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NAVIGATING CLIMATE DISTRESS: EMOTION, EDUCATION, AND CLIMATE JUSTICE AMONG PAKISTANI YOUTH

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ABSTRACT

The psychosocial aspect of climate change is now being recognised, particularly for the younger generation in climate vulnerable regions. The purpose of this qualitative study is to understand the experience, interpretation and coping responses of Pakistani university stu-dents in educational and socio-cultural environments in relation to climate change. Data was collected using a critical psychosocial perspective, using semi structured interviews with 20 participants from universities across Pakistan, 10 of whom also took part in 2 focus group discussions with 5 students each. Reflexive thematic analysis was used to analyse the data. Four interrelated themes emerged: (1) eco-anxiety and anticipatory grief, (2) epistem-ic dissonance between climate education and lived experience, (3) climate inequality and moral distress, and (4) affective solidarities as forms of collective coping. The analysis found that factors beyond environmental concerns, such as educational deficits, felt injus-tice, and institutional shortcomings, also influenced climate-related distress. Meanwhile, peer support and collective engagement grew into factors of resilience. The study highlights the need for emotionally responsive climate education and culturally relevant mental health support for young people.

KEYWORDS: Eco-anxiety, Climate change, Youth, Pakistan, Psychosocial, Education, Mental health.

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1. INTRODUCTION

Climate change during the Anthropocene is not only an ecological shift but a significant emotional and social one, shaping how fear, hope, uncertainty, and connection play out in people's lived experience (Anderson, 2009; Pihkala, 2020). 2024 was the hottest year on record (World Meteorological Organization, 2025), and today's youth live with the psychologically burdensome awareness of an unfolding ecological crisis (Clayton, 2020; Hickman et al., 2021). Pakistan ranks first on the Germanwatch Climate Risk Index 2025 despite contributing just under 0.9% of global greenhouse gas emissions (Eckstein et al., 2021; Kreft et al., 2025), and suffers frequent floods, heatwaves, glacier melt, droughts, and water scarcity (World Bank, 2022).

Climate change brings deep psychological wounds alongside material damage, especially for young people navigating educational paths, careers, and an uncertain future (Clayton & Manning, 2018; Sanson & Bellemo, 2021). Eco-anxiety, a continuous fear of environmental destruction, has mostly been studied in the Global North (Pihkala, 2020), even though adolescents in the Global South show higher rates of psychological distress from firsthand experience with climate disasters (Marks et al., 2022). In Pakistan, cross-sectional research found that affective symptoms in response to climate anxiety were highest among graduate students and positively, if moderately, correlated with age (Meo et al., 2025).

Nearly three in ten Pakistanis suffer from some form of mental disorder, yet there are fewer than 0.2 psychiatrists per 100,000 people, leaving rural and climate-affected populations with little psychiatric support (Sheikh et al., 2025; World Health Organization, 2022). Beyond the clinical framing of eco-anxiety lies a deeper question of knowledge, emotion, and agency: young people in vulnerable countries are not simply anxious, but alert to their elders' generation having failed to act on a looming problem (Hickman et al., 2021; Wasmus et al., 2025).

The educational setting matters here because universities are not neutral spaces for knowledge acquisition; they are affective ecologies where students learn not only what to think but how to feel about it (Ojala, 2012; Shah et al., 2025). Climate education that dramatises future scenarios while ignoring climate justice and local experience can leave students aware of risk but ill-equipped to understand or act on it.

This study therefore treats climate education not as a neutral backdrop but as an analytical core, examining how educational institutions shape the affective condition of climate crisis among Pakistani youth. It explores the affective ecology of climate change, the intersection of emotions, environments, power relations, and education that produces particular forms of subjectivity and distress (Anderson, 2009; Frosh, 2010), conceptualising climate distress as a psychosocial phenomenon produced through emotion, education, and climate injustice. Drawing on Critical Psychosocial Theory, Affective Geographies, and Climate Justice perspectives, the study explores how Pakistani youth make sense of climate change in everyday life.

1.1. Research Questions

1. How do Pakistani youth emotionally experience climate change?
2. How do educational institutions shape climate-related understanding, emotions, and perceptions of climate justice?
3. What coping strategies emerge within these affective ecologies?

1.2. Climate Change and Youth Emotions

In a nationally representative survey of 10,000 young people aged 16–25, more than 59% self-reported being 'very' or 'extremely worried' about climate change, with distress manifesting as emotional (anxiety, fear, sadness), behavioural (avoidance), and identity-related impacts (Hickman et al., 2021; Pihkala, 2020). Researchers distinguish climate change-related distress (CCD) from climate change-related impairment (CCI): negative emotions and sleep or concentration problems are common, but protective factors (positive emotions, self-efficacy, conceptual knowledge, and social support) can prevent this distress from solidifying into dysfunction (Wasmus et al., 2025). Eco-anxiety itself remains contested in definition: Pihkala (2020) frames it around fear, grief, anger, and helplessness, while Clayton (2020) emphasises its continuous, ongoing nature. The Hogg Eco-Anxiety Scale (HEAS) measures affective, behavioural, and identity-related dimensions of eco-anxiety across countries (Hogg et al., 2022) and has recently been adapted and validated in Urdu for the Pakistani population (Nayab et al., 2025).

1.3. Climate Education and Emotional Understanding

Climate change affects mental well-being through direct exposure to climatic shocks (trauma, PTSD), indirect socioeconomic effects (displacement, poverty, malnutrition), and anticipated effects from understanding environmental degradation (Doherty

& Clayton, 2011; Berry et al., 2010; Hayes et al., 2018). Sheikh et al. (2025) note that PTSD, depression, and anxiety are common but under recognised in disaster planning across Pakistan and neighbouring South Asian countries. A cross-sectional study of 760 Pakistani students (202 school, 158 college, 400 degree-awarding institute) found affective symptom scores highest among graduate students (M = 1.78), rising with age, education level, and, counterintuitively, household income above 100,000 rupees, suggesting climate vulnerability is not tied to poverty alone but mediated by awareness and information access (Meo et al., 2025; Nayab et al., 2025).

Climate education is paradoxical: it can build the awareness needed to understand climate change or become a source of distress that exceeds coping capacity (Ojala, 2012; Pihkala, 2020). Pakistan's curriculum offers little space for climate change, with content that is short, shallow, theoretical, and disconnected from local context or solutions (Shah et al., 2025; UNESCO, 2025). Although climate change is increasingly present in the primary curriculum, teachers often lack the training to address its emotional and practical dimensions, so classroom teaching tends to emphasise factual knowledge over environmental responsibility or capacity to respond (Habib & Zain, 2025).

Recent initiatives, such as the Green Youth Movement launched by the Higher Education Commission, promote environmental awareness among university students (Higher Education Commission Pakistan, 2026), though curriculum reform is slow and many textbooks remain outdated (UNESCO, 2025), with considerable provincial variation: Punjab and Khyber Pakhtunkhwa have progressed further than others (Hussain et al., 2022).

This produces epistemic dissonance: a tension between the academic knowledge gained in classrooms and the concrete, lived experience of environmental change (Wasmus et al., 2025). Reading about melting glaciers while watching an unpredictable monsoon destroy one's own village creates a gap between the symbolic and the concrete that causes confusion and distress (Cunsolo & Ellis, 2018). Research on German youth found that recognising climate emotions as normal, rather than as symptoms of individual dysfunction, buffered against functional impairment, underscoring that psychoeducation on climate emotions, not just climate science, matters. This remains largely absent from Pakistani curricula (Wasmus et al., 2025).

1.4. Climate Justice and Moral Distress

Climate-driven disasters in Pakistan, including flooding and water-borne disease, heatwaves and heat stroke, and trauma and disability, disproportionately threaten women's and children's health through disrupted access to nutrition and reproductive services (World Health Organization, 2022; Sheikh et al., 2025). The 2022 floods alone covered a third of the country, affected more than 33 million people (UNICEF, 2022, 2023), and left lasting health effects beyond immediate injury, including waterborne disease, strained healthcare capacity, and delayed disaster response. Despite contributing relatively little to global emissions, Pakistan experiences disproportionate climate impacts, making climate change a matter of justice as well as environmental vulnerability; climate emotions are shaped not just by environmental threat but by perceptions of unequal responsibility and access to adaptation resources (Schlosberg & Collins, 2014; Whyte, 2018). One study found that Generation Z's perceptions of pandemic-era economic recession significantly predicted pro-environmental behaviours in Pakistan, illustrating how crises shape emotion and behaviour among young people through an Affective Events Theory lens (Waheed et al., 2024; Weiss & Cropanzano, 1996).

1.5. Theoretical Framework

Three overlapping traditions inform this research design:

A critical psychosocial tradition (Frosh, 2010) studies the interconnections between social structures, power, culture, and psychological experience without reducing one to the other, exploring how large-scale social forces become internalised at the level of personal relationships (Walkerdine & Jimenez, 2012). Affective geographies examine how affects are distributed across spaces, environments, and material conditions, arising through interaction with landscapes, weather, and access to green space, not only inside individuals' heads (Anderson, 2009; Duff, 2010). Climate justice scholarship focuses on the uneven distribution of climate impacts and benefits across the Global North/South divide, race, class, and age (Schlosberg & Collins, 2014). Together, these perspectives frame climate change as an affective ecology of crisis, a multi-relational process in which emotion, environment, education, and power interact to produce particular forms of subjectivity, distress, and resilience (Anderson, 2009; Frosh, 2010), providing the lens through which this study analyses climate emotions, learning experiences, moral distress, and coping among Pakistani youth.

2. METHODS

2.1. Research Design

This study used a qualitative, interpretivist design with a critical social lens to understand Pakistani university students' experience, understanding, and emotional response to climate change within their social, educational, and cultural setting. This approach was well suited to investigating subjective meanings, emotions, and lived experience. Data were analysed using Reflexive Thematic Analysis (RTA; Braun & Clarke, 2006, 2021), which foregrounds the researcher's interpretative role in developing themes that connect participants' stories to their broader social and cultural context.

2.2. Sampling Strategy

Purposive maximum variation sampling was used to capture a range of regional, disciplinary, and institutional perspectives. Inclusion criteria were enrolment at a Pakistani university, age 18–25, and willingness to discuss climate change experiences; those with psychiatric emergencies or without Urdu or English were excluded. The sample spanned social sciences, natural sciences, engineering, and humanities, across urban and semi-urban settings and several provinces.

Table 1: Demographic Characteristics of Participants.

City	Institution Name	Number of Participants
Karachi	University of Karachi	3
Islamabad	National University of Modern Languages (NUML)	3
Lahore	University of the Punjab, Lahore	2
Peshawar	University of Peshawar	2
Faisalabad	Government College University Faisalabad (GCUF)	5 (also focus group)
Faisalabad	University of Agriculture Faisalabad	5 (also focus group)

2.3 Data Collection

Across 6 universities of Pakistan, a total of 20 university students took part in semi-structured interviews. Of these, 10 students were purposively selected for 2 focus group discussions (n = 5 per group) to further enrich the findings. Interviews, conducted face-to-face or online, lasted up to 45 minutes and covered four themes: perceptions of climate change, emotions, educational experiences, and coping. The guide was pretested with 3 students outside the final sample, after which minor revisions were made.

Two focus group discussions were held with students at Government College University, Faisalabad, and University of Agriculture, Faisalabad, each lasting about 90 minutes and allowing the group to collectively process their experiences, concerns, and interpretations of climate change.

Interviews and focus groups were conducted in Urdu, English, or both, per participant preference. Informed consent was obtained, and sessions were audio recorded and transcribed verbatim, with affective meaning and cultural context preserved through translation. Transcript review was not performed, but member checking with five respondents verified the interpretations.

2.4. Data Analysis

Data were analysed using Braun and Clarke's (2006, 2021) six-stage Reflexive Thematic Analysis: familiarisation, initial coding, theme development, theme review, theme definition, and report writing.

The first author listened to the audio and read the transcripts repeatedly, keeping a reflexive journal. Coding was inductive, using QD Miner software, with codes built from participants' accounts rather than imposed theory, capturing both literal and implicit emotional and psychosocial content. Codes were iteratively discussed among the research team and grouped into candidate themes, which were checked against the coded extracts and full dataset for coherence, relevance, and distinctiveness; themes lacking support or overlapping with others were revised or dropped. To ensure analytic rigor, 20% of the transcripts (4 of 22) were randomly coded by a second coder, achieving 82% agreement, with differences resolved through discussion.

Themes were then developed to capture their core meanings and interconnections, and the final narrative combined participants' quotations, emergent themes, and theoretical reflection. Four themes emerged: eco-anxiety and anticipatory grief, epistemic dissonance, climate inequality and moral distress, and affective solidarities.

Reflexive journaling was maintained throughout to capture interpretive decisions, consistent with reflexive thematic analysis's view of themes as generated through researcher-data engagement rather than objectively discovered.

2.5. Trustworthiness And Ethical Considerations

Trustworthiness followed Lincoln and Guba's (1985) criteria. Credibility was supported by member checking with five participants and ongoing engagement with the Pakistani climate-mental-health literature; dependability, by systematic documentation of data collection, coding, and theme development; and confirmability, by reflexive journaling of the researcher's positionality and interpretive decisions throughout. Transferability was addressed through a detailed description of the research context and participant characteristics, allowing readers to judge the findings' applicability to other Global South educational contexts.

Ethical procedures included informed consent, voluntary participation, and the right to withdraw without consequence. Transcripts were de-identified and pseudonyms used to protect confidentiality, and recordings and materials were securely stored and accessible only to the research team. Given the sensitive nature of the topic, participants could pause, skip, or end their participation at any time, with particular attention paid to confidentiality, emotional wellbeing, and respectful representation throughout.

2.6. Anonymity And Confidentiality

No personal identifiers were included in the transcribed data, pseudonyms were used in the analysis, and audio files were kept on password-protected computers.

2.7. Emotional Distress Protocol:

Given the potential for emotional distress when discussing climate issues, participants showing significant distress were encouraged to take a break, skip questions, or discontinue the interview altogether.

2.8. Beneficence

While there were no direct benefits from participating, many participants expressed gratitude for a safe space to discuss their climate-related fears, suggesting that participation itself may have been validating.

3. RESULTS AND DISCUSSION

Four interrelated themes emerged, each reflecting a distinct aspect of the emotional ecologies of the participants: (1) eco-anxiety and anticipatory grief as the prevailing mode of emotional experience; (2) epistemic dissonance due to fractured climate education; (3) climate inequality and moral distress due to perceived injustice; and (4) affective solidarities as a form of collective coping.

Table 2: Overview of Themes and Descriptions.

Theme	Description
Theme 1: Eco-Anxiety and Anticipatory Grief	Persistent anxiety, uncertainty, and grief were linked to current and expected climate impacts. Distress was manifested through concerns regarding environmental degradation, livelihood futures, personal health, and loss of known spaces, identities, and life trajectories.
Theme 2: Epistemic Dissonance in Climate Education	Participants emphasised the mismatch between formal climate education and real environmental experiences. Climate change has been integrated into education, but learning was abstract and without local context and offered little emotional or practical assistance in addressing climate change challenges.
Theme 3: Climate Inequality and Moral Distress	The participants saw climate change as a question of inequality, inequity, and inequitable responsibility. The narratives indicated the existence of inequalities, problems with institutions, and frustrations and feelings of powerlessness due to the lack of impact on structural issues.
Theme 4: Affective Solidarities and Collective Coping	Participants developed resilience because of interaction with peers, networks, environmental movements, and collective activities. This was made possible by emotional sharing and validation, which enabled people to feel less isolated in dealing with climate change issues.

Theme 1: Eco-Anxiety and Anticipatory Grief

Theme 1 captures the psychological effect of climate change on participants: rather than a distant environmental problem, it was a constant sense of worry, loss, and uncertainty woven into daily life. P3 described the physical symptoms of this anxiety: "It is like there is a constant feeling of weight inside me, not enough to prevent me from operating, but it's there. Whenever I see clouds, I don't think 'good rainfall,' I think 'how bad will it be this time?'"

Eco-anxiety was described as a prolonged, future-focused state involving worry, rumination, and trouble sleeping, linked to witnessing environmental change directly or repeatedly through media coverage.

In addition to anxiety, participants reported anticipatory grief about futures that they were uncertain whether they would ever witness. P6 talked about the grief for an envisioned agricultural future: "*My grandfather was a farmer. My father is a*

farmer. I was meant to be a farmer. But what do I have to farm? It gets too hot too early, or it rains too late, and even if it does rain, it ruins everything. I am mourning a life I will never get to lead." Participants also mentioned grief about watching people who are victims of natural disasters caused by climate change suffer. P10 said, "*I see needless deaths. If the system worked better and there was more preparation, we wouldn't have lost all these lives. I met a mother who lost her baby in the floods. She was weeping uncontrollably when I saw her.*"

Participants' grief extended beyond the personal to threatened livelihoods, broken family traditions, environmental destruction, and the suffering of affected communities.

Theme 2: Epistemic Dissonance in Climate Education

The disjunction between climate knowledge gained via education and personal experiences related to climate change was one common theme amongst participants. In spite of discussions on climate change within school and university curricula, it is perceived by participants that the discussion of such knowledge remains abstract and far removed from their reality, and that such education falls short in dealing with the emotions and practicalities surrounding climate change. P11 said, "*We learned about the greenhouse effect in our 9th-grade science class -- CO2, methane, pictures of the earth covered by a blanket. But nobody ever mentioned that someday, I would get up and realise that it is 48 degrees outside and there is no electricity for 14 hours. Textbook stuff is more like a comic book story. The reality is something else.*"

P14 similarly reflected: "*In our environmental economics course, we talked about carbon trading and markets, but never about the feeling of seeing your village being flooded by water. We never even asked ourselves if it was just to see us suffer from emissions produced by others. Economics is crucial, but it is not everything. Not even helpful for dealing with stress.*" The participants commonly mentioned that climate change education was scientific in nature but lacked relevance to everyday reality. Even though they mentioned knowing about greenhouse gases, carbon emissions, and market-based solutions to climate change, it seemed that the information received in school had little value in helping them comprehend the changes in their environment or cope with the emotional effects of climate disruption.

P17 described learning about climate severity before developing coping resources: "*In our very first semester, our professor screened for us a documentary on how Pakistan would look by 2050 if something wasn't done to change things around. The glaciers melting, Indus drying out, Karachi flooding. I couldn't sleep for days on end. But nobody told us how to use that data. How do you deal with knowing this?*" P8 explained a similar experience: "*During our first year, our professor made us watch a documentary on climate change. I couldn't sleep for days. The pictures of the flooded towns and dying creatures were always on my mind. I thought that I was being too dramatic. Until I spoke to other students and realised that we all felt the same way. Yet there was never any follow-up from any professor asking us how we were coping.*"

Participants had encountered frightening information about climate futures without institutional help in coping psychologically, and several reported anxiety and insomnia after being educated about climate change.

P9 said: "*There was no hope. No systematic optimism. We learned about the problems in our environment, but nobody ever showed us how to live through the problems.*" The participants explained that many educational experiences revolved around learning about the crises without much exposure to potential solutions to the crises. In this context, climate change became a problem that was simply too big to be solved." The participant P6 stated: "*We were taught about international systems, but no local farmers, local ecosystems. I have finished my degree, but I still don't know anything about the water systems in my own city.*" *The participant P4 stated: "I'm a psychology student. I am supposed to know how to take care of myself mentally. But I don't. I have even consulted professionals. I went to a counsellor who understood me, empathised with me, but did not have any climate-based techniques for me.*"

Participants also emphasised the lack of local environmental content in their education: while knowledgeable about global climate policy, many lacked understanding of local environmental systems and adaptation challenges. Even those with a psychology background struggled to find climate-specific support, noting that general counselling rarely addressed climate-related emotions.

Overall, climate education was experienced as building awareness without supporting emotional literacy, local relevance, or practical action, leaving participants with uncertainty, frustration, and emotional overload.

Theme 3: Climate Inequality and Moral Distress

This theme reflects participants' awareness of the structural injustices tied to climate change: several questioned why those who contributed least to global emissions were suffering the most, a realisation that provoked anger and frustration.

P12 stated: "*Why should my future be jeopardised by pollution produced by plants in countries I have never*

even been to? Americans and Europeans grew wealthy by using their fuels, but now they are going to pay the price for it. This isn't fair, and what makes matters worse is that no one even cares about fairness." P8 similarly described: "*First of all, I study the statistics and the forecasts. By the year 2050, the forecasted increase in temperature for Pakistan is 2-3 degrees. This will result in agricultural output being 30-40% lower. I know all of this. But then, what can I do? I am just a student.*"

Participants understood the disparity between who caused climate change and who bears its effects, often feeling powerless to influence processes at such a global scale. Their emotional responses were tied not only to environmental risk but to a sense of injustice.

P15 noted: "*I feel fortunate that I live in the city because in case of floods, roads can be closed for just a day, and the rest of my life remains unaffected. But in rural areas, everything gets washed away; all their property, their livestock, and their lands are lost, and they have to migrate to the cities where they are considered a burden.*" P6 similarly observed: "*The rich have their ACs, they have a generator, and when there is rain, their houses are at a safer location. But the poor live in kacha colonies, where floods take place... This is an injustice. Our system is not protecting the poor people.*"

Participants also perceived a social and geographical disparity within Pakistan, believing that wealthier, urban residents were better shielded from climate impacts than less privileged, resource-poor communities.

P17 reflected: "*The floods of 2022... everyone would speak about it for a few weeks. Fundraising campaigns, news items, and politicians making appearances in flood zones. And then everyone forgot about it. While some are still in tents, still traumatised, still waiting for aid that did not come. How should I react to this? Optimistic? No.*" Similar sentiments were echoed by P11 as he stated that "*Climate change incidents have already shaken the system, and now, as it is happening, there is no response from the government, and no planning is visible.*" Perception of the institutional response was mostly that it was not sufficient in addressing the climate related issues. Some of the problems discussed included the lack of preparedness for disasters, the lack of recovery programs, poor public awareness programs, and lack of long-term planning. This resulted in a sense of powerlessness about institutions' capacities to address future climate challenges.

Overall, participants viewed climate change as an issue of justice, accountability, and governance as much as environment, recognising global and local inequalities alongside their own limited power to effect change.

Theme 4: Affective Solidarities and Collective Coping

This theme focuses on coping strategies (assessed by the participants' coping responses) they used due to their peer interactions, group participation, and shared feelings. The participants identified their community of people concerned about climate change issues as a source of comfort. This made their singular experience into a community. P3 reflected: "*When I started to feel that way I thought I was losing my mind, no one in my family ever talks about climate change, everyone that I know in school thought I was overreacting, but then I got involved in an environmental group and now there's everyone else feeling the same way.*" P7 also added: "*The support group that Anam established is also very useful, normalisation, validation and collective coping---sometimes it is more effective than therapy.*"

Many participants shared the discovery that others held similar concerns, having initially felt alone or overly anxious; connecting with environmental clubs, peer groups, and support systems reassured them they were not alone.

P9 explained: "*In my group we have the rule there's no toxic positivity -- when we say 'don't worry, everything will be fine', it isn't, it makes everybody feel worse. But we say 'yes, this is terrifying, we are all in it together' -- that's more helpful than false hope.*" The participants appreciated interventions that recognised that climate change is a serious issue but did not deny or downplay emotional responses. The participants pointed out that they did not look for "guarantee" that there would be no environmental problems again but emphasised the importance of being open to dialogue and getting to know one another. This helped to provide an avenue for talking about their climate concerns without fear of judgement.

P12 stated: "*As soon as I'm sitting at home reading climate news, I get paralyzed, but as soon as I'm organising a tree plantation drive or an awareness campaign, I feel like I'm doing something and that's not going to save the world, I know that, but it saves me from despair and maybe that matters too.*" P15 similarly reflected: "*My coping mechanism is purpose and action. I am in the process of creating my sustainable business plan. I am making some progress each day. I am happy with small victories. I didn't set my expectations too high. While it may be impossible for me to change the world, I can certainly do my part in my community.*"

Although aware that individual action would not solve climate change, participants felt their community involvement mattered, channelling their sense of powerlessness into awareness-raising and environmental initiatives.

P18 noted: "*There's no environmental club here and if I say something about climate change people think I'm nuts. So, I keep it to myself, it's not good for me.*" P20 responded in the same way*:* "*There is no organised group on campus. The students have formed their own groups.*" The participants had different access to support groups. Some described how learning had occurred outside of the context of a formal structure and the discussion of climate change was limited. Even if students developed such a system by themselves, the participants expressed that it was too dependent upon personal effort and that it wasn't necessarily available to other institutions.

These accounts suggest peer connection, group involvement, and collective action are important sources of resilience against climate stressors, reducing isolation and building a sense of purpose, though not everyone had equal access to these connections.

4. DISCUSSION

This study explored how Pakistani youth experience climate change as an emotional crisis, focusing on their emotional experiences, the role of education, and their coping mechanisms. Four major themes emerged: eco-anxiety and anticipatory grief, epistemic dissonance, climate inequality and moral distress, and affective solidarity. Together, these findings support the concept of an affective ecology, a dynamic field of interaction between emotions, environments, power relations, and institutions, as a useful framework for understanding climate distress, shaped by lived experience of extreme weather and institutional failure as much as by individual psychology.

4.1. Climate Distress as a Psychosocial Experience

For Pakistani youth, climate distress reflects a broader psychosocial response to climate uncertainty rather than simple environmental worry; climate education was found to be scientifically accurate but disconnected from lived environmental experience. This is consistent with growing evidence that climate change is experienced as an emotional and psychological problem for young people (Hickman et al., 2021; Pihkala, 2020), though in Pakistan this distress is intensified by continuous environmental disruption, socioeconomic vulnerability, and limited institutional support.

As in earlier research, participants' climate emotions carried a strong future orientation, centred on uncertainty about their own well-being, livelihoods, and societal stability (Hickman et al., 2021), extending beyond environmental concern to fears about their future selves and life paths, supporting Pihkala's (2020) framing of eco-anxiety as a rational response to environmental threat. Consistent with Cunsolo and Ellis (2018), participants' grief encompassed both past environmental losses and losses that might never occur, extending the literature on climate grief and showing how threats to livelihood, environment, and homeland can disrupt a sense of continuity between past, present, and future, so that anticipatory grief threatens not only the physical environment but personal identity and aspiration.

From a psychosocial perspective (Frosh, 2010), these results show that climate distress cannot be reduced to psychological process or environmental factor alone, but emerges through the interplay of environment, social systems, cultural values, and fear of the future, closely tied to landscape change, weather extremes, and disruption of familiar surroundings. This is consistent with the affective geographies perspective, in which emotion arises from the relationship between people and their environment rather than existing as a purely internal, subjective state (Anderson, 2009).

Gender also shaped how climate distress was expressed: while both men and women experienced considerable emotional consequences, anxiety, sadness, and grief were expressed more directly by female participants, while men more often expressed anger, frustration, or emotional repression. This is a pattern noted across narratives rather than a systematic quantitative comparison, since gender was not recorded as a formal demographic variable. This suggests that cultural expectations about emotional expression may shape how climate distress is communicated rather than experienced, question future research should examine more directly.

4.2. Climate Education and Epistemic Dissonance

Climate education occupied an ambiguous space in participants' experience: while educational institutions were important sources of environmental awareness, participants frequently described a disconnect between what they learned and their everyday reality, with climate information perceived as abstract and insufficient for understanding real-life climate impacts. This supports earlier findings that climate education can produce unintended emotional consequences when it presents alarming information without space for reflection (Ojala, 2012; Pihkala, 2020), and that its impact is diminished

when global content is not connected to local ecological and cultural context (Pihkala, 2020).

Emotional literacy was largely absent from climate education: information was delivered from a scientific standpoint without addressing its emotional consequences, consistent with evidence that recognising climate emotions as normal, rather than as symptoms of individual dysfunction, helps young people cope more effectively (Wasmus et al., 2025). A related gap was the lack of hope and agency in these experiences: participants often learned about environmental problems without being shown ways to act on them, reinforcing the value of constructive hope, not denial or unrealistic optimism, but a sense of empowerment and participation, in climate education (Ojala, 2012), and suggesting that education focused solely on environmental hazards can induce helplessness.

From a psychosocial perspective (Frosh, 2010), educational processes are not neutral transfers of information but are shaped by affective, social, and cultural context that influences how learners perceive climate risk and their own capacity to cope. The concept of epistemic dissonance captures this gap between formal knowledge, personal experience, emotion, and agency: climate education appears to shape not only what students know about climate change, but how they perceive environmental uncertainty and their ability to respond to it.

4.3. Climate Justice and Moral Distress

Participants understood climate change as a problem of inequality, responsibility, and fairness as much as an environmental one, often questioning why communities that contributed least to global emissions would bear the worst effects, reflecting vulnerability, resource, and adaptive-capacity inequalities rather than threat alone. This aligns with climate justice scholarship describing an inequitable distribution of responsibility, vulnerability, and adaptive capacity (Schlosberg & Collins, 2014; Whyte, 2018), in which anger, frustration, and hopelessness were tied to perceived unfairness in how burdens are shared.

These findings also reflect an awareness of inequality within Pakistan itself, with climate risk perceived as unevenly distributed by socioeconomic status and geography. Participants' disappointment in institutional responses, citing poor disaster preparedness, delayed response, and a lack of long-term planning, echoes earlier findings that young people become frustrated with governments and institutions perceived as failing to act on climate change (Hickman et al., 2021), and appeared central to participants' moral distress, particularly given their limited ability to influence these structural factors. Climate emotions in this study were therefore inseparable from questions of accountability, governance, and injustice.

4.4. Collective Coping and Affective Solidarities

Responses to climate distress were largely collective rather than individual, with participants describing relationships with peers, environmental associations, and informal groups as key sources of resilience; sharing concerns with others reduced isolation and provided validation and support, consistent with research on the role of social support in helping young people navigate climate emotions (Ojala, 2012). Emotions that initially felt extreme or unusual became normalised once validated by peers, and participants particularly valued, honest acknowledgment of climate severity over false reassurance, support that recognised the problem's seriousness without dismissing their emotions.

Collective action also mattered: while participants recognised that individual action alone could not solve climate change, engaging in activism converted a sense of helplessness into purpose, consistent with earlier findings that climate action can counter perceived powerlessness (Ojala, 2012; Clayton & Manning, 2018). However, access to these collective coping mechanisms was uneven: more available at institutions with active environmental clubs and student bodies, and heavily dependent on individual initiative where no formal structures existed. From a critical psychosocial perspective (Frosh, 2010), these findings suggest climate resilience is not purely an individual achievement but a fundamentally social one, built through relationships and shared meaning-making rather than psychology or environment alone.

Together, these results show that climate change affects Pakistani youth through an interplay of emotion, education, society, and politics: distress stemmed as much from educational institutions failing to meet emotional needs as from climate impacts themselves, while peer relationships and collective action emerged as central sources of resilience, underscoring that climate emotions must be understood through the interplay of environmental experience, education, social relationships, and structural inequality, rather than psychology or environment in isolation.

4.5. Limitations And Future Directions

There are some limitations worth noting. The sample, while geographically and institutionally

diverse, is not representative of all Pakistani youth: it did not include rural youth outside university, youth displaced by climate change, or those in informal settlements, and future research should engage these groups through participatory approaches. The cross-sectional design captures a single period (2024-2025); longitudinal studies are needed to track how perceptions of climate issues evolve, particularly after events such as floods, heatwaves, and water scarcity. The 'No toxic positivity' rule created by P9's peer group also stands out as a case worth deeper, qualitative study.

The Urdu-translated HEAS (Nayab et al., 2025) offers a useful tool for such studies, though quantitative approaches should account for gender's influence on emotional expression, since self-reports may underestimate distress among men. Finally, interventions are needed: while participants found emotional support helpful, these relationships currently form organically rather than through structured programmes. Testing interventions such as structured peer support, learning modules on climate emotions and coping, and community mental health programmes, developed with, rather than imposed on, Pakistani youth, would help establish what works.

5. CONCLUSION

The experience of climate change has been recognised as more than an environmental issue; it is also a social and emotional one for younger generations. This study examined how Pakistani university students understand and navigate climate change through eco-anxiety, anticipatory grief, epistemic dissonance, moral distress, and collective coping.

Drawing on a critical psychosocial perspective, the study situates climate distress at the intersection of personal experience and broader social, political, and environmental conditions. Climate emotions were closely tied to anxiety about the future, uncertainty, vulnerability, and institutional inadequacy, while community solidarity, active participation, and community-centred approaches emerged as key sources of resilience and agency.

This research contributes to the literature on climate emotions by offering insight into climate vulnerability in the Global South, where educational gaps and social inequality shape how young people relate to environmental change. The findings suggest that supporting Pakistani youth requires more than individual coping strategies: it calls for emotionally responsive climate education, accessible mental health services, and meaningful youth inclusion in climate policy and decision-making.

Use of Artificial Intelligence: AI-assisted tools were used to support copyediting, consistency checks, and formatting during manuscript preparation. All conceptual, analytical, and interpretive work was conducted by the authors, who take full accountability for the content of the manuscript.

Declarations

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REFERENCES

Anderson, B. (2009). Affective geographies. *Transactions of the Institute of British Geographers*, 34(1), 7-10. https://doi.org/10.1111/j.1475-5661.2008.00333.x

Berry, H. L., Bowen, K., & Kjellstrom, T. (2010). Climate change and mental health: A causal pathways framework. *International Journal of Public Health*, 55(2), 123-132. https://doi.org/10.1007/s00038-009-0112-0

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.

Clayton, S. (2020). Climate anxiety: Psychological responses to climate change. *Journal of Anxiety Disorders*, 74, 102263. https://doi.org/10.1016/j.janxdis.2020.102263

Clayton, S., & Manning, C. M. (Eds.). (2018). *Psychology and climate change: Human perceptions, impacts, and responses*. Academic Press. https://doi.org/10.1016/C2016-0-04036-0

Cunsolo, A., & Ellis, N. R. (2018). Ecological grief as a mental health response to climate change-related loss. *Nature Climate Change*, 8(4), 275-281. https://doi.org/10.1038/s41558-018-0092-2

Doherty, T. J., & Clayton, S. (2011). The psychological impacts of global climate change. *American Psychologist*, 66(4), 265-276. https://doi.org/10.1037/a0023141

Duff, C. (2010). On the role of affect and practice in the production of place. *Environment and Planning D: Society and Space*, 28(5), 881-895. https://doi.org/10.1068/d10209

Eckstein, D., Künzel, V., & Schäfer, L. (2021). *Global climate risk index 2021*. Germanwatch.

Frosh, S. (2010). *Psychoanalysis outside the clinic: Interventions in psychosocial studies*. Palgrave Macmillan. https://doi.org/10.1057/9780230274743

Habib, S., & Zain, T. (2025). Climate Change Education at the Primary School Level in Pakistan: A Comparative Analysis of Curricula and Teaching Practices. *Global Social Sciences Review*, *10*(1), 208-229. http://dx.doi.org/10.31703/gssr.2025(X-I).19

Hayes, K., Blashki, G., Wiseman, J., Burke, S., & Reifels, L. (2018). Climate change and mental health: Risks, impacts and priority actions. *International Journal of Mental Health Systems*, 12(1), 28. https://doi.org/10.1186/s13033-018-0210-6

Hickman, C., Marks, E., Pihkala, P., Clayton, S., Lewandowski, R. E., Mayall, E. E., Wray, B., Mellor, C., & van Susteren, L. (2021). Climate anxiety in children and young people and their beliefs about government responses to climate change: A global survey. *The Lancet Planetary Health*, 5(12), e863-e873. https://doi.org/10.1016/S2542-5196(21)00278-3

Higher Education Commission Pakistan. (2026). *Green Youth Movement*. Prime Minister's Youth Programme. Retrieved May 11, 2026, from https://www.hec.gov.pk/english/services/students/PMYP/Pages/GYM.aspx

Hogg, T. L., Stanley, S. K., O'Brien, L. V., Wilson, M. S., & Watsford, C. R. (2022). The Hogg Eco-Anxiety Scale: Development and validation of a multidimensional scale. *Journal of Environmental Psychology*, 79, 101734. https://doi.org/10.1016/j.jenvp.2021.101734

Hussain, Z., Mujahid, F., & Anwar, U. (2022). Climate change in Pakistan: Impacts, strategies, and the way forward. *Pakistan Languages and Humanities Review, 6*(1), 181--192. https://doi.org/10.47205/plhr.2022(6-I)16.

Kreft, S., Eckstein, D., Dorsch, L., & Fischer, L. (2025). *Global climate risk index 2025*. Germanwatch.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications.

Marks, E., Hickman, C., Pihkala, P., Clayton, S., Lewandowski, R. E., Mayall, E. E., & Wray, B. (2022). Young people's voices on climate anxiety, government betrayal and moral injury: A global phenomenon. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4108202

Meo, S. A., Shafi, K. M., & Hussain, A. (2025). The psychological cost of climate change: Anxiety among adolescents and young adults - A cross-sectional study. *Frontiers in Psychiatry*, 16, Article 1422338. https://doi.org/10.3389/fpsyt.2025.1422338

Nayab, F., Zia, S., & Imtiaz, M. (2025). Urdu translation and validation of Hogg Eco-Anxiety Scale. *iRASD Journal of Educational Research*, 6(1), 22-29. https://doi.org/10.52131/jer.2025.v6i1.2675

Ojala, M. (2012). How do children cope with global climate change? Coping strategies, engagement, and well-being. *Journal of Environmental Psychology*, 32(3), 225-233. https://doi.org/10.1016/j.jenvp.2012.02.004

Pihkala, P. (2020). Eco-anxiety and environmental education. *Sustainability*, 12(23), 10149.

https://doi.org/10.3390/su122310149

Sanson, A. V., & Bellemo, M. (2021). Children and youth in the climate crisis. *BJPsych International*, 18(2), 39-41. https://doi.org/10.1192/bji.2021.2

Schlosberg, D., & Collins, L. B. (2014). From environmental to climate justice: Climate change and the discourse of environmental justice. *WIREs Climate Change*, 5(3), 359-374. https://doi.org/10.1002/wcc.275

Shah, W. A., Jatoi, Q. N., & Shah, U. R. (2025). De-centering the anthropocentric worldview in language textbooks: A posthumanist call for discursive reparations for sustainable ELT. *Linguistics and Education*, 86, 101397. https://doi.org/10.1016/j.linged.2024.101397

Sheikh, S. A., Arshad, M. R., Hassan, Z., Khalid, A., & Ghayoor, S. (2025). Climate-induced disasters and their medical and psychological consequences in Pakistan and neighboring states. *Journal for Social Science Archives*, 3(3), 285-301.

UNESCO. (2025). *UNESCO and Save the Children drive climate smart education in Pakistan*. https://www.unesco.org/en/articles/unesco-and-save-children-drive-climate-smart-education-pakistan?hub=1067.

UNICEF. (2022). *Pakistan floods 2022: Rapid needs assessment*. United Nations Children's Fund.

UNICEF. (2023). *UNICEF response to the 2022 flooding in Pakistan*. UNICEF Evaluation Office. https://evaluationreports.unicef.org/GetDocument?documentID=19436&fileID=51636.

Waheed, S., King, P., & Waheed, H. (2024). Crisis-induced environmental action: Examining youth environmental behaviours during economic crisis in Pakistan. *Mendeley Data*, V1. https://doi.org/10.17632/vmft4d24h6.1

Walkerdine, V., & Jimenez, L. (2012). *Gender, work and community after de-industrialisation: A psychosocial approach*. Palgrave Macmillan. https://doi.org/10.1057/9781137028303

Wasmus, H., Kessler, H., Kleim, B., & Pohl, S. (2025). Addressing youths' climate change-related distress: A qualitative study on the experience of burden, triggering and protective factors. *BMJ Mental Health*, 28(1), e301549. https://doi.org/10.1136/bmjment-2024-301549

Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. *Research in Organizational Behavior*, 18, 1-74.

Whyte, K. (2018). Indigenous science (fiction) for the Anthropocene: Ancestral dystopias and fantasies of climate change crises. *Environment and Planning E: Nature and Space*, 1(1-2), 224-242. https://doi.org/10.1177/2514848618777621

World Bank. (2022). *Pakistan: Flood damages and economic losses over USD 30 billion and reconstruction needs over USD 16 billion -- New assessment*. World Bank. https://www.worldbank.org/en/news/press-release/2022/10/28/pakistan-flood-damages-and-economic-losses-over-usd-30-billion-and-reconstruction-needs-over-usd-16-billion-new-assessment.

World Health Organization. (2022). *Mental health atlas 2020: Pakistan country profile*. World Health Organization. https://www.who.int/publications/m/item/mental-health-atlas-pak-2020-country-profile.

World Meteorological Organization. (2025). *State of the global climate 2024*. World Meteorological Organization. https://wmo.int/publication-series/state-of-global-climate/state-of-global-climate-2024.