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## Environmental Empathy in Shaping Climate Change Beliefs of Prospective Teachers

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### ABSTRACT

One of the most significant environmental problems of the twenty-first century is climate change, which requires immediate action from policymakers and educators. Future generations' attitudes and behaviours regarding the environment are greatly influenced by their teachers. Environmental empathy has emerged as a key emotional aspect among the different psychological factors associated with environmental knowledge. The present study looks into how prospective teachers' perceptions of climate change are influenced by environmental empathy. A sample of 200 prospective teachers was administered a normative survey using a correlational design. Climate change beliefs and environmental empathy were measured using standardised tools. The results indicated a strong positive correlation between beliefs on climate change and environmental empathy. Climate change beliefs were also found to be strongly predicted by environmental empathy. In order to improve climate change education, the study emphasises the significance of incorporating emotional and value-based components in teacher education programs. The study's conclusions emphasise the need to encourage compassionate engagement with environmental challenges to advance sustainable practices.

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## **Introduction**

With its impact on ecological systems, biodiversity, human health, and economic stability, climate change has emerged as a major worldwide concern. According to scientific data, rising greenhouse gas emissions are causing global temperatures to rise, which has serious repercussions such as rising sea levels, extreme weather, and ecosystem destruction (IPCC, 2021). In addition to scientific and technological solutions, human attitudes, beliefs, and behaviours must change in order to combat climate change.

It is commonly acknowledged that education is an effective means of mitigating the effects of climate change. Education facilitates people in adopting sustainable activities, developing critical thinking skills, and comprehending environmental challenges (UNESCO, 2017). Teachers are essential in spreading environmental awareness and encouraging students to behave responsibly. As a result, it is crucial that aspiring educators have both a strong emotional connection to environmental issues and a thorough understanding of climate change.

The ability of a person to emotionally connect with nature and comprehend environmental degradation from an affective perspective is known as environmental empathy (Tam, 2013). It entails sentiments of care, empathy, and environmental responsibility. People who have a high level of environmental empathy are more inclined to support environmental conservation efforts and act in a pro-environmental stance.

Perceptions, awareness, worry, and acceptance of climate change as a genuine and pressing issue are all included in climate change views (Leiserowitz et al., 2010). These ideas affect how people respond to environmental issues and whether they choose sustainable behaviours.

Emotional involvement is vital in influencing attitudes and behaviours, even while cognitive comprehension of climate change is significant. Future educators, or prospective instructors, need to develop both emotive and cognitive skills connected to environmental challenges. Yet there is little study on the connection between prospective teachers' attitudes about climate change and environmental empathy. This study aims to fill this gap by examining how environmental empathy influences climate change beliefs of prospective teachers.

## **Review of Related Literature**

Environmental empathy has been widely studied as a key factor influencing environmental attitudes and behaviour. Schultz (2000) stated that empathy towards nature enhances individuals' sense of



connectedness with the nature, leading to increased concern for environmental issues. This emotional connection encourages individuals to adopt sustainable practices.

Tam (2013) developed a comprehensive framework for understanding environmental empathy and its role in predicting pro-environmental behaviour. The study revealed that individuals with higher environmental empathy are more likely to engage in environmentally responsible activities.

Berenguer (2007) assessed the role of empathy in environmental attitudes and found that environmental empathy significantly influences pro-environmental behaviour. The study emphasised that emotional engagement is a crucial determinant of environmental responsibility.

Leiserowitz et al. (2010) explored public perceptions of climate change and found that individuals' beliefs are influenced by a combination of cognitive, emotional, and cultural factors. Stevenson et al. (2014) highlighted the importance of emotional engagement in enhancing students' climate change awareness.

Recent studies have emphasised the importance of integrating affective components into environmental education. According to Ojala (2012), emotional responses such as concern and hope play a significant role in shaping climate-related beliefs and behaviours.

However, there is limited research focusing specifically on prospective teachers. Since teachers play a crucial role in shaping students' environmental attitudes, it is important to understand how their beliefs are formed. Environmental empathy may serve as a crucial factor influencing students' climate change beliefs.

### **Need and Significance of the Study**

People must be made aware of climate change in order to promote sustainable development. However, traditional schooling often prioritises cognitive components over emotional and value-based ones. This lessens the effectiveness of environmental education. Aspiring teachers are future change agents who will influence students' understanding of environmental issues. Therefore, it's important to ensure that they have both awareness and empathy for the environment. Understanding how attitudes toward climate change are influenced by environmental empathy can help develop effective teacher education programs, promote emotional engagement with environmental issues, and foster awareness of and accountability for climate change. The present study is vital for addressing the gap between the cognitive and affective elements of environmental education.



### Hypotheses Formulated for the Study

H<sub>1</sub>: There is a significant relationship between environmental empathy and climate change beliefs of prospective teachers

H<sub>2</sub>: Environmental empathy significantly predicts climate change beliefs of prospective teachers

### Objectives of the Study

1. To find out the level of environmental empathy of prospective teachers
2. To find out the level of climate change beliefs of prospective teachers
3. To determine the relationship between environmental empathy and climate change beliefs of prospective teachers
4. To analyse the predictive role of environmental empathy in shaping climate change beliefs

### Methodology

The study adopted a normative survey method with a correlational research design. A sample of 200 prospective teachers was selected from various teacher education institutions in the Thiruvananthapuram district of Kerala state using stratified random sampling. The tools used for the study were the Environmental Empathy Scale, prepared and standardised by the investigator, and the Climate Change Belief Scale (Leiserowitz et al., 2010). Data were collected through structured questionnaires administered to prospective teachers. Participants were assured of confidentiality. Statistical Techniques used for the study were Mean and Standard Deviation, Pearson’s Correlation and Regression Analysis. The study was delimited to a sample of 200 prospective teachers from Thiruvananthapuram district only.

### Results

#### Objective 1: To find out the level of environmental empathy of prospective teachers

Level of Environmental Empathy

Level of Environmental Empathy	Score Range	Number of Students	Percentage
Low	Below 65	30	15%
Moderate	65–85	120	60%
High	Above 85	50	25%



Level of Environmental Empathy	Score Range	Number of Students	Percentage
Total		200	100%

The mean score was 75, with a standard deviation of 10. The calculated range using mean  $\pm$  standard deviation was 65 to 85. Scores below 65 indicate low level, scores between 65 and 85 indicate moderate level, and scores above 85 indicate high level. The results indicated that prospective teachers generally exhibited moderate to high levels of environmental empathy.

### Objective 2: To find out the level of climate change beliefs of prospective teachers

Level of Climate Change Beliefs of Prospective Teachers

Level of Climate Change Beliefs	Score Range	Number of Students	Percentage
Low	Below 60	40	20%
Moderate	60 – 76	110	55%
High	Above 76	50	25%
Total		200	100%

The mean score of climate change beliefs was found to be 68 with a standard deviation of 8. Based on the classification, 20% of prospective teachers fall under the low level, 55% under the moderate level, and 25% under the high level of climate change beliefs. This indicates that the majority of prospective teachers possess a **moderate level of climate change beliefs**.

### Objective 3: Relationship between Environmental Empathy and Climate Change Beliefs using Pearson's Product Moment Correlation

Variables	N	r-value	p-value	Level of Significance
Environmental Empathy & Climate Change Beliefs	200	0.62	< 0.01	Significant

The correlation coefficient between environmental empathy and climate change beliefs was  $r = 0.62$ , indicating a moderately high positive relationship. The obtained p-value is less than 0.01, indicating that



the relationship is statistically significant at 0.01 level. This implies that as environmental empathy increases, prospective teachers' climate change beliefs also increase.

#### **Objective 4: Predictive Role of Environmental Empathy on Climate Change Beliefs using Simple Linear Regression Analysis**

<b>Predictor Variable</b>	<b>R</b>	<b>R<sup>2</sup></b>	<b>Adjusted R<sup>2</sup></b>	<b>% of Variance Explained</b>
Environmental Empathy	0.62	0.38	0.37	38%

The regression analysis shows that environmental empathy has a substantial predictive relationship with climate change beliefs. The correlation coefficient (**R = 0.62**) indicates a moderately strong positive association between the variables. The coefficient of determination (**R<sup>2</sup> = 0.38**) reveals that 38% of the variance in climate change beliefs is explained by environmental empathy. The adjusted R<sup>2</sup> value (0.37) is very close to R<sup>2</sup>, indicating that the model is stable and not overfitted. This suggests that environmental empathy is a significant and meaningful predictor of climate change beliefs among prospective teachers.

#### **Discussion**

The research findings emphasise the crucial role of environmental empathy in shaping attitudes toward climate change. The positive correlation shows that people with a strong emotional connection to the environment are more likely to understand the severity of climate change. This supports the results of Tam (2013) and Schultz (2000), who highlighted the importance of empathy in raising environmental consciousness. People who are emotionally engaged feel more accountable and are inspired to act. Because it affects their teaching methods, environmental empathy is especially crucial for aspiring educators. Empathetic educators are more likely to incorporate environmental knowledge into their lessons and encourage students to adopt sustainable habits.

#### **Educational Implications of the Study**

- Empathy-based environmental education should be integrated into teacher education programs.
- Field trips and outdoor activities are examples of experiential learning that ought to be fostered.
- Value-based environmental education should be part of the curriculum.
- Emotional engagement with climate issues should be the primary focus of training programs.



## Conclusion

The study concludes that environmental empathy has a major impact on potential teachers' opinions regarding climate change. Developing empathy can promote sustainable behaviour and increase consciousness. Affective components must be included in teacher preparation for climate change education to be effective

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