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Exploring Ethical Human-Animal Relationships Among Pre-Service Teachers: A Study of Awareness, Ethical Sensitivity, and Educational Relevance

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Abstract

Human-animal relationships constitute an important but comparatively underexplored dimension of value-oriented and sustainability-oriented education. Although teacher education is expected to contribute to the development of professional knowledge, ethical dispositions and social responsibility, limited empirical attention has been given to how prospective teachers understand the ethical dimensions of human-animal relationships. The present study examined self-reported awareness and ethical orientations concerning human-animal relationships among B.Ed. pre-service teachers. A quantitative, descriptive survey design was adopted. The participants comprised 99 B.Ed. pre-service teachers from the Department of Education and constituent colleges of the University of Lucknow, selected through purposive-cum-convenience sampling. Data were collected using a researcher-developed 24-item questionnaire comprising six dimensions: awareness of the concept of ethical human-animal relationships, awareness of animal exploitation, ethical sensitivity, responsibility and action orientation, educational relevance, and personal attitude towards humane treatment. The instrument was reviewed by an expert and demonstrated high internal consistency (Cronbach's $\alpha = .92$). Data were analysed using item-wise percentages and dimension-wise mean scores. The six-dimension means ranged from 4.24 to 4.45 on a five-point scale, with ethical sensitivity obtaining the highest mean and educational relevance the lowest. A substantial majority of respondents reported awareness of animal exploitation, concern for animal suffering, acceptance of moral responsibility, support for humane treatment, and recognition of the educational

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relevance of the issue. However, these findings represent self-reported orientations and should not be interpreted as direct evidence of ethical behaviour or pedagogical competence. Comparison with existing research indicates both convergence and an important contextual distinction: while the present participants reported stronger humane orientations than those reported among pre-service teachers in a Hong Kong study, the difference may reflect contextual, sampling, measurement and social-desirability factors rather than a genuine population difference. In the Indian context, the findings are relevant to NEP 2020's emphasis on environmental awareness, values, sustainability and teacher preparation. The study suggests that teacher education may provide an important setting for moving from general humane attitudes toward critically informed ethical reasoning, reflective practice and responsible action concerning human-animal relationships.

Keywords: Ethical human-animal relationships, Pre-service teachers, Humane education, Animal welfare, Teacher education, Sustainability education, Ethical sensitivity

Introduction

Education is not limited to the transmission of information or the acquisition of academic knowledge. It also contributes to the development of values, attitudes, empathy, responsibility and ways of relating to other people and the wider living world. This broader understanding becomes particularly significant in teacher education because pre-service teachers are not only future classroom instructors but also potential role models whose attitudes, language and pedagogical practices can influence how children understand social, environmental and ethical issues. Teacher education, therefore, has implications beyond professional competence; it also contributes to the formation of dispositions that may shape future educational practices.

Human-animal relationships is a significant yet insufficiently examined educational issue. Human societies rely on the interaction with animals in a variety of ways, for companionship, food, production, science, entertainment, transport, trade and conservation. These connections are more than just practices, they raise questions about suffering, responsibility, moral considerations and the circumstances in which specific practices in human use of animals are acceptable to the society at large. Contemporary psychological studies describe speciesism as a belief system in which humans and animals are morally separated, and animals are given value based on their species and their given role by humans. Dhont and Hodson (2026) emphasize that this creates significant tension: people may develop strong emotional bonds with some animals while simultaneously participating in practices that harm or exploit others.

This tension is particularly relevant to education because ethical understanding cannot be reduced to simply knowing that animals experience suffering. Ethical education also involves examining how individuals interpret suffering, whose suffering receives attention, what responsibilities are recognized, and whether moral principles are consistently applied across different contexts. Research on empathy towards animals suggests that human concern is not necessarily uniform. Miralles et al. (2019), for example, found that empathy and compassion varied according to evolutionary distance and were also associated with factors such as biodiversity knowledge, attitudes toward hunting and fishing, dietary orientation and beliefs concerning the values of animal life. Thus, a general positive attitude toward animals does not necessarily establish species-neutral ethics concern.

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Humane education provides one educational route through which such questions may be addressed. It has increasingly been understood not simply as teaching children how to care for animals, but as an educational approach concerned with kindness, empathy, responsibility, compassion and ethical relationships involving animals, people and the environment. Research on humane education has reported positive associations with empathy and humane attitudes, although the strength of evidence varies across programmes and populations. Fung and Zhou (2020), for instance, examined 226 pre-service teachers in Hong Kong and found moderate concern for humane treatment of animals. Their findings also showed relationships between humane attitudes and empathic tendencies and led the authors to argue that teacher preparation deserves greater attention in humane education.

Other educational research provides evidence that structured humane-education interventions may influence learner's attitude and empathy. Ngai et al. (2021) reported preliminary positive effects of a school-based animal-assisted humane education programme on social and emotional learning outcomes. Samuels and Onuoha-Jackson (2023) subsequently reported that a year-long humane education programme incorporating animal and nature-related themes improved affective and cognitive empathy among lower-elementary students. These studies do not establish that humane education will produce identical effects in every cultural or educational context, but they indicate that ethical and emotional relationships with animals can become legitimate objects of structured educational interventions.

The issue also intersects with sustainability education. Sjogren et al. (2015) proposed that sustainability education be made more inclusive, and humans/human-animal relationship must not be ignored. This is important as sustainability is now recognized as a process in which ecological, social and ethical relationships are involved and not just the conservation of natural resources. The Education for Sustainable Development approach of UNESCO also focuses on knowledge, values, skills and an ethic of responsibility as the basis for sustainable development and sees the capacity building of the educator as a priority.

There is yet another reason to look at this issue in teacher education, the Indian policy context. The National Education Policy (NEP) 2020 proposes a multi-disciplinary pedagogy of teacher preparation, wherein knowledge, pedagogy, values and professional preparation are all envisioned. It particularly recommends that the B.Ed. programmes incorporate environmental awareness and sensitivity towards conservation and sustainable development, and that the practicum experiences be robust. Ethical human-animal relationships is not a specific subject in the B.Ed. curriculum in this policy orientation. Hence, it is not appropriate to state that NEP 2020 explicitly demands teaching of animal ethics. Rather the policy provides a broader curricular and pedagogical space within which questions concerning human-animal relationships can be considered as part of environmental awareness, sustainability, values and responsible citizenship.

Despite these conceptual and policy connections, empirical research examining the ethical-animal orientations of pre-service teachers in India remains limited. Existing literature has more frequently examined school children, humane-education. The teacher as a future educational mediator has received comparatively less empirical attention. This gap is particularly important because positive attitudes among teachers cannot simply be assumed from general public attitudes, because teacher preparedness involves more than personal belief. Teachers require knowledge, pedagogical strategies and opportunities to translate values into classroom practice.

The present study was therefore undertaken to examine the self-reported awareness and ethical orientation of B.Ed. pre-service teachers concerning human-animal relationships. Rather than treating awareness as a single factual construct, the study considers six related dimensions: conceptual

awareness of animal exploitation, ethical sensitivity, responsibility and action orientation, educational relevance, and personal attitude toward humane treatment.

Objective of the Study

The study was guided by the following objectives:

To examine the self-reported awareness and ethical orientation concerning human-animal relationships among B.Ed. pre-service teachers across six dimensions: conceptual awareness, awareness of animal exploitation, ethical sensitivity, responsibility and action orientation, educational relevance, and personal attitude toward human treatment.

2. Review of Related Literature

2.1 Humane Education as an Ethical and Educational Approach

Humane education has evolved from a limited focus on animal protection to a broader ethical and educational perspective. As cited in the present study, it is a teaching method which can be used to develop kindness, empathy, responsibility and respect for animals, humans, and the environment. The educational value of human-animal relationships is not confined to the teaching of students that they should not harm animals, it is more of a broader orientation. It involves developing the capacity to recognize other beings as morally relevant and to reflect critically on the consequences of human actions.

The literature indicates that humane education can therefore intersect with moral education, environmental education, social-emotional learning and sustainability education. Such an interdisciplinary character makes it potentially relevant to teacher education, where prospective teachers are expected to address complex social and environmental issues through learner- centered and reflective pedagogies.

2.2 Human-Animal Relationships and Sustainability Education

Sjogren et al. (2015) argued for a more inclusive understanding of sustainability education by questioning educational approaches that implicitly position human beings at the centre while excluding human-animal and human-non-human relationships. Their argument is particularly relevant to the present study because it shifts the discussion from “animal welfare” as an isolated concern toward the broader question of how education constructs relationships between humans and the more-than human world.

The relevance to teacher education is therefore twofold. First, future teachers need to understand sustainability-related issues. Second, they need the capacity to facilitate critical thinking, values clarification and responsible action among school learners. Human-animal relationships can potentially contribute to these aims when examined through an interdisciplinary and ethically reflective approach.

2.3 Awareness, Empathy and Ethical Sensitivity

Awareness of animal suffering is not necessarily equivalent to ethical action. Research suggests that empathy toward animals is influenced by psychological and social factors. Miralles et al. (2019) demonstrated that empathy and compassion toward other species varied systematically with evolutionary distance. Their findings suggest that humans do not necessarily distribute emotional concern equally across species.

A more general psychological explanation has been proposed in the recent review by Dhont and Hodson (2026). They claim that the relationship between human and animal is morally hierarchical with animals being divided into species and human assigned roles. This classification can be used to allow people to feel affection towards some animals and be okay about harming others.

The literature is directly relevant to the present study’s ethical-sensitivity dimension. If respondents report strong concern for animal suffering, this is meaningful evidence of a favorable

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ethical orientation. However, the result cannot establish that such concern is equally extended to all species of all forms of animal use. A stronger future investigation would therefore examine whether respondents maintain their ethical principles across different animal-use scenarios.

2.4 Pre-Service Teachers and Humane Attitudes

The most directly comparable study identified for the present research is Fung and Zhou (2020). Their study examined 226 pre-service teachers in Hong Kong and found moderate concern for humane treatment of animals. They also reported relationships between humane attitudes and empathic tendencies are argued that teacher preparation should receive greater attention in humane education.

The present study differs in its response pattern, with dimension means between 4.24 and 4.45 on a five-point scale. However, direct comparison between the two studies should be made cautiously. The studies differ in geographical setting, sample size, instrument, operationalization, cultural context and response format. Therefore, the higher scores observed in the present study cannot be interpreted as demonstrating that Indian pre-service teachers are inherently more humane than Hong Kong pre-service teachers.

The comparison is nevertheless useful because it highlights an important research issue: attitudes towards animals among prospective teachers should be studied empirically rather than assumed.

2.5 Humane Education Interventions

Research involving children provides some evidence that structured educational experiences may influence empathy and attitudes towards animals. Ngai et al. (2021) found preliminary positive outcomes associated with a school-based animal-assisted humane education programme. Samuels and Onuoha-Jackson (2023) reported improvements in affective and cognitive empathy following a year-long humane education programme.

These findings are relevant to the present study but should not be overextended. The present investigation is not an intervention study. It does not demonstrate that teacher education caused the reported orientations. Instead, the intervention literature provides a rationale for why teacher preparation could be a meaningful educational site for further development of humane values.

This is relevant because the recent studies have also shown that awareness does not necessarily lead to behavioral change. For instance, Stel and Unterweger (2025) found that a speciesism-reducing intervention targeted speciesism-related behavioral intentions, while in one study it also targeted animal-product consumption, with factors to do with perspective-taking and perceptions of injustice contributing to the effects. This implies that the focus in education could shift from giving information to reflecting, taking perspectives and reflecting on ethics.

2.6 Policy and Teacher Education in India

The present study requires an important Indian policy context which is provided by NEP 2020. The policy puts focus on the building up of knowledge, skills and values among the teachers in preparation and indicates that teacher training programmes should include environmental awareness and sensitivity to environmental conservation and sustainable development. But the policy does not mean that animal ethics should be a discrete part of teachers' training curricula. It is a more defensible reading of the policy that it focuses on environmental awareness, sustainability, values, and teacher preparation based on experiential/practicum-based learning, thus leaving curricular room for teacher training incorporating a consideration of humans' relationship with animals and the larger living environment.

This is reinforced at the international level by UNESCO's ESD for 2030 framework which places educator capacity development as a key priority.

2.7 Research Gap

The literature reviewed shows there has been a significant amount of research in humane education, attitudes towards animals, empathy, speciesism and sustainability education. But the empirical studies on the self-reported ethical orientations of pre-service teachers towards human-animal relationship in Indian context are somewhat limited. The current research seeks to fill this void by considering the issue from six dimensions instead of a general perspective of awareness. The contribution is, therefore, exploratory, giving initial empirical evidence for the reporting of prospective teachers' conceptual awareness, recognition of exploitation, ethical sensitivity, responsibility, perceptions of educational relevance and personal attitudes.

3. Methodology

3.1 Research Design

This study was conducted in a quantitative method with descriptive survey research design to examine the awareness of ethical human-animal relationships of B.Ed. pre-service teachers. This design was deemed appropriate due to the study's aim of examining the current state of awareness, patterns of responses to the ethical issues of man and animal and to gauge the extent of awareness of these ethical issues among pre-service teachers.

The design allows for the description of the distribution of responses and comparison of dimension-wise mean scores. It does not, however, make any causal inferences about the impact of teacher education, humane education or any other factor.

3.2 Participants and Sampling

The final sample was 99 pre-service teachers from B.Ed. Department and constituent colleges of University of Lucknow. A purposive-cum-convenience sampling method was used to select the participants. The eligible participants were those who were available and willing to participate.

The pre-service teachers selected for B.Ed. were theoretically relevant as they are the group which is getting prepared for classroom teaching. They may potentially have an effect on their future pedagogical choices but this study does not measure pedagogical behaviour in the future.

The study was a non-probability sampling and was restricted to the context of a single university, so the results of the study cannot be extended to all the pre-service teachers of India.

3.3 Instrument

A 24-item researcher-developed questionnaire was used for obtaining data. The questionnaire consisted of six dimensions with four items on each dimension:

1. Awareness of the concept of ethical human-animal relationships;
2. Awareness of animal exploitation;
3. Ethical sensitivity;
4. Responsibility and action orientation;
5. Educational relevance; and
6. Personal attitude toward humane treatment.

The items were presented with a 5-point Likert-type response scale ranging from Strongly Disagree to Strongly Agree.

The six dimensions were created to examine various components of the construct without simply using awareness as a fact-based knowledge. The distinction is significant because while there is theoretical relation between conceptual understanding, moral sensitivity, responsibility and attitudes, they are not the same.

3.4 Content Review and Reliability

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The instrument was reviewed by an expert prior to administration. The study reports a Cronbach's alpha coefficient of .92, indicating high internal consistency among the items.

However, internal consistency should not be equated with complete instrument validity. A high alpha does not establish that the six-dimensional structure is empirically confirmed or that the instrument predicts actual behaviour. Therefore, the questionnaire should be regarded as a researcher-developed instrument with preliminary evidence of internal consistency, rather than as a fully validated psychometric scale.

This distinction is consistent with established scale-development guidance, which recommends separate consideration of content validity, construct validity, dimensionality and reliability (Boateng et al., 2018).

3.5 Data Collection Procedure

Once the questionnaire was completed, it was given to the selected participants. The participants were briefed on the purpose of the study and their answers were assured for academic use. All participation was voluntary and confidentiality was provided for all participants. Completed answers from qualified applicants only were used in the final analysis.

3.6 Ethical Considerations

The study adhered to basic ethical principles that are applicable to educational studies in general. Participants were requested to participate in the study voluntarily, and they were assured of confidentiality, no identifying information was shared. Participants could refuse to participate or drop out of the study.

3.7 Data Analysis

Descriptive statistics were used to analyse the data. The questionnaire contained five demographic questions, and the substantive instrument had six dimensions comprising four Likert type items per dimension. Mean scores were computed on a dimension-by-dimension basis, and percentages were computed for each item.

The following descriptive interpretation of mean scores was used:

- 1.00-2.33: Low
- 2.34-3.66: Moderate
- 3.67-5.00: High

These categories were used as descriptive conventions and should not be interpreted as empirically established clinical or psychological thresholds.

The study was intentionally descriptive. Therefore, no causal or predictive conclusions are drawn.

4. Results and Data Interpretation

4.1 Dimension-wise Findings

The six dimensions produced consistently high mean scores:

Dimension	No. of Items	Mean Score	Interpretation
Awareness of the concept	4	4.31	High
Awareness of animal exploitation	4	4.29	High
Ethical Sensitivity	4	4.45	High
Responsibility and action orientation	4	4.37	High
Educational relevance	4	4.24	High

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Personal attitude towards humane treatment	4	4.39	High
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N=99

The highest mean occurred for ethical sensitivity (4.45), whereas educational relevance recorded the lowest mean (4.24). The relatively narrow range suggests that respondents did not display sharply contrasting profiles across the six dimensions. Instead, their responses were concentrated toward the positive end of the scale.

However, this pattern requires critical interpretation. Because the questionnaire relies on self-report and includes statements with clear moral desirability, the high scores may partly reflect respondent's endorsement of socially desirable norms. The findings therefore provide evidence of reported ethical orientation, not direct evidence of behavior.

4.2 Awareness of the Concept

The mean for the first dimension was 4.31, indicating awareness of the concept. The 88.9% who responded positively to the extent that they agreed or strongly agreed that they 'agreed very strongly' at the item level that they understood the meaning of ethical human-animal relationships clearly. Likewise, 86.9% differentiated between ordinary concern and moral responsibility and 88.9% found human-animal relationships to have a moral and practical dimension. The strongest sentiment was in support of the animal care and dignity statement with 96.0% saying they agreed or strongly agreed.

The results of this study suggest that most of the respondents have a general conception of the ethical aspect of human-animal relationships. This is important because it indicates that the issue of care and concern for animals isn't always seen as an issue of love or practical concerns. However, a concept of agreement should not be equated with the development of complex moral insight. The questionnaire was not designed to assess any participant's arguments for and against competing ethics or application of ethics to complex situations. Thus, the results reflect self-perceived conceptual awareness and not higher-level moral thinking.

When this is contrasted to the work of Dhont and Hodson (2026) who demonstrate that attitudes toward animals are part of complex moral systems. Individuals can view animals as objects of concern and engage in animal uses. Thus, the high conceptual-awareness score can be interpreted as a promising starting point for teacher education, rather than as evidence that respondents have already developed a consistent ethical framework.

4.3 Awareness of Animal Exploitation

The mean score of the awareness-of-the-exploitation dimension was 4.29. Specific to items, 94.9% agreed or strongly agreed that they could see examples of animal exploitation in the real world. 93% acknowledged that there was exploitation in relation to food, entertainment, transport, experimentation and trade. A similar proportion agreed that unnecessary harm can be done to animals by common human practices.

This is one of the strongest patterns in this data set. It states that it is possible to link animal suffering not just to extraordinary acts of cruelty, but to ordinary social and economic activities. This finding is significant because of Begue's (2022) discussion of the social and institutional normalisation of animal abuse, in addition to the behaviour of the individual. This more general picture helps to account for the significance of recognition of exploitation as an educational problem: ethical awareness must involve critical reflection on an entire set of practices and norms that can make harmful practices seem normal.

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Meanwhile it is important to note that there is no contradiction between identifying as an exploiter and rejecting all animal use. The questionnaire did not involve the participants making a judgment on any specific case or a behavioural decision with regard to food, experimentation, entertainment or other animal usage. It is therefore important to qualify the findings: there is high awareness of the potential and reality of animal exploitation, but not necessarily the rejection of animal use.

This distinction is especially important in contemporary research. Dhont and Hodson (2026) identify a persistent moral hierarchy in which humans may simultaneously value some animals highly while accepting exploitation of others.

4.4 Ethical Sensitivity

The highest mean score for all six dimensions was for Ethical sensitivity (4.45). 90% agreed or strongly agreed that animals that had been treated cruelly or carelessly made them feel concerned. An additional 95.9% agreed that animals can suffer from pain, fear and distress; 92.9% felt they could empathize with the suffering shown by animals; and 93.9% felt that being cruel to an animal is morally wrong.

This result suggests a strong affective and moral orientation toward animal suffering. The particularly high agreement concerning animal's capacity to experience pain, fear, and distress indicates that respondents largely attribute sentience to animals and consider that suffering morally relevant.

However, the result should not be interpreted as demonstrating universal or species-neutral empathy. Miralles et al. (2019) found that empathy and compassion toward animals vary with evolutionary distance and are influenced by other individual characteristics. Dhont and Hodson (2026) similarly emphasize that animal valuation is shaped by species categorization and human-assigned roles.

Thus, the present result is best understood as evidence of strong general ethical sensitivity, while leaving open the question of whether that sensitivity remains consistent across species and situations.

This is an important area for future teacher education. Prospective teachers may benefit from opportunities to ask why certain animals are more readily perceived as deserving of compassion than others and how cultural, economic and social factors influence these distinctions.

4.5 Responsibility and Action Orientation

Responsibility and action orientation recorded a mean of 4.37. Ninety-one-point nine percent agreed or strongly agreed that humans have a moral responsibility to avoid harming animals when possible. Ninety-two percent supported action intended to reduce unnecessary animal suffering, while 86.9% reported willingness to speak against cruelty. The strongest response was to the belief that small personal actions can contribute to animal welfare, with 96.0% agreement or strong agreement.

The pattern suggests that the respondents are not simply describing the animals as objects of concern, but they are also reporting that there is a sense of human responsibility for the animals. This is educational, as responsibility is a crucial link between awareness and action. However, there is some caution in the word action.

The instrument used for this study is a questionnaire which assesses willingness, perceived responsibility and belief in personal efficacy. It is not a measure of actual behaviour.

Recent research backs up this distinction. Dhont and Ioannidou (2024) showed that moral motives related to animals are intertwined with social support and instrumental barriers. Stel and Underweger (2025) also reported that interventions involving speciesism can affect behavioral intentions as well as in some cases behavior, but that the effect does not necessarily stem from an increase in factual knowledge.

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Thus, the results of the present study should be viewed as evidence of the respondents' reported readiness or orientation toward ethical action, not as evidence of their actual behavior.

This distinction also provides another key research opportunity. Future studies could examine the relationship between questionnaire responses and behavioral scenarios, actual participation in class, classroom practices, or changes over time after implementation of a teacher-education intervention.

4.6 Educational Relevance

The dimension mean of educational relevance was the lowest of all the dimensions, but it remained at a high level in the descriptive category (4.24). This dimension is especially critical for the interpretation of the study in the context of teacher education.

The data show that 85.9% agreed or strongly agreed that ethical human-animal relationships should be included in teacher education. Eighty-nine-point nine percent considered humane treatment of animals an educational concern rather than merely a social issue. Ninety-two-point nine percent believed that school education could play an important role in developing compassion towards animals. However, only 80.8% agreed or strongly agreed that animal-ethics topics were relevant to B.Ed. teacher preparation.

The comparatively lower score for the final item is noteworthy. Rather than simply concluding that participants “strongly support” the educational relevance of animal ethics, the pattern suggests a potentially important distinction between support for humane values in education and certainly about their formal place within professional teacher preparation.

This is where present study has particular relevance to Indian teacher education.

NEP 2020 states that B.Ed. programmes should integrate environmental awareness and sensitivity toward conservation and sustainable development and should strengthen pedagogical and practicum preparation. However, NEP 2020 does not explicitly mandate “ethical human-animal component of B.Ed. education. Therefore, the present findings should not be used to claim that such a component is already a policy requirement.

Instead, the findings suggest that there is a potentially receptive attitudinal base for integrating human-animal ethical questions within existing areas of environmental education, value education, sustainability education and teacher preparation.

This interpretation is also supported by Fung and Zhou (2020), whose direct study of pre-service teachers led them to recommend greater attention to teacher preparation within humane education. UNESCO's ESD framework similarly identifies capacity-building of educators as a priority area.

The implication is therefore not that every B.Ed. programme must immediately create a separate subject on animal ethics. A more evidence-based recommendation is to explore how human-animal relationships can be integrated into existing curricular and pedagogical spaces.

4.7 Personal Attitude Toward Humane Treatment

The personal-attitude dimension recorded a mean of 4.39. Ninety-five percent agreed or strongly agreed that animals deserve kindness, respect and protection. Eighty-five-point nine percent reported supporting or participating in activities that help animal welfare. Eighty-seven-point nine percent were willing to encourage humane values in their future classrooms, and 89.9% believed that animal welfare can support education for sustainable development.

The result demonstrates a strong general pro-humane orientation. Particularly relevant is the connection respondents made between their personal attitudes and their future classroom roles.

However, the evidence again needs to be interpreted cautiously. Agreement with the statement that animals deserve kindness and protection is a broad moral position. It does not reveal how

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respondents would respond when humane considerations conflict with cultural practices, economic interests, dietary choices, scientific objectives or other human priorities.

This is consistent with contemporary research on speciesism and moral hierarchy. Dhont and Hodson (2026) show that positive emotional relationships with particular animals can coexist with practices involving other animals. Marriott and Cassaday (2022) similarly demonstrate that attitudes toward animal use vary according to species, purpose and speciesist attitudes.

Therefore, the present finding should be interpreted as strong general endorsement of humane treatment, not as evidence of fully consistent animal-rights or animal-welfare behavior.

5. Discussion

The central finding of the study is the consistency of the positive response pattern across all positive response pattern across all six dimensions. The dimension means ranged only from 4.24 to 4.45, suggesting that respondents reported broadly favorable orientations across conceptual, cognitive, affective, normative and educational dimensions.

At first glance, this might be interpreted simply as evidence that B.Ed. pre-service teachers possess high awareness of ethical human-animal relationships. A more critical interpretation, however, is warranted.

One of the early findings is the correlation between conceptual awareness and ethical sensitivity. Respondents not only recognized animal suffering and believed that the act of causing animal suffering was morally wrong; This means that the construct assessed by using the questionnaire is not only factual awareness but affective and normative as well.

Second, the high score on the awareness of animal exploitation suggests that participants are aware that there are many aspects of their daily lives that involve animal suffering. This is significant as it is in ethical education that values are made meaningful when learners can relate them to systems and practices in the real world.

Third, responsibility and action orientation were rated highly, indicating that humans have responsibilities toward animals, and that individual action is a way to make a difference. These are self-reported intentions, however, and should not be confused with actual behaviour.

Fourth, and most important for teacher education, educational relevance was the lowest of all the six dimensions. Although the scores were high, the relative difference could suggest that less certainty exists about the institutionalization of these concerns in the preparation of B.Ed. than there is about supporting humane treatment as a personal value.

This distinction provides a stronger interpretation than simply stating that all dimensions were “high”. It suggests a possible attitude-to-curriculum gap: respondents may already endorse humane values but may have less clearly established views about how these values should become part of formal teacher preparation.

Such a gap is important in the Indian policy context. NEP 2020 already places environmental awareness, conservation and sustainable development within the broader expectations of teacher education. The present study suggests that human-animal relationships could potentially be explored within this existing policy space.

The findings also contribute to the international ESD discussion. UNESCO’s ESD for 2030 framework identifies as a means of supporting transformation toward more sustainable societies and places educator capacity-building among its five priority areas. The present study therefore supports the argument that teacher education should consider not only what prospective teachers know about sustainability but also the ethical dispositions and relational perspectives that underpin responsible action.

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Nevertheless, the study should not be interpreted as demonstrating that teacher education programmes currently produce humane orientations. There is no comparison group, no pre-test /post-test design and no longitudinal evidence. Nor can the study establish whether respondent's reported attitudes are reflected in their actual classroom behavior.

The comparison with Fung and Zhou (2020) illustrates this issue. Their study of 226 pre-service teachers in Hong Kong found moderate concern for humane treatment. The present sample reported substantially higher scores. It would be scientifically inappropriate to conclude that Indian pre-service teachers are therefore more humane. Differences in measurement instruments, item wording, cultural context, sample characteristics and response tendencies may explain the difference.

Instead, the comparison demonstrates the value of conducting context-specific empirical studies. Teacher attitudes toward animals should not be assumed to be culturally uniform.

The recent psychological literature also supports this conservative reading. According to Dhont and Hodson (2026), speciesism is a system that permeates society in which animals are morally ranked based on species and attributed roles by humans. Similarly, Miralles et al., 2019, demonstrate that the caring of animals is not equally shared between species. Thus, the possibility of a respondent's saying "treat animals well" but displaying differential attitudes toward various types of animals is a realistic one.

This suggests that research should shift from attitude measurement to ethical reasoning in context in the future. Future studies could include scenarios with companion animals, farmed animals, wildlife, laboratory animals or animals used for entertainment and determine if the same principles are used in different situations.

This would also be a solution to an important disadvantage of the questionnaire at present: That several questions are positively worded and contain a moral clarity. There is a socially desirable answer that is easy for participants to identify. This renders the high scores useful as proxy measures of the stated orientation but not as an indicator for moral conflict, inconsistency or behavioral choice.

The educational implication, therefore, needs to be carefully formulated. The study doesn't prove that animal ethics education has already proved to improve teacher competence in India. Rather it proposes that teacher education programmes could have a potentially receptive group on which to extend the educational process. There is some evidence to support this belief from research into humane education.

The preliminary results presented by Ngai et al. (2021) indicate positive results from humane education in schools, while Samuels and Onuoha-Jackson (2023) report increased affective and cognitive empathy after the longer-term humane education programme. The results indicate potential for education, but cannot be readily adopted to teacher education programs in India.

The more defensible implication is therefore to recommend curricular experimentation and evaluation, not immediate universal prescription.

The high personal-attitude scores indicate many of the participants already have humane treatment attitudes. Teacher preparation programs can contribute to this by providing pre-service teachers with the opportunity to transfer their values into their professional competence.

This is more than a simple message to teachers: treat animals kindly. It includes building their capacity to engage in moral conversations and support class discussions, evaluate human-animal interactions, and reflect on their experiences based on evidence.

6. Educational Implications for Indian Teacher Education

The findings have several implications for teacher education in India.

6.1 Moving from Personal Values to Professional Competence

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The high personal-attitude scores indicate many of the participants already have humane treatment attitudes. Teacher preparation programs can contribute to this by providing pre-service teachers with the opportunity to transfer their values into their professional competence.

This is more than a simple message to teachers: treat animals kindly. It includes building their capacity to engage in moral conversations and support class discussions, evaluate human-animal interactions, and reflect on their experiences based on evidence.

6.2 Integrating Human-Animal Relationships Within Existing Curricular Areas

The findings do not justify the immediate creation of a separate compulsory subject. A more realistic implication is curricular integration within:

- environmental education;
- value education;
- sustainability education;
- citizenship education;
- social-emotional learning;
- biodiversity education; and
- interdisciplinary projects.

This approach would be consistent with NEP 2020's emphasis on environmental awareness and sustainable development within teacher education.

6.3 Developing Critical Rather Than Prescriptive Education

Teacher education should avoid presenting one predetermined moral position as the only acceptable conclusion. Human-animal relationships involve complex questions involving ethics, culture, livelihood, ecology, science and sustainability.

Pre-service teachers can instead be encouraged to compare perspectives, evaluate evidence, recognise suffering, identify assumptions and examine the consequences of different choices.

6.4 Connecting Ethical Sensitivity with Action

The high responsibility score suggests a favourable foundation for action-oriented learning. However, because self-reported willingness does not establish actual behaviour, teacher education should provide opportunities for practical engagement.

These might include reflective projects, case studies, community-based activities, biodiversity observation, animal-welfare awareness activities and classroom-resource development.

Such activities could help bridge the gap between knowing, caring and doing.

6.5 Strengthening Sustainability Education

The connection between animal welfare and sustainability reported by respondents suggests another curricular possibility. Human-animal relationships can be examined within broader discussions of biodiversity, ecosystems, consumption, environmental responsibility and sustainable development.

This is compatible with UNESCO's ESD for 2030 emphasis on transformation, responsible action and educator capacity-building.

7. Limitations

The study should be interpreted in light of several limitations.

First, the sample consisted of 99 pre-service teachers from the University of Lucknow and its constituent colleges. The use of purposive-cum-convenience sampling limits the generalisability of the findings.

Second, the study used self-reported data. Because the questionnaire contains morally desirable statements, social-desirability and acquiescence effects cannot be excluded.

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Third, the study was descriptive and cross-sectional. Consequently, it cannot establish causal relationships or demonstrate that teacher education produced the observed orientations.

Fourth, although the questionnaire demonstrated high internal consistency ($\alpha = .92$), the available evidence does not establish complete psychometric validity or confirm the proposed six-dimensional structure. Further studies should undertake more extensive validation.

Fifth, the instrument measures general orientations rather than responses to specific ethical dilemmas. It therefore cannot establish whether participants apply humane principles consistently across different species or contexts.

These limitations do not invalidate the findings. Rather, they define their appropriate scope: the study provides preliminary contextual evidence of self-reported ethical orientations among a specific group of pre-service teachers.

8. Conclusion

The present study examined ethical human-animal relationships among pre-service teachers and found consistently high self-reported scores across six dimensions: conceptual awareness, awareness of animal exploitation, ethical sensitivity, responsibility and action orientation, educational relevance, and personal attitude toward humane treatment. Ethical sensitivity obtained the highest mean score (4.45), while educational relevance obtained the lowest (4.24), although both remained within the high descriptive range.

The findings indicate the participants as a whole consider animals to be morally relevant, to acknowledge animal suffering, to recognise forms of exploitation and to express a willingness for a humane treatment of animals. They also express their readiness to assume responsibility and link their future role as a teacher with human values.

The study does not, however, explain that these orientations become consistent forms of behaviour or a consistent form of classroom practice. This qualification is necessary because current research has clearly shown that humans' concern for animals can be species-specific, be shaped by social categories, cultural norms and human-assigned roles (Dhont & Hodson, 2026; Miralles et al., 2019). The contrast with previous studies is also instructive. The respondents in the present study indicated much higher levels of moderate humane attitudes than did the respondents in the study conducted by Fung and Zhou (2020) in Hong Kong. The difference is not to be interpreted as superiority of the national or cultural setting since the studies have different samples and measurement settings. Instead, the comparison only further emphasizes the importance of local research into teachers' relationships with animals.

The strongest educational implication concerns the potential role of teacher education in transforming positive ethical orientations into informed pedagogical practice. NEP 2020 already emphasises environmental awareness, conservation and sustainable development within B.Ed. preparation. UNESCO's ESD framework similarly emphasises educator capacity-building and the development of knowledge, values and responsible action.

The contribution of the present study, therefore, is not to demonstrate that pre-service teachers are already fully prepared for humane education. Its more defensible contribution is to show that, within the studied group, there is a strong reported ethical and attitudinal foundation upon which teacher education could potentially build.

Future research should move beyond general self-report measures toward scenario-based assessment, behavioural indicators, qualitative exploration and intervention studies. Larger and more diverse samples should also be used, and the questionnaire should undergo further psychometric validation. Such research could determine whether positive ethical orientations can be translated into

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consistent pedagogical practices and whether structured teacher-education interventions can strengthen ethical reasoning, empathy and responsible action concerning human-animal relationships.

In this sense, ethical human-animal relationships represent a potentially valuable, but still underdeveloped, dimension of teacher education in India. Rather than treating the issue as an isolated animal-welfare concern, teacher education can examine it as part of a broader educational project involving ethical reasoning, compassion, environmental responsibility and sustainable relationships with the more-than-human world.

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