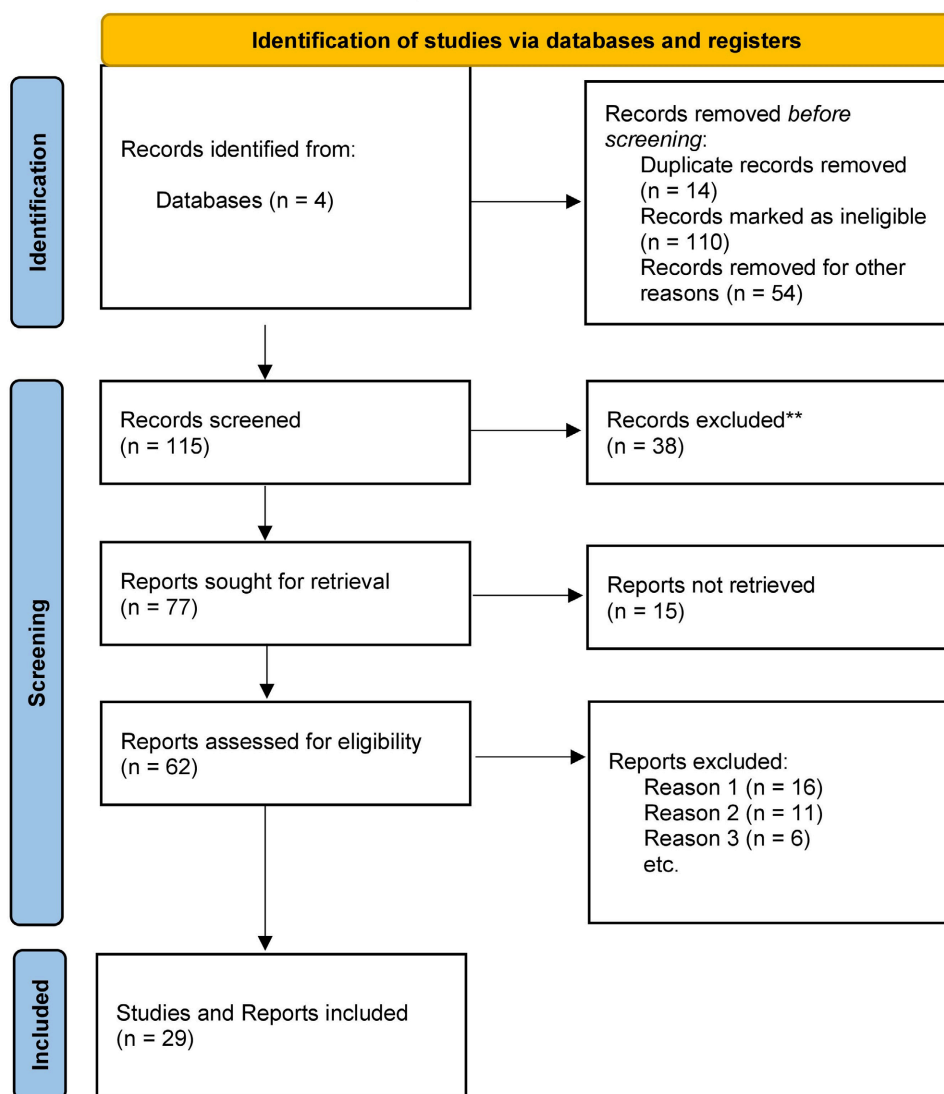


Figure 2. PRISMA 2020 Statement (Page *et al.*, 2020) [3].

potential publication bias, language bias, and the inherent limitations of the included studies.

3.10. Conclusion

This section outlines the methodology employed to conduct the collective review of this study. A systematic search, data extraction, analysis, and reporting process were designed to ensure the rigour and comprehensiveness of the review. The following section presents the findings and discussion of the synthesised data.

4. Results

4.1. Historical Perspectives

Ancient Civilisations

Dogs held a significant and revered position in ancient civilisations, including Egypt, Greece, and Rome. These societies recognised and celebrated dogs' unique qualities and contributions, attributing symbolic meanings to their presence (Snyder, 2016) [4]. Dogs were highly esteemed and revered in ancient Egypt due to their loyalty and protection. They are depicted in intricate artworks, hieroglyphics, and tomb paintings, displaying their roles as companions and guardians. Anubis, depicted as a man with the head of a jackal or dog, was believed to guide souls to the afterlife, emphasising the spiritual significance of dogs in Egyptian culture.

Similarly, ancient Greek culture held dogs in high regard, recognising their unwavering loyalty and companionship. The Greek epic poem Homer's "Odyssey" highlights the story of Odysseus's faithful dog Argos, who recognises his master after years of absence and remains faithfully devoted until his final breath. This portrayal symbolises the enduring bond between humans and dogs, highlighting their roles as loyal companions (Homer, 2015) [5].

In the Roman Empire, dogs were valued for their guardian and protector abilities. They were often utilised in military campaigns, guarding camps, and serving as sentinels. Furthermore, they revered their loyalty and were often treated as family members. The Roman poet Martial even wrote epitaphs commemorating beloved dogs, emphasising Roman society's emotional connections with these animals (Cohen, 2017) [6].

Ancient civilisations' recognition of dogs as symbols of loyalty, protection, and companionship laid the foundation for the evolving perception of dogs in subsequent cultures (Snyder, 2016) [4]. The cultural significance attributed to dogs in these ancient civilisations demonstrates the deep-rooted connection between dogs and humans, foreshadowing the growing acknowledgment of their sentience and emotional lives.

Exploring these historical perspectives provides valuable insights into evolving attitudes towards dogs and sets the stage for further investigation into the recognition of their cognitive abilities and emotional intelligence. By understanding

the reverence of ancient civilisations held for dogs, we can appreciate the enduring and universal nature of the human-dog bond that continues to thrive in contemporary society.

4.2. Cultural Perspectives

4.2.1. Eastern Cultures

Dogs are prominent in various Eastern cultures' philosophies and religious beliefs and are attributed to their significant roles and symbolism. These cultural perspectives offer unique insights into recognising dogs as sentient beings, often connecting them to guardianship, loyalty, and divine qualities.

According to Eastern philosophies, dogs are esteemed for their protective instinct and loyalty. For example, Confucianism strongly emphasises filial piety and devotion to the family. Dogs are viewed as exemplars of loyalty, serving as reminders of the importance of familial bonds and devotion to loved ones (Ji, 2020) [7].

In Hinduism, dogs are associated with the Bhairava Deity, an aspect of the Lord Shiva. Bhairava's loyal canine companion, Shvan, is believed to guard sacred places and pathways, symbolising protection and vigilance (Sah, 2016) [8]. In Hindu traditions, dogs are also considered gatekeepers, protecting the threshold between physical and spiritual realms.

In Tibetan Buddhism, the "dog's love" represents unconditional love and compassion. Stories and teachings often employ metaphors involving dogs to convey the importance of empathy and kind-heartedness towards all sentient beings (Stewart, 2017) [9]. Dogs also perceive spiritual energy and guide individuals along their spiritual paths.

In Shintoism, the Indigenous religion of Japan, dogs known as "komainu" are revered as protective guardians at the entrance of shrines and temples (Singh & Nakamura) [10]. These statues, often in the form of lion-dog hybrids, are believed to ward off evil spirits and bring blessings to worship. Dogs are sacred creatures that connect the human realm with the divine.

Eastern culture's cultural beliefs and practices demonstrate the deep-rooted recognition of dogs as more than just animals. They are regarded as symbols of loyalty, protection, and divine qualities, representing essential virtues and serving as reminders of the values that society cherishes (Larson, 2021) [11].

By exploring cultural perspectives on dogs, we gain a broader understanding of how different societies have recognised and valued these animals as sentient beings throughout history. These beliefs and associations strengthen the bond between humans and dogs, illustrating the universal recognition of their emotional depth, loyalty, and divine connection.

Understanding the cultural significance of dogs in Eastern philosophies and religions enhances our appreciation of their unique place in our lives. It underscores the interconnectedness between humans and animals, encouraging empathy and fostering a sense of responsibility towards the well-being and ethical treatment of dogs and all sentient beings.

4.2.2. Western Cultures

In Western cultures, dogs have become deeply embedded in popular culture, representing a range of qualities, such as loyalty, bravery, and faithfulness. They have become beloved companions and mascots through various forms of media, including literature, movies, and advertising. The literature has long celebrated the human-dog bond and portrayed dogs as loyal and devoted companions. One notable example is the character of Lassie, created by Eric Knight in his 1940 novel and later popularised in films and television series. Lassie's unwavering loyalty and courage personify an ideal canine companion, symbolising the values of loyalty and steadfastness.

In movies, dogs capture the audiences' hearts worldwide through onscreen portrayals. From classic films like "Old Yeller" and "The Incredible Journey" to more recent animated features like "Up" and "The Secret Life of Pets," dogs have been depicted as devoted companions willing to sacrifice for the well-being of their human counterparts. These movies evoke various emotions, emphasising the depth of the human-dog bond and highlighting the virtues of dogs.

Advertising has also utilised dogs to convey various messages and values. Dogs are often featured in commercials and represent loyalty, trust, and family values. They serve as brand mascots and become recognisable symbols that elicit positive emotions and associations. In advertising campaigns, dogs often rely on the idea that they are faithful and dependable companions, reinforcing the bond between dogs and humans (Amyx, 2017) [12].

These cultural portrayals and representations of dogs have contributed to a broader recognition of their emotional depth and companionship qualities in Western societies. Dogs capture collective imaginations through portrayals of literature, films, and advertising, allowing us to connect with and appreciate their essential roles in our lives.

In popular culture, dogs have transcended their status as mere animals and have become beloved family members and cultural icons. These representations shape societal attitudes, promote empathy, and reinforce the notion that dogs deserve love, care, and understanding.

By examining cultural perspectives in Western societies, we gain a deeper appreciation of the profound impact of dogs on our lives and their significant role in shaping collective consciousness. These cultural representations remind us of the responsibility to ensure dogs' well-being and ethical treatment by honouring their loyalty, bravery, and faithfulness (Larson, 2021) [11].

4.3. Practical Research Significance

The practical research significance of this article lies in its potential to drive meaningful change in how we perceive, interact with, and care for dogs as sentient beings. Here are several vital practical implications of the article's arguments.

4.3.1. Animal Welfare and Rights Legislation

The recognition of dogs as sentient beings can influence legislative efforts to

protect animal welfare and rights. Governments and policymakers may be prompted to enact and enforce laws that prevent cruelty to dogs and other animals, regulate breeding and pet trade practices, and ensure humane treatment in various contexts, including research, agriculture, and pet ownership.

4.3.2. Responsible Pet Ownership

One of the practical implications is the promotion of responsible pet ownership. Understanding dogs as sentient beings underscores the importance of meeting their emotional, physical, and psychological needs. This recognition encourages pet owners to provide proper care, socialization, and positive reinforcement-based training to enhance their dogs' well-being.

4.3.3. Humane Training Practices

The article emphasizes the significance of humane training practices that respect dogs' emotional intelligence. Practical applications of this recognition include the adoption of relationship and motivational training methods (Pręgowski, 2015) [13].

4.3.4. Animal-Assisted Therapy and Rehabilitation

Sentience recognition can further bolster the use of dogs in animal-assisted therapy and rehabilitation programs. These programs can leverage the emotional connection and empathy that dogs offer to enhance the well-being of individuals in various settings, such as hospitals, nursing homes, and prisons (Piotti *et al.*, 2021) [14].

4.3.5. Cross-Cultural Understanding

Acknowledging dog sentience can foster cross-cultural understanding of differing attitudes and practices related to dogs. This recognition can facilitate dialogues to respect cultural nuances while advocating for humane treatment and welfare on a global scale (Larson, 2021) [11].

4.3.6. Scientific Research

The article emphasizes the importance of ongoing scientific research into dog cognition, emotions, and behaviour. Such research can inform evidence-based practices in various fields, from animal behaviour science to veterinary medicine.

4.3.7. Education and Awareness

Education and awareness campaigns can be practical outcomes of this recognition. These campaigns can target the public, pet owners, and professionals who work with dogs, helping them better understand and appreciate dogs as sentient beings. Public awareness efforts can encourage ethical choices, such as adopting dogs from shelters, supporting breeders who follow ethical guidelines, rather than supporting breeders who do not follow ethical practices.

4.3.8. Ethical Frameworks

Philosophical debates on animal ethics, sparked by this recognition, can lead to

developing ethical frameworks that guide decision-making related to animals, including dogs. These frameworks can influence ethical practices across diverse industries, from agriculture to entertainment.

The research significance of this article is its potential to initiate a paradigm shift in our relationship with dogs, fostering a more compassionate, empathetic, and responsible approach to their care and welfare. The practical implications encompass legislation, responsible ownership, training methods, therapy and rehabilitation, cross-cultural understanding, scientific research, education, and the development of ethical frameworks. These practical outcomes can collectively contribute to the improved well-being and ethical treatment of dogs as cherished friends and sentient companions of humans.

4.4. Further Research

The research presented in this study has some limitations, and there are areas for further research that can contribute to a more comprehensive understanding of dogs as sentient beings. Here are some limitations and avenues for future research:

4.4.1. Limited Scope

The article primarily focuses on dogs as sentient beings and their evolving recognition as such. However, it does not delve deeply into the broader aspects of animal sentience, including other animals commonly kept as pets, livestock, or wildlife. Further research could explore the sentience of various animal species and its implications.

4.4.2. Cultural Variation

While the article briefly touches upon cultural perspectives on dogs, a more in-depth examination of how different cultures perceive and treat dogs would be valuable. Cultural attitudes and practices can significantly influence the treatment of dogs, and a cross-cultural analysis would provide a more comprehensive view.

4.4.3. Ethical Frameworks

The article introduces philosophical debates on animal ethics but does not extensively explore the various ethical frameworks and theories in this area. Future research could delve into these frameworks, examining their strengths, weaknesses, and practical applications concerning dogs and other animals.

4.4.4. Scientific Research Gaps

Although the article highlights scientific research on dog cognition and emotions, it needs to provide an exhaustive overview of current gaps in knowledge. Future research can identify specific areas where further scientific investigations are needed to deepen our understanding of dog sentience.

4.4.5. Practical Applications

While the article discusses the practical implications of recognizing dogs as sentient beings, it does not delve into the challenges and barriers to implementing

these implications in real-world contexts. Future research can explore the practical challenges of promoting responsible pet ownership, ethical training, and legislative changes.

4.4.6. Longitudinal Studies

Most scientific studies on dogs' cognitive abilities and emotions are cross-sectional or involve short-term observations. Longitudinal studies that follow dogs throughout their lives could provide valuable insights into how their cognition and emotions develop and change over time.

4.4.7. Interactions with Other Species

Dogs often interact with various species, including humans, dogs, and animals. Research on the dynamics of these interactions, especially in mixed-species environments, can shed light on how dogs perceive and respond to other sentient beings.

4.4.8. Ethical Dilemmas

The article touches on ethical dilemmas related to dogs, such as using dogs in scientific research or specific industries. Future research could explore these dilemmas more thoroughly, including potential alternatives and ethical decision-making frameworks.

4.4.9. Cultural Change

Examining how cultural attitudes towards dogs evolve and the factors influencing these changes is an area ripe for research. Understanding the dynamics of cultural shifts can inform strategies for promoting more humane treatment of dogs.

4.4.10. Sentience Assessment

Developing more robust methods for assessing the sentience of animals, including dogs, is an ongoing challenge. Future research can focus on refining assessment tools and approaches to understand animal experiences better.

While the study provides valuable insights into recognizing dogs as sentient beings, there are limitations in scope and depth. Further research should explore cultural variations, ethical frameworks, scientific research gaps, practical challenges, longitudinal studies, interactions with other species, ethical dilemmas, cultural Change, and improved sentience assessment methods. Addressing these areas can contribute to a more nuanced and comprehensive understanding of dogs and other animals' sentience and well-being.

5. Discussion

5.1. Scientific Evidence

5.1.1. Cognitive Abilities

Scientific research offers compelling evidence of impressive cognitive abilities in dogs, including their emotional intelligence and critical thinking skills. These

findings highlight the sophisticated cognitive processes within the canine mind.

Dogs possess a remarkable emotional intelligence capacity, enabling them to understand and respond to human emotions. Research has shown that dogs can differentiate between various human emotional states, such as happiness, sadness, fear, and anger, based on facial expressions, vocal cues, and body language. This ability to interpret human emotions demonstrates empathy and suggests a deep understanding of human affective states.

Furthermore, dogs can remarkably form social bonds with humans and their fellow canines. They exhibit cooperative behaviour play and engage in complex social interactions, indicating a sophisticated understanding of social dynamics. Dogs are also naturally inclined to seek and maintain social connections, further highlighting their social cognition (Kerepesi *et al.*, 2015) [15].

Dogs exhibit impressive cognitive flexibility and adaptability in critical thinking skills. They demonstrated the ability to solve complex tasks such as object discrimination, mathematical reasoning, and spatial navigation (Arden & Adams, 2016) [16]. Dogs can learn to use tools, manipulate their environment, and make decisions through trial and error. Their problem-solving abilities highlight their capacities for learning, memory, and abstract thinking.

Studies have explored the ability of dogs to understand and respond to human communication, such as following pointing gestures or understanding simple verbal commands. Understanding human communication highlights their cognitive abilities and capacity to perceive and interpret human signals (Kaminski & Nitzschner, M, 2013) [17].

Scientific evidence supports the notion that dogs possess remarkable cognitive ability. From emotional intelligence, which allows them to understand human emotions, to critical thinking skills, which show cognitive flexibility, dogs continually surprise researchers with intellectual capacities. These findings deepen our understanding of dog cognition and reinforce the idea that dogs are sentient beings who deserve respect, care, and ethical treatment (Fiset *et al.* 2015) [18].

5.1.2. Neuroscientific Insights

Neuroscientific studies utilising advanced brain imaging techniques have offered valuable insights into the neural correlates of dog emotion, social cognition, and communication. These studies have proved that brain structure and activation patterns are associated with various cognitive processes in dogs.

Functional magnetic resonance imaging (fMRI) studies have revealed that dogs possess brain regions and networks involved in emotion processing, including the amygdala and the prefrontal cortex (Smith and Katz, 2023) [19]. These regions are associated with emotional responses, decision-making, and social behaviour. The activation of these areas suggests that dogs experience emotions and possess neural mechanisms that regulate and respond to emotional stimuli.

Additionally, studies have highlighted the role of the mirror neuron system, which is implicated in social cognition and imitation in dogs. This system en-

ables dogs to understand and imitate the actions and emotions of humans and other dogs, facilitating social bonding and communication. Activation of the mirror neuron system during social interactions further supports the idea that dogs possess sophisticated empathy and social understanding capacities. (Kujala, 2017) [20].

Moreover, investigations of dog-language processing have highlighted communication abilities. Research using electroencephalography (EEG) and event-related potential (ERP) techniques has shown that dogs can distinguish between different spoken words and respond to specific verbal commands (Magyari *et al.*, 2020) [21]. Brain activity patterns associated with word processing suggest that dogs have a neural capacity to comprehend human language.

These neuroscientific insights demonstrate that dogs possess specialised brain structures and neural networks associated with emotions, social cognition, and communication (Buttner, 2016) [22]. These findings indicate that dogs have a neurological capacity to experience and respond to emotions, understand and imitate social signals, and comprehend human language.

Such an understanding of the underlying neural mechanisms not only enhances our appreciation for the cognitive abilities of dogs but also raises important ethical considerations. Recognising the complexity of dogs' brain functions encourages a more empathetic and responsible approach to care, training, and overall welfare. These neuroscientific insights further solidify the position of dogs as sentient beings deserving of respect, compassion, and ethical treatment.

5.2. Philosophical Perspectives

5.2.1. Animal Ethics

Philosophical arguments have played a significant role in shaping the recognition of dogs as sentient beings who deserve moral consideration and protection. Animal ethics has propelled the acknowledgment of dog rights and welfare.

Various philosophical frameworks advocate for the ethical treatment of animals, including dogs, based on compassion, justice, and recognising their inherent value. Proponents of animal rights argue that all sentient beings, including dogs, possess intrinsic worth and deserve treatment with respect and dignity (Jones, 2015) [23]. This perspective rejects the notion that animals are mere property and advocates for rights that protect them from unnecessary suffering and exploitation.

Animal welfare approaches focus on promoting the well-being of animals, including dogs, while recognising that they may still be used for human purposes under certain conditions. This perspective emphasises minimising suffering, providing appropriate care and living conditions for animals, and acknowledging their capacity to experience pleasure, pain, and unique preferences (Mellor, 2014) [24].

Both animal rights and welfare arguments have contributed to the growing recognition of dogs as sentient beings with their rights and interests. These philosophical arguments challenge the traditional view of animals as mere resources

or objects of human use and highlight humans' moral responsibility towards dogs and other animals.

Furthermore, philosophers have explored the concept of speciesism, which refers to the unjustified discrimination against individuals based on their species. These arguments aim to promote a more inclusive and compassionate view that extends moral consideration to all sentient beings, regardless of species, by challenging the notion that humans are inherently superior and are entitled to exploit animals (Caviola *et al.*, 2019) [25].

Philosophical perspectives on animal ethics resonate with broader society, leading to legal and ethical changes. Countries have implemented legislation and regulations to protect animals from cruelty and to promote their welfare (Seon-bong, 2015) [26].

Additionally, there has been a growing emphasis on adopting and promoting ethical practices, such as adopting dogs from shelters, responsible pet ownership, and advocating animal welfare in various industries.

By considering philosophical perspectives on animal ethics, including dogs, we must examine the treatment of these sentient beings and question the moral justifications for their use and exploitation. These arguments encourage a more compassionate and ethical approach towards dogs, leading to improved welfare, responsible ownership, and a greater appreciation for dogs' intrinsic value and well-being as beings deserving of respect and protection.

5.2.2. Moral Status of Dogs

The philosophical discourse surrounding dogs' moral status encompasses various viewpoints regarding their personhood and inclusion in moral communities. These perspectives address questions about dogs' inherent worthiness and consideration as sentient beings.

Philosophical arguments advocate extending personhood to non-human animals, including dogs, based on consciousness, emotions, and social interaction capacity. These arguments often emphasise the similarities between humans and animals regarding their cognitive abilities and subjective experiences, positing that dogs and other animals should be considered morally (Celermajer *et al.*, 2020) [27]. Proponents of this viewpoint argue for including dogs within moral communities, giving them rights and protection such as those afforded to humans.

Conversely, other philosophical perspectives focus on the differences between humans and animals, emphasising language, rationality, and self-consciousness as crucial factors in conferring moral status (Koplin, 2019) [28]. According to these viewpoints, dogs may not possess the same moral worth as humans and may be treated as objects of human use or members of a lower category. This perspective often recognises dogs' basic welfare needs but does not advocate granting them personhood or extensive moral rights.

In addition, philosophical arguments ask questions about the nature of moral communities and draw boundaries between who should be included and what should be included. These views suggest that moral communities extend beyond

human beings and encompass sentient animals, including dogs. They emphasise the ethical responsibility of considering the interests and well-being of animals, highlighting the importance of compassion and empathy towards all sentient beings (Valentini, 2013) [29].

The debates surrounding the moral status of dogs engage in various ethical theories, including utilitarianism, deontology, and virtue ethics, to understand and justify our moral obligations towards dogs (Bovenkerk & Nijland, 2017) [30]. These debates prompt meaningful discussions about our ethical responsibilities, the treatment of animals, and the consideration of non-human interests in moral decision-making.

Philosophical deliberations on the moral status of dogs highlight this topic's complexities and diverse perspectives. They challenge us to analyse and evaluate our moral obligations towards dogs and other sentient beings, considering the potential inclusion of animals within moral communities and acknowledging their inherent worth and interests (Jaworska & Tannenbaum, 2013) [31].

Engaging in these philosophical discussions broadens our understanding of the ethical implications of the interactions between dogs and other animals, promoting a more compassionate and thoughtful approach to treatment and well-being.

6. Conclusions

The journey of seeing dogs as sentient beings has transformed our understanding of their psychology and the depth of their emotional and cognitive capacity. Throughout history and across various disciplines, such as culture, science, and philosophy, dogs have emerged as remarkable creatures that deserve respect, compassion, and ethical treatment.

From ancient civilisations, which revered dogs as guardians and divine beings, to modern scientific research, which illuminated their emotional intelligence and problem-solving abilities, dogs have continuously impressed us with their remarkable cognitive and social skills. Cultural representations have immortalised loyalty, bravery, and faithfulness, making them integral parts of collective consciousness.

Philosophical debates about the moral status of dogs have challenged us to examine our ethical responsibilities and to consider the extent of our moral communities. The recognition of dogs as sentient beings deserving of moral consideration has brought about tangible changes in laws, regulations, and societal attitudes to protect their rights and welfare.

As our understanding of dog psychology deepens, promoting their well-being and advocating their rights becomes even more vital. As sentient beings, dogs experience joy, fear, pain, love, and many other emotions. They form deep bonds with humans and fellow canines, and their presence in our lives profoundly affects our well-being and happiness.

We can foster a more compassionate and harmonious relationship with these

incredible creatures by recognising and acknowledging dogs as sentient beings. Responsible pet ownership, humane training methods, and the promotion of adoption from shelters are ways to demonstrate a commitment to well-being.

The journey towards recognising dogs as sentient beings is ongoing. We continue to uncover the depth of their emotional intelligence, cognitive abilities, and complex social behaviours through the lenses of culture, science, and philosophy. Embracing this understanding, we can build a society that values and respects dogs for their unique contribution to our lives. Let us cherish and protect them to ensure a future in which dogs find love, care, and place within their moral and ethical context.

Data Access Statement

Research data supporting this publication are available in the article and supporting materials.

Author Contributions

JT contributed to the design and implementation of the research, analysis of the results, writing of the manuscript, conception of the original study, and supervision of the project.

Note

ChatGPT version 4. Open AI [<https://chat.openai.com/>] was utilised to aid with edit writing at the final stage of preparing article. The following prompts were provided: “Improve my academic writing style.” “Give me feedback on my article.”

Output was utilised to help revise writing, adding clearer sentence links between the document introduction, body and conclusion <https://chat.openai.com>.

Conflicts of Interest

The author declares no conflicts of interest.

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