JKKNIU Business Review
Volume 2(1), June 2026
ISSN: 2709-8842

Received: 12 April 2026
Accepted: 29 June 2026
Published: 25 August 2026

A COR Model of Eco-Anxiety: A Study on University Students in Bangladesh

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Abstract

Purpose: Drawing on Conservation of Resources (COR) theory, the purpose of the study is to examine how climate change perception, institutional sustainability commitment, and environmental self-efficacy drive sustainable lifestyle engagement, which in turn shapes eco-anxiety among university students in Bangladesh.

Design/methodology/approach: A cross-sectional quantitative design with purposive sampling collected data from 436 university students across 10 public and private universities in Bangladesh. The data were analyzed using partial least squares structural equation modeling (PLS-SEM) to evaluate the effects of climate change perception, institutional sustainability commitment, environmental self efficacy, and sustainable lifestyle engagement on eco-anxiety.

Findings: Climate change perception, institutional sustainability commitment, and environmental self-efficacy significantly predict sustainable lifestyle engagement, jointly explaining 57% of its variance. Sustainable lifestyle engagement is also negatively associated with eco-anxiety, highlighting its role as a resource-investment mechanism through which individuals respond to climate-related concerns.

Practical implications: Universities can function as psychosocial resilience ecosystems by strengthening institutional sustainability commitment and student environmental self-efficacy, integrating climate-focused mental health support and sustainability education, establishing climate resilience units and peer-support networks, and embedding eco-anxiety management across academic disciplines rather than confining it to environmental science or psychology programs.

Originality/value: This study is among the first to apply COR theory to eco-anxiety research in a climate-vulnerable South Asian context, offering a novel theoretical lens and empirical evidence on the resource-based mechanisms linking climate perceptions, institutional and personal resources, and sustainable behavior to psychological well-being.

Keywords: Eco-anxiety, Conservation of resources theory, Sustainable lifestyle engagement, Climate change perception, Institutional sustainability commitment, Environmental self-efficacy

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DOI: https://doi.org/10.67120/jkkniubr.v2.i1.a23

1. Introduction

Eco-anxiety has emerged as a growing psychological concern among university students, adversely affecting emotional well-being and academic performance (Tavolacci & Ladner, 2024). Approximately 60% of young people worldwide report significant concern about the climate crisis (Hickman et al., 2021). Regional inequalities further shape context-specific manifestations of eco-anxiety: in the Pacific Islands, existential dread stems from rising sea levels (UNDP, 2024); in Australia, recurrent bushfires generate prolonged psychological distress among students (Edwards & Gray, 2025); and in Latin America, environmental injustices such as deforestation, water scarcity, and recurrent ecological disasters intensify climate-related anxiety. Eco-anxiety has been empirically related to depressive symptoms, emotional exhaustion, and in others, to trauma-related disorders (Bdier et al., 2024; Cosh et al., 2024). The results undermine academic interaction, perceived self-efficacy, and augment the risk of attrition in student bodies (Tavolacci & Ladner, 2024). However, when partially felt, eco-anxiety can trigger pro-environmental action and lead to the stronger alignment of the individual to sustainability intentions (Kerse & Kerse, 2025). This self-contradictory role of eco-anxiety leads to the necessity of its effective implementation into the mental health, resilience, and sustainability models of higher education (Newberry Le Vay et al., 2024).

In Bangladesh, institutional inertia, socio-economic asymmetries, and extreme climate vulnerability contribute towards eco-anxiety. This is because frequent natural disasters, especially floods and cyclones, cause continuous anticipatory fear and uncertainty (Karim et al., 2024). Again, the saturation of media and the inability of the government to take action further worsen the situation of collective despair and the loss of trust in environmental governance (Rajamani & Iyer, 2024). Adaptive responses are also limited by cultural norms and economic precarity, which have disproportionately impacted young people (Thomson & Roach, 2023; Wahid et al., 2023). More importantly, the policy frameworks, such as the Bangladesh Climate Change Strategy and Action Plan (BCCSAP, 2009) and the Environment Conservation Act (1995), do not adequately address psychological coping mechanisms (Hoque et al., 2017). Poor enforcement mechanisms, lack of climate literacy, and no formal mental health services contribute to the psychological burden of environmental degradation (Uddin, 2023; Pedro et al., 2025). Conversely, universities in developed nations (e.g., UC Berkeley, University of Reading) have established multifaceted eco-anxiety support networks (Nieves-Whitmore, 2022), which highlights an institutional disparity in the Global South (Coffey et al, 2021).

Even though eco-anxiety is a major threat to the well-being of students, the empirical academic research of the Bangladeshi context is severely lacking (Saha et al., 2025). In addition, there has been a general lack of theoretical involvement in the study of stress theory like the Conservation of Resources (COR) theory despite its conceptual relevance. In order to address these gaps, this paper proposes and empirically tests a structural model based on COR theory. In this model, climate change perception reflects the appraisal of climate-related resource-loss threats that trigger pro-environmental behavior to buffer against eco-anxiety (Ballew et al., 2024). Institutional sustainability commitment is an external buffer that helps in

managing the stress through emotional regulation and coping based on the system (Somerville et al., 2024). Environmental self-efficacy serves as an internal buffer that allows students to adapt in an uncertain situation in the environment through self-control (Baminiwatta et al., 2025). The concept of sustainable lifestyle engagement is understood as a resource investment in behavior that contributes to the building of agency, meaning-making, and ecological identity, which reduces eco-anxiety through proactive sustainability action (Bourban, 2023). This paper confirms these associations using the Partial Least Squares Structural Equation Modeling (PLS-SEM) and, therefore, provides a theoretically consistent and context-specific paradigm. In this way, it broadens the eco-anxiety discussion to the Global South settings, and educates the evidence-based institutional commitments to the issue of climate-related psychological stress in young people.

2. Theoretical Underpinning and Hypotheses Development

The relationship between perceived climate change and sustainable lifestyle engagement in university students can be theoretically explained by the Conservation of Resources (COR) framework (Hobfoll, 1989). According to COR theory, stress emerges when these resources are threatened or lost, and self-efficacy depends on one's ability to replenish or invest in compensatory resources (Hobfoll et al., 2018). Perceived environmental changes can also be considered stressors in the threat appraisal of the eco-anxiety context and may trigger behavioral resource investment, a proactive coping strategy (Liu et al., 2023). Existing empirical research shows that perceptions of climate change can be a source of eco-anxiety, which, when properly managed, could trigger environmentally conscious behavior (Schwartz et al., 2023; Becht et al., 2024). Nonetheless, such a correlation is not linear, as the lack of coping resources due to an excess of anxiety may bring about behavioral withdrawal or eco-paralysis (Becht et al., 2024). At the same time, the studies point to the buffering effect of positive institutional climate, group efficacy, and sustainability education as the factors that positively impact perceived control and behavioral commitment (Szostakowski and Besta, 2024; Ibourk et al., 2025). There is also a connection between more intense engagement with the environment and emotional attachment to nature and internalization of moral identity (Geng et al., 2015; Anderson and Krettenauer, 2021). In the context of perceived changes, persons tend to convert concern to meaningful action when they are accompanied by adequate psychological and contextual resources instead of avoidant coping (Conley et al., 2023). The following hypothesis is the result of these theoretical insights:

H1: Higher climate change perception leads to greater sustainable lifestyle engagement among university students.

The role of perceived institutional sustainability commitment in fostering *sustainable lifestyle engagement* is gaining increasing recognition in both organizational and educational research. As articulated in COR theory, perceived institutional sustainability commitment serves as an external resource that reduces the psychological cost of action, thereby enhancing individuals' ability to engage with environmental goals (Hobfoll, 1989). Supported institutions can also help people spend resources on *sustainable lifestyle engagement* by reducing stress (Takshe et al., 2023; Yaban & Gaschler, 2025). Also, COR theory suggests that individuals engage in

sustainable lifestyle behaviors to protect, maintain, and build valued resources when facing environmental threats (Hobfoll, 1989; Kerse & Kerse, 2025). Green entrepreneurial intentions and sustainability-oriented behaviors among students are encouraged in educational environments by environmentally supportive institutional climates (Mabkhot et al., 2024). Moreover, the institution's high quality could have macro-level spillover effects that increase student involvement in environmental programs (Akpan & Kama, 2023). Therefore, institutional commitment is an important component of facilitating *sustainable lifestyle engagement. According* to this framework, the second hypothesis is as follows:

H2: Higher institutional sustainability commitment leads to increased sustainable lifestyle engagement among university students.

Environmental self-efficacy (ability to effectively address environmental challenges) serves as a vital personal resource that promotes sustainable engagement**.** According to the COR theory, self-efficacy is a central individual resource, which people can use to adjust to misfortune and behave goal-orientedly, even during the ecological crises (Hobfoll and Lilly, 1993). The empirical studies prove that self-efficacy cushions the effects of psychological stress on engagement, which leads to a long-lasting pro-environmental behavior (Cabrera-Aguilar et al., 2023; Abdolrezapour et al., 2023). The more self-efficacy people are more engaged which is predictive of environmental action (Polat, 2024). Moreover, self-efficacy facilitates psychological well-being and flow, as well as increases intrinsic motivation to sustainable lifestyle engagement (Andales et al., 2025). On the basis of these theoretical premises, the hypothesis is as follows:

H3: Greater environmental self-efficacy leads to higher *engagement in a sustainable* lifestyle among university students.

Sustainable lifestyle engagement, in turns, plays an important factor in the regulation of eco-anxiety. In a COR dimension, behavioral engagement is the proactive expenditure of personal capital to reestablish psychological balance in reaction to environmental danger. Negative emotions and distress can be mitigated through personal agency and the development of environmental meaning-making (Barbosa and Fonseca, 2024). Empirical studies show that moderate climate anxiety among students increase the chances of adopting pro-environmental behaviors that, in turn, diminish distress (Becht et al., 2024). Sustainable lifestyle engagement may reduce psychological strain by encouraging the use of energy-efficient devices and environmentally friendly consumption choices, which can enhance perceived personal control over environmental impact and psychological well-being (Whitmarsh & O'Neill, 2010; Griskevicius et al., 2010). Such pro-environmental behaviors are also associated with positive self-perception and reduced eco-related guilt, which may contribute to lower eco-anxiety levels (Gifford & Nilsson, 2014). On the basis of these results, the final hypothesis is developed:

H4: *Higher levels of sustainable lifestyle* engagement *leads to lower levels of eco-anxiety.*

These four hypotheses, along with their logical interrelations, form the theoretical framework of the research, as illustrated in Figure 1**.**

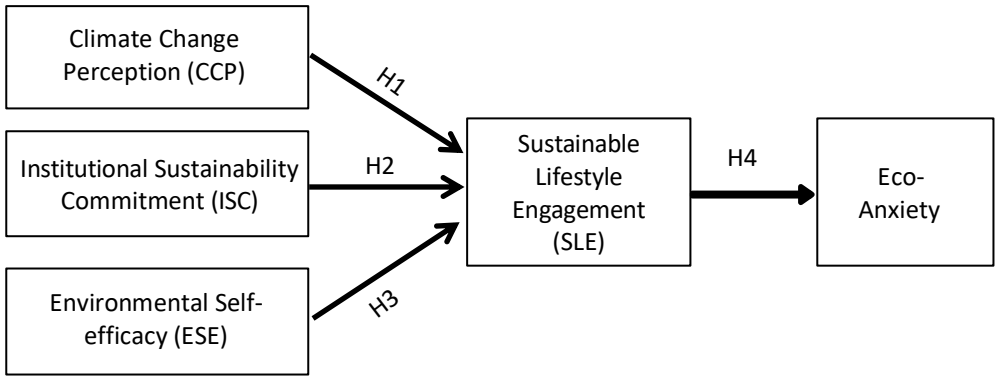

Figure 1: Theoretical Framework of the Research

3. Methodology

This study adopts a quantitative cross-sectional design and employs PLS-SEM to estimate complex latent constructs (including formative indicators), handle non-normal data, and maximize predictive accuracy and explained variance, consistent with its superiority over covariance-based SEM for explanatory modeling (Creswell & Creswell, 2018; Hair et al., 2022). Integrating Conservation of Resources (COR) theory (Hobfoll, 1989), this study develops and tests a structural model in which eco-anxiety represents the ultimate psychological outcome, climate change perception serves as the primary environmental stressor, institutional sustainability commitment functions as a contextual resource, and environmental self-efficacy operates as a personal resource. Sustainable lifestyle engagement functions as a resource-investment behavior through which climate-related perceptions and resource-based factors influence eco-anxiety via direct pathways.

3.1 Measurement of Constructs

Validated measures ensure reliability and comparability across studies (Sekaran & Bougie, 2016). Therefore, this study adapted previously validated instruments and contextualized them in a Bangladeshi University. Ratings of all constructs were obtained using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Climate change perception (CCP) refers to individuals' overall cognitive evaluation and awareness of climate change as a global environmental issue, reflecting their general understanding of its severity, causes, and potential impacts on society and the environment. It was measured using four items adapted from the Climate Change Perceptions Scale (van Valkengoed et al., 2021) with reliability coefficients (α) ranging from .83 to .87. A sample item from this scale is: "I am concerned about the effects of climate change on future generations." CCP's significant influence on pro-environmental behaviors and its role in mitigating climate-related distress (Fuentes, 2024) warranted its examination in Hypothesis 1.

To assess Institutional Sustainability Commitment (ISC), a four-item adaptation of the Commitment to Environmental Sustainability Scale (Alcock, 2012; $\alpha \approx .94$) was used to capture students' perceptions of institutional commitment through strategic encouragement, resource

allocation, policy support, and responsiveness to sustainability. This scale was adopted to test Hypothesis 2. Sample item: The university administration ensures that sufficient resources are available for sustainability programs among students.

Again, Environmental Self-efficacy (ESE) is students' capacity to adapt, recover, and maintain their emotional strength in the face of environmental challenges. It is measured using eight items from the validated Self-Efficacy for Environmental Action Scale (Porticella et al., 2017; α = .80 to .90), which assesses the core elements of Self-Efficacy in a contextually relevant and concise manner. One of the sample items is: I am capable of adjusting to change. Hypothesis 3 is based on Environmental Self-efficacy (ESE).

Equally, Sustainable Lifestyle Engagement (SLE) refers to the extent to which individuals actively and consistently adopt and participate in sustainability-oriented behaviors in their daily lives and academic environments. It encompasses engagement in environmentally responsible practices, involvement in institutional or community-based sustainability initiatives, promotion of environmental awareness among peers, and voluntary participation in climate- or ecology-related activities to reduce environmental impact and support sustainable development. Four items derived from the Eco-Generativity Scale (EGS) were used to measure this construct (Fabio & Svicher, 2023; α = .71686). One of the sample items is: “I am frugal in the use of energy.” Hypothesis 4 is based on Sustainable Lifestyle Engagement.

Eco-anxiety was assessed using a six-item subscale of the Hogg Eco-Anxiety Scale (Hogg et al., 2021), which has high internal consistency (alpha = .7186) and has demonstrated multidimensional validity across cultures. The chosen items represent the most fundamental psychological measures, namely, emotional distress, vulnerability, escaping, and self-reliant guilt modified to measure climate anxiety reduction. The factor loadings and conceptual alignment were high for each item, ensuring theoretical consistency and empirical soundness (Matijasevich et al., 2025). Sample question: “I become less anxious when I consider climate change.

Three professors in environmental psychology were consulted to provide content validity, and linguistic modifications. Reliability and face validity were verified in a pilot study of 30 students, and all constructs have Cronbach alpha greater than 0.70 (Hair et al., 2022).

3.2 Sample and Data Collection

A power analysis based on the GPower (version 3.1) software was used to determine the sample size (Faul et al., 2009). The calculation was based on the Partial Least Squares Structural Equation Modeling (PLS-SEM) with a medium effect size (f^2 = 0.15), alpha = 0.05, and a power of 0.80. The model also comprised five predictors, which were Climate Change Perception (CTP), Institutional sustainability Commitment (ISC), Environmental Self-efficacy (ESE), Sustainable Lifestyle Engagement (SLE) and Eco-Anxiety (EA). GPower suggested that the size of the sample should be 160 participants. But to cover any potential data loss, a convenience sample of 486 students from 10 public and private universities in Bangladesh was surveyed via an online self-administered questionnaire over a period of three months (mid-January to March 2025). Out of these, 456 agreed to take part and the response rate came to 93.82%. Upon this, the 20 responses disqualified and having the 436 valid responses left, this

was sufficient to test the hypothesized relationships (Cohen, 1988). The sample included undergraduate students aged 20–25 years, while part-time students, those outside the specified age range, and incomplete or duplicate responses were excluded. The sample size was more than the minimum required of PLS-SEM according to the ten-times rule (Hair et al., 2022), which provides a statistically powerful sample.

4. Statistical Analysis

The analysis of data was done in SmartPLS. The first step was to test reliability and validity (Cronbachs alpha, composite reliability, convergent and discriminant validity), and then test the structural model in the hypothesized relationship. SRMR, NFI and R^2 were used to assess model fit, and path significance was assessed using bootstrapping (5,000 resamples, 95% CI).

4.1 Demographic Profile of the Sample

The study surveyed 436 undergraduate students from 10 public and private universities in Bangladesh, with equal gender representation across institutions. Participants, drawn from diverse disciplines and study levels, represented urban, semi-urban, and rural environments that were socio-environmentally heterogeneous in relation to eco-anxiety. The cohort was in their early twenties, a stage associated with the new adult population, which is the most vulnerable to climate-related psychological stress. Table 1 shows sample demographics.

Table 1: Sample demographics

Variable	Category	Frequency
Gender	Male, Female, Non-binary	50.0%, 48.2%, 1.8%
Age	Mean, Min, Max	22.58, 20, 25
Institution Type	Private, Public	53.2%, 46.8%
Academic Background	Science and Engineering, Social Sciences and Humanities, Business and Economics, Health and Life Sciences	33.3%, 28.0%, 23.4%, 15.3%
Academic Year	1st, 2nd, 3rd, 4th Year	23%, 21.60%, 28.40%, 27%
Residence Area	Urban, Semi-urban, Rural	54.1%, 24.8%, 21.1%
Exposure to Environmental Education	Yes, No	42.70%, 57.30%

On the whole, the various samples allowed proper representation to study the eco-anxiety.

4.2 PLS-SEM Path Model Diagram

The PLS-SEM results (both measurement and structural models) are illustrated in figure 2. The measurement model indicates the item loadings onto the latent constructs and the structural model indicates the hypothesized relationship between CCP, ISC, ESE, SLE, and EA.

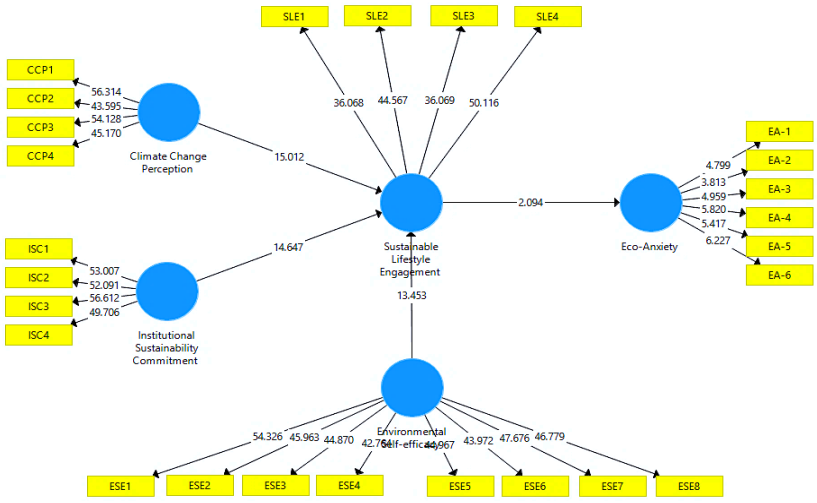

Figure 2: PLS-SEM Path Model

4.3 Measurement Model Analysis

In order to test the reflective measurement model, internal consistency, convergent validity and discriminant validity were tested by means of well-known criteria. The internal consistency was established, and Cronbach alpha ranging from 0.81 to 0.89; composite reliability (CR) values between 0.89 and 0.94, which is exceeding the recommended thresholds of 0.70 and 0.80, respectively (Hair et al., 2022).The presence of convergent validity was supported by the fact that the average variance extracted (AVE) exceeded 0.50 on all the latent variables (0.589 to 0.718) and this indicated that each construct explained more than half the variance of its indicators (Fornell and Larcker, 1981). Everything was loaded above the 0.70 cut-off, and some items were marginally acceptable, which confirmed a high item reliability (Hair et al., 2022). The presence of discriminant validity was established through the Fornell-Larcker criterion and Heterotrait-Monotrait ratio (HTMT), where AVE square roots were found to be greater than inter-construct correlations, and all HTMT values were less than 0.85, which showed no construct overlap (Henseler et al., 2015). Multicollinearity was not a concern because all the values of the variance inflation factor (VIF) are much less than 5.0 (Diamantopoulos et al., 2006). Table 2 (A, B, C and D) summarizes the measurement model.

Table 2 (A): Measurement model summary

Construct	Cronbach's Alpha (α)	Composite Reliability (CR)	AVE	Outer Loadings	HTMT < 0.85; VIF < 5.0)
CCP	0.861	0.906	0.706	0.827–0.856	Yes
EA	0.868	0.896	0.589	0.704–0.848	Yes
SLE	0.847	0.897	0.685	0.81–0.8510	Yes
ISC	0.869	0.910	0.718	0.844–0.856	Yes
ESE	0.928	0.940	0.663	0.805–0.829	Yes

Overall, these findings indicate high psychometric characteristics of the reflective measurement model, which proves its appropriateness to structural modeling.

Table 2 (B): Discriminant validity — HTMT

Heterotrait-Monotrait Ratio (HTMT)	Climate Change Perception	Eco-Anxiety	Environmental Self-efficacy	Institutional Sustainability Commitment	Sustainable Lifestyle Engagement
Climate Change Perception					
Eco-Anxiety	0.075				
Environmental Self-efficacy	0.062	0.084			
Institutional Sustainability Commitment	0.079	0.124	0.077		
Sustainable Lifestyle Engagement	0.520	0.112	0.514	0.514	

Table 2 (C): Inner VIF value

Collinearity Statistics (VIF)	VIF	Collinearity Statistics (VIF)	VIF
CCP1	2.187	ESE4	2.293
CCP2	1.911	ESE5	2.275
CCP3	2.051	ESE6	2.199
CCP4	1.927	ESE7	2.405
EA-1	2.157	ESE8	2.238
EA-2	2.091	ISC1	2.059
EA-3	1.846	ISC2	2.013
EA-4	1.954	ISC3	2.164
EA-5	1.575	ISC4	2.112
EA-6	2.016	SLE1	1.824
ESE1	2.421	SLE2	1.916
ESE2	2.481	SLE3	1.782
ESE3	2.350	SLE4	2.073

Table 2 (D): R-squared value

	R Square	**R Square Adjusted**
Eco-Anxiety	0.012	0.010
Sustainable Lifestyle Engagement	0.570	0.567

4.4 Structural Model Analysis

The structural model had a good fit with a SRMR of 0.047 and a NFI of 0.892 which showed great global model adequacy. Path analyses showed that climate change perception ($\beta = 0.437$, $p < .001$), institutional sustainability commitment ($\beta = 0.429$, $p < .001$), and Environmental self-efficacy ($\beta = 0.406$, $p < .001$) were significant and positively related to predicting eco-engagement, which supported Hypotheses 1 to 3. These results highlight the theoretical assumption behind Conservation of Resources (COR) theory in which external and internal resource appraisals trigger adaptive behavioral investments. It is worth noting that

Sustainable lifestyle engagement showed a slightly significant negative relation to eco-anxiety (β = -0.110, p =.046), which provided some indication that Hypothesis 4 was correct, and that Sustainable lifestyle engagement had a minimal but significant regulatory effect in mitigating climate-induced distress. The model explained 57.0% of the variance in Sustainable lifestyle engagement, substantial explanatory power, while explaining only 1.2% of the variance in eco-anxiety, indicating that other psychological or contextual moderators would be important in explaining climate-related affective responses. The summary of the structural model is in table 3.

Table 3: Structural Model Results Summary

Path	Path Description	β (Coefficient)	t-value	P-value	Signifi-cance	Supported	2.5 %	97.5 %
CCP -> SLE	Direct	0.437	14.894	0.000	p < 0.01	Yes	0.378	0.493
SLE-> EA	Direct	-0.11	1.995	0.046	p < 0.05	Yes	-0.207	-0.048
ISC -> SLE	Direct	0.429	14.628	0.000	p < 0.01	Yes	0.371	0.485
ESE -> SLE	Direct	0.406	13.465	0.000	p < 0.01	Yes	0.347	0.465

Overall, the results confirm the hypothetical directions and emphasize the importance of more comprehensive models to fully elucidate eco-anxiety reduction among university students. The final PLS-SEM model with standardized β represents the model, which is shown in figure 3.

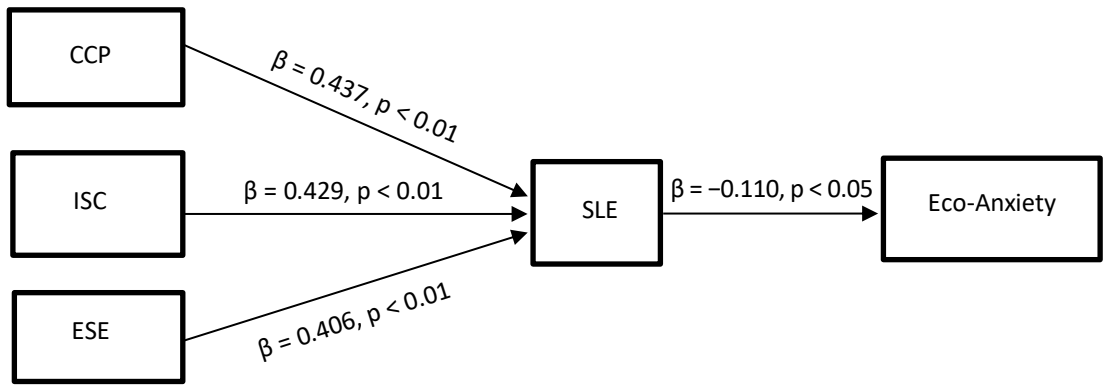

Figure 3: Final PLS-SEM Structural Model

5. Discussion

This study contributes to the Conservation of Resources (COR) theory by considering eco-anxiety in Bangladeshi university students and the effects of Climate Change Perception (CCP), Institutional Sustainability Commitment (ISC) and Environmental Self-efficacy (ESE) in fostering Sustainable Lifestyle Engagement (SLE) and mitigating eco-anxiety (EA). The findings highlight the high-level impacts of institutional Commitment and Environmental self-efficacy in enabling Sustainable Lifestyle engagement, a crucial process for alleviating eco-anxiety (Gienger et al., 2024). While the effect of sustainable lifestyle engagement on eco-anxiety is relatively small but significant, the results support COR theory's claim that the strategic investment of both internal (environmental self-efficacy) and external (institutional sustainability commitment)

resources can enhance individuals' ability to manage climate-related stress (Betro, 2024). The study also emphasizes the importance of universities not only in promoting Environmental Self-efficacy and Sustainable Lifestyle engagement but also in integrating mental health support and sustainability initiatives to address the multifaceted nature of eco-anxiety (Xue et al., 2024).

5.1 Theoretical Contribution

This study extends Conservation of Resources (COR) theory, which is traditionally applied in organizational stress research (Lee et al., 2023), to the context of eco-anxiety among university students in climate-vulnerable settings. The findings indicate that climate change perception (CCP), institutional sustainability commitment (ISC), and environmental self-efficacy (ESE) are significant predictors of sustainable lifestyle engagement (SLE), which is negatively associated with eco-anxiety (EA) (Kühner et al., 2024). The model explains 57% of the variance in SLE, highlighting the complex interplay between internal and external resources in shaping adaptive pro-environmental behaviors (Colombo et al., 2023). From a COR perspective, sustainable lifestyle engagement can be interpreted as a resource investment strategy that reflects individuals' efforts to preserve and protect valued resources, thereby relating to reduced eco-anxiety and enhanced adaptive responses to climate-related stressors (Ojala et al., 2021). Overall, the model provides evidence that universities play a critical role as contextual resource providers, with implications for strengthening climate resilience and facilitating the translation of eco-anxiety into constructive environmental engagement (Filho et al., 2023).

5.2 Practice and Society Implications

The results highlight that universities can serve as psychosocial resilience ecosystems, where institutional Sustainability Commitment ($\beta = 0.429$, $p < 0.001$) is a key factor that defines the well-being of students and their preparedness to the green economy (Zhang et al., 2024; Chaudhry et al., 2024). Universities need to implement mental health literacy, sustainability education, and climate-oriented counseling services into their institutional frameworks to enable them to address eco-anxiety (Brandt et al., 2024). This is not only a solution to eco-anxiety, but also a way to develop climate Self-efficacy.

Universities must create climate resilience units - centralized hubs that provide psychological support as well as practical sustainability initiatives (Newberry Le Vay et al., 2024). A good example of how universities can offer counseling, peer networks, and eco-focused stress reduction workshops is the climate-wellness programs at UC Berkeley. These units may provide climate-first aid services, equipping students to become climate action and mental well-being.

Additionally, universities will have to incorporate eco-anxiety management across all academic disciplines, making it no longer a specific issue of environmental science or psychology programs (Tavolacci and Ladner, 2024). In one example, Oxford University has institutionalized climate education in its MBA courses, which is why all sectors require eco-literate leaders. Institutionalizing eco-anxiety management across disciplines ensures that students from business, law, and humanities can address climate issues in their working lives.

The formalization of peer-support networks must also occur, with students with mental health first aid and eco-anxiety management skills becoming climate first responders (Koder et al., 2023). The model of peer-led climate resilience programs at Colorado State University is an excellent example of how successful peer networks can be in addressing eco-anxiety. These networks provide students with secure opportunities to share their climate-related distress and increase community support and emotional resilience.

From a policy perspective, universities ought to promote the inclusion of climate mental health in the national educational frameworks (Mishra et al., 2025). The National Health and Climate Change Strategy in Australia provides a good illustration of how mental health services in higher education institutions can be adapted to address climate-induced distress. Eco-anxiety must be prioritized in the education system through national policies that are in place and consider SDGs 3, 4, and 13 (United Nations, 2015).

The universities should also collaborate with local communities by establishing community-based climate Self-efficacy initiatives (Black et al., 2024). For example, Tufts University's Friedman School of Nutrition has partnered with local organizations to deliver climate wellness programs. Such programs offer students practical experience in resilience within communities and a symbiotic relationship between higher education institutions and the local neighborhoods.

Another strategic step is the utilization of smart technologies. Universities can develop mobile applications that provide access to a real-time mental health support and eco-anxiety management capabilities (Jeong et al., 2025; Vereschagin et al., 2024). Like such apps as Headspace, these may be climate distress-specific and offer students customized coping techniques and connection to virtual support communities (Lipschitz et al., 2023). The effectiveness of various interventions can also be measured by collecting data through this technology-based method, which helps universities evaluate their effectiveness.

Finally, universities should be on the front line, setting the pace through green practices on campus. Implementing renewable energy, zero-waste, and sustainable food practices will not only minimize the university's environmental impact but also serve as an example for students (Aghamolaei & Fallahpour, 2023; Kaur et al., 2025). Green campuses can serve as living laboratories for green technologies, where students can experiment with energy-efficient buildings, smart grids, and sustainable transport options, and be ready to address global climate challenges (Wang & Liu, 2024; Lewandowski, 2025).

5.3 Implications for Future Research

Future research should focus on longitudinal studies examining the sustainability of lifestyle engagement as a lasting coping approach in the context of persistent climate change (Shrum et al., 2023; Ge et al., 2025). These studies will play a critical role in determining the effectiveness of Sustainable lifestyle engagement in reducing eco-anxiety in the long term and across varying environmental settings.

Cross-cultural research is also needed to investigate the impact of institutional and psychological self-efficacy on eco-anxiety across various socio-cultural contexts (Moitra et al., 2023), particularly in the under-researched regions of the Global South. Comparative research

may provide insight into how various education systems and cultural backgrounds mediate the influence of climate change on mental health.

In addition, neuropsychological measures, including biomarkers of stress, might be included in future studies to gain better insight into the biological foundations of eco-anxiety and the effectiveness of coping strategies (Tomasi et al., 2023). Scalable, actionable solutions to address climate-related psychological distress and enhance pro-environmental behaviors among students can be empirically supported by intervention-based studies conducted in the university setting.

The progress in machine learning might allow tracking the eco-anxiety in real time and, with the help of eco-anxiety management programs, provide immediate assistance and maximize the effectiveness of eco-anxiety management efforts (Kalubi et al., 2023; Akhtar et al., 2024). These technologies may also provide a robust database for measuring the effectiveness of various interventions and for modifying them to suit changing student requirements.

Finally, the combination of Self-Determination Theory (SDT) and Protection Motivation Theory (PMT) should be considered in future studies to understand how autonomy, competence, and relatedness can be used to enhance resilience and promote pro-environmental behaviors. These models may help reveal the processes by which students organize internal psychological resources in response to climate change.

6. Conclusion

This study presents a novel conceptual framework for understanding the regulation of eco-anxiety among higher education students in climate-vulnerable regions, grounded in the Conservation of Resources (COR) theory. The results indicate that CCP, ISC, and ESE are major predictors of SLE, which, in turn, leads to decreased eco-anxiety (EA). The insights underscore the value of integrating mental health and sustainability education in a higher education management framework to increase climate self-efficacy and student well-being. The study urges universities to become psychosocial resilience ecosystems. Such an integrated approach will equip students with the leadership skills in the green economy and help them build a climate-resilient society.

References

Abdolrezapour, P., Jahanbakhsh Ganjeh, S., & Ghanbari, N. (2023). Self-efficacy and resilience as predictors of students' academic motivation in online education. PLoS ONE, 18(5), e0285984. https://doi.org/10.1371/journal.pone.0285984

Aghamolaei, R., & Fallahpour, M. (2023). Strategies towards reducing carbon emission in university campuses: A comprehensive review of both global and local scales. Journal of Building Engineering.

Akhtar, F., Heyat, M., Sultana, A., Parveen, S., Zeeshan, H., Merlin, S., Shen, B., Pomary, D., Li, J., & Sawan, M. (2024). Medical intelligence for anxiety research: Insights from genetics, hormones, implant science, and smart devices with future strategies. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery, 14. https://doi.org/10.1002/widm.1552

Akpan, U., & Kama, U. (2023). Does institutional quality really matter for environmental quality? Energy & Environment, 35(1), 3–25. https://doi.org/10.1177/0958305X231180702

Alcock, I. (2012). Measuring commitment to environmental sustainability: The development of a valid and reliable measure. Methodological Innovations Online, 7, 13–26. https://doi.org/10.4256/mio.2012.008

Andales, R. C., Capuno, R. M., Cerbas, M. K., Mulit, J., Embradora, K. J., & Bacatan, J. (2025). Grit and resilience as predictors of psychological well-being among students. European Journal of Public Health Studies, 8(1), 77–102. https://doi.org/10.46827/ejphs.v8i1.206

Anderson, D. J., & Krettenauer, T. (2021). Connectedness to nature and pro-environmental behaviour from early adolescence to adulthood: A comparison of urban and rural Canada. Sustainability, 13(7), 3655. https://doi.org/10.3390/su13073655

Ballew, M. T., Uppalapati, S. S., Myers, T., Carman, J., Campbell, E., Rosenthal, S. A., Kotcher, J. E., Leiserowitz, A., & Maibach, E. (2024). Climate change psychological distress is associated with increased collective climate action in the U.S. npj Climate Action, 3(1), 88.

Baminiwatta, A., Fernando, R., Gadambanathan, T., & others. (2025). The buffering role of resilience on burnout, depression, anxiety, and stress among healthcare workers in Sri Lanka. Discover Psychology, 5(19). https://doi.org/10.1007/s44202-025-00345-4

Barbosa, M., & Fonseca, A. (2024). Eco-anxiety: How can the awareness on fighting global warming become a mental health problem? European Psychiatry, 67(S1), S472–S473.

BCCSAP. (2009). Bangladesh Climate Change Strategy and Action Plan 2009. Ministry of Environment and Forests, Government of the People's Republic of Bangladesh.

Bdier, D., Veronese, G., & Mahamid, F. (2024). Environmental degradation, eco-anxiety and post-traumatic stress symptoms among Palestinian adults: The mediating role of coping strategies. Cambridge Prisms: Global Mental Health, 11, e105. https://doi.org/10.1017/gmh.2024.40

Becht, A., Spitzer, J., Grapsas, S., van de Wetering, J., Poorthuis, A., Smeekes, A., & Thomaes, S. (2024). Feeling anxious and being engaged in a warming world: Climate anxiety and adolescents' pro-environmental behavior. Journal of Child Psychology and Psychiatry, 65(10), 1270–1282.

Betro', S. (2024). From eco-anxiety to eco-hope: Surviving the climate change threat. Frontiers in Psychiatry, 15. https://doi.org/10.3389/fpsyt.2024.1429571

Black, G., Jamrozik, E., Khan, W., Peralta, S., Havenga, B., Merritt, M., & Kelley, M. (2024). Making the case for community involvement in research on climate and health: Opportunities and lessons. Frontiers in Climate. https://doi.org/10.3389/fclim.2024.1456417

Bourban, M. (2023). Eco-anxiety and the responses of ecological citizenship and mindfulness. In J. J. Kassiola & T. W. Luke (Eds.), The Palgrave handbook of environmental politics and theory (pp. 65–88). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-14346-5_4

Brandt, L., Adorjan, K., Catthoor, K., Chkonia, E., Falkai, P., Fiorillo, A., Gondek, T., Vay, J., Rojnic, M., Meyer-Lindenberg, A., Heinz, A., Dom, G., & Luykx, J. (2024). Climate change and mental health: Position paper of the European Psychiatric Association. European Psychiatry, 67.

Cabrera-Aguilar, E., Zevallos-Francia, M., Morales-García, M., Ramírez-Coronel, A. A., Morales-García, S. B., Sairitupa-Sanchez, L., & Morales-García, W. (2023). Resilience and stress as predictors of work engagement: The mediating role of self-efficacy in nurses. Frontiers in Psychiatry, 14, Article 1202048. https://doi.org/10.3389/fpsyt.2023.1202048

Chaudhry, S., Tandon, A., Shinde, S., & Bhattacharya, A. (2024). Student psychological well-being in higher education: The role of internal team environment, institutional, friends and family support and academic engagement. PLOS ONE, 19(1), e0297508.

Coffey, Y., Bhullar, N., Durkin, J., Islam, M. S., & Usher, K. (2021). Understanding eco-anxiety: A systematic scoping review of current literature and identified knowledge gaps. The Journal of Climate Change and Health, 3, 100047. https://doi.org/10.1016/j.joclim.2021.100047

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates.

Colombo, S., Chiarella, S., Lefrançois, C., Fradin, J., Raffone, A., & Simione, L. (2023). Why knowing about climate change is not enough to change: A perspective paper on the factors explaining the environmental knowledge-action gap. Sustainability. https://doi.org/10.3390/su152014859

Conley, M. I., Hernandez, J., Salvati, J. M., Gee, D. G., & Baskin-Sommers, A. (2023). The role of perceived threats on mental health, social, and neurocognitive youth outcomes: A multicontextual, person-centered approach. Development and Psychopathology, 35(2), 689–710.

Cosh, S. M., Ryan, R., Fallander, K., Robinson, K., Tognela, J., Tully, P. J., & Lykins, A. D. (2024). The relationship between climate change and mental health: A systematic review of the association between eco-anxiety, psychological distress, and symptoms of major affective disorders. BMC Psychiatry, 24. https://doi.org/10.1186/s12888-024-06274-1

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.

Diamantopoulos, A., & Siguaw, J. A. (2006). Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration. British Journal of Management, 17(4), 263–282. https://doi.org/10.1111/j.1467-8551.2006.00500.x

Edwards, B., & Gray, M. (2025). Black Summer bushfires and psychological distress of young people: What mental health, economic, social, and community resources are risk and protective factors? medRxiv. Advance online publication. https://doi.org/10.1101/2025.06.25.25330259

Environment Conservation Act. (1995). Act No. 1 of 1995. Ministry of Environment and Forest, Government of the People's Republic of Bangladesh.

Fabio, A., & Svicher, A. (2023). The Eco-Generativity Scale (EGS): A new resource to protect the environment and promote health. International Journal of Environmental Research and Public Health, 20, Article 6474. https://doi.org/10.3390/ijerph20156474

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using GPower 3.1: Tests for correlation and regression analyses. Behavior Research Methods, 41(4), 1149–1160.

Filho, L., Weissenberger, S., Luetz, J., Sierra, J., Rampasso, I., Sharifi, A., Anholon, R., Eustachio, J., & Kovaleva, M. (2023). Towards a greater engagement of universities in addressing climate change challenges. Scientific Reports, 13. https://doi.org/10.1038/s41598-023-45866-x

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39–50.

Fuentes, L. C. (2024). Climate change perception, climate change anxiety, and pro-environmental behaviors of tertiary students. Technium Social Sciences Journal, 63, 127–141.

Ge, J., Pan, W., & Liang, X., et al. (2025). Complex psychological responses to climate change: A longitudinal study exploring the interplay between climate change awareness and climate change anxiety among Chinese adolescents. BMC Public Health, 25, 2139.

Geng, L., Xu, J., Ye, L., Zhou, W., & Zhou, K. (2015). Connections with nature and environmental behaviors. PLOS ONE, 10(5), e0127247. https://doi.org/10.1371/journal.pone.0127247

Gienger, A., Nursey-Bray, M., Rodger, D., Szorenyi, A., Weinstein, P., Hanson-Easey, S., Fordham, D., Lemieux, D., Hill, C., & Yoneyama, S. (2024). Responsible environmental education in the Anthropocene: Understanding and responding to young people's experiences of nature disconnection, eco-anxiety and ontological insecurity. Environmental Education Research, 30, 1619–1649. https://doi.org/10.1080/13504622.2024.2367022

Gifford, R., & Nilsson, A. (2014). Personal and social factors that influence pro-environmental concern and behaviour: A review. International Journal of Psychology, 49(3), 141–157.

Griskevicius, V., Tybur, J. M., & Van den Bergh, B. (2010). Going green to be seen: Status, reputation, and conspicuous conservation. Journal of Personality and Social Psychology, 98(3), 392–404.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). A primer on partial least squares structural equation modeling (PLS-SEM) (3rd ed.). Sage.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Hickman, C., Marks, E., Pihkala, P., Clayton, S., & Lewandowski, R. E. (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.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. American Psychologist, 44(3), 513–524. https://doi.org/10.1037/0003-066X.44.3.513

Hobfoll, S. E., & Lilly, R. S. (1993). Resource conservation as a strategy for community psychology. Journal of Community Psychology, 21(2), 128–148.

Hobfoll, S. E., Halbesleben, J., Neveu, J.-P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. Annual Review of Organizational Psychology and Organizational Behavior, 5, 103–128.

Hogg, T. L., Stanley, S. K., O'Brien, L. V., Wilson, M. S., & Watsford, C. R. (2021). The Hogg Eco-Anxiety Scale: Development and validation of a multidimensional scale. Global Environmental Change, 71, 102386.

Hoque, A., Clarke, A., & Sultana, T. (2017). Environmental sustainability practices in South Asian university campuses: An exploratory study on Bangladeshi universities. Environment, Development and Sustainability, 19, 2163–2184. https://doi.org/10.1007/s10668-016-9845-0

Ibourk, A., Wagner, L., & Zogheib, K. (2025). Developing elementary teachers' climate change knowledge and self-efficacy for teaching climate change using learning technologies. Journal of Science Education and Technology, 34(3), 504–520. https://doi.org/10.1007/s10956-024-10187-9

Jeong, H., Kim, H., Jeon, Y., & Kim, H. (2025). Developing a mobile app to prevent suicide based on a software development life cycle: Application of ecological momentary assessment and interventions. International Journal of Mental Health Nursing, 34.

Kalubi, J., Riglea, T., O'Loughlin, E. K., Potvin, L., & O'Loughlin, J. (2023). Health-promoting school culture: How do we measure it and does it vary by school neighborhood deprivation? Journal of School Health, 93, 659–668. https://doi.org/10.1111/josh.13304

Karim, M. Z., Al-Mamun, M., Eva, M. A., Ali, M. H., Kalam, A., Uzzal, N. I., & Das, P. K. (2024). Understanding mental health challenges and associated risk factors of post-natural disasters in Bangladesh: A systematic review. Frontiers in Psychology, 15, 1466722.

Kaur, A., Thyberg, K., & Tonjes, D. (2025). Zero-waste program success: A systems approach to indicators at the micro, meso, and macro levels. Sustainability.

Kerse, Y., & Kerse, G. (2025). The effect of eco-anxiety on pro-environmental behaviors and mental well-being: A parallel mediation model. BMC Psychology, 13(1), 1155.

Koder, J., Dunk, J., & Rhodes, P. (2023). Climate distress: A review of current psychological research and practice. Sustainability. https://doi.org/10.3390/su15108115

Kühner, C., Rudolph, C. W., & Zacher, H. (2024). Reciprocal relations between climate change anxiety and pro-environmental behavior. Environment and Behavior, 56(5-6), 408–439.

Lee, Y., Hyun, Y., You, M., et al. (2023). The effect of resource loss on depression and peritraumatic distress during the early period of the COVID-19: Considering the pandemic-situational and social context. BMC Public Health, 23, 760. https://doi.org/10.1186/s12889-023-15628-5

Lewandowski, K. (2025). Modern energy sources for sustainable buildings: Innovations and energy efficiency in green construction. Energies. https://doi.org/10.3390/en18051121

Lipschitz, J., Pike, C., Hogan, T., Murphy, S., & Burdick, K. (2023). The engagement problem: A review of engagement with digital mental health interventions and recommendations for a path forward. Current Treatment Options in Psychiatry, 10, 119–135.

Liu, H., Song, Z., Xu, Y., Xu, X., & Li, J. (2023). Exploring explanatory mechanisms of adjustment-specific resources underlying the relationship between leader–member exchange and work engagement: A lens of conservation of resources theory. Sustainability, 15(2), 1561.

Mabkhot, H., Semlali, Y., Gelaidan, H. M., Abdelwahed, N. A. A., & Shaari, H. (2024). Green entrepreneurial intentions in Saudi youth: Cultural insights and implications. Discover Sustainability, 5, Article 480. https://doi.org/10.1007/s43621-024-00750-0

Matijasevich, A., Xavier, M. O., Tovo-Rodrigues, L., Ribeiro, A. I., Henriques, A., Pastor-Valero, M., & Santos, I. S. (2025). Assessment of the Hogg Eco-Anxiety Scale (HEAS): Psychometric validation and associated characteristics in Brazilian adolescents. Journal of Environmental Psychology, 107, 102792. https://doi.org/10.1016/j.jenvp.2025.102792

Mishra, J., Han, H., & Ramanathan, V. (2025). A mental health focus to amplify climate resilience actions. npj Climate Action, 4, 55. https://doi.org/10.1038/s44168-025-00263-0

Moitra, M., Owens, S., Hailemariam, M., Wilson, K., Mensa-Kwao, A., Gonese, G., Kamamia, C., White, B., Young, D., & Collins, P. (2023). Global mental health: Where we are and where we are going. Current Psychiatry Reports, 25, 301–311. https://doi.org/10.1007/s11920-023-01426-8

Newberry Le Vay, J., Cunningham, A., Soul, L., Dave, H., Hoath, L., & Lawrance, E. L. (2024). Integrating mental health into climate change education to inspire climate action while safeguarding mental health. Frontiers in Psychology, 14. https://doi.org/10.3389/fpsyg.2023.1298623

Nieves-Whitmore, K. (2022, December 22). 11 colleges putting health & wellness first. College Raptor. https://www.collegeraptor.com/find-colleges/articles/student-life/11-colleges-putting-health-wellness-first/

Ojala, M., Cunsolo, A., Ogunbode, C. A., & Middleton, J. (2021). Anxiety, worry, and grief in a time of environmental and climate crisis: A narrative review. Annual Review of Environment and Resources, 46, 35–58. https://doi.org/10.1146/annurev-environ-012220-022716

Pedro, E. d., Leitão, J., & Alves, H. (2025). Students' satisfaction and empowerment of a sustainable university campus. Environment, Development and Sustainability, 27, 1175–1198.

Polat, M. (2024). Readiness, resilience, and engagement: Analyzing the core building blocks of online education. Education and Information Technologies, 29, 1–28. https://doi.org/10.1007/s10639-024-12534-0

Porticella, N., Phillips, T., & Bonney, R. (2017). Self-efficacy for environmental action scale (SEEA, generic). Technical Brief Series. Cornell Lab of Ornithology.

Rajamani, S. K., & Iyer, R. S. (2024). The phenomenon of eco-anxiety and distress related to climate change and environmental degradation. In Advances in psychology, mental health, and behavioral studies (pp. 156–177). IGI Global. https://doi.org/10.4018/979-8-3693-2177-5.ch011

Saha, B., Ahmed, M. N. Q., Ahmed, K. J., & Haq, S. M. A. (2025). What matters for environmental concerns among university students in Bangladesh? An empirical study. Frontiers in Climate, 7, Article 1532308. https://doi.org/10.3389/fclim.2025.1532308

Schwartz, S. E. O., Benoit, L., Clayton, S., Parnes, M. F., Swenson, L., & Lowe, S. R. (2023). Climate change anxiety and mental health: Environmental activism as buffer. Current Psychology, 42, 16708–16721.

Sekaran, U., & Bougie, R. (2016). Research methods for business: A skill-building approach (7th ed.). Wiley.

Shrum, T., Platt, N., Markowitz, E., & Syropoulos, S. (2023). A scoping review of the green parenthood effect on environmental and climate engagement. Wiley Interdisciplinary Reviews: Climate Change, 14. https://doi.org/10.1002/wcc.818

Somerville, M. P., Midouhas, E., Delprato, M., & Whitebread, D. (2024). Help me if you can I'm feeling down: Supporting children's emotion regulation and well-being in the primary classroom. School Mental Health, 16(3), 577–591. https://doi.org/10.1007/s12310-024-09668-4

Szóstakowski, D., & Besta, T. (2024). Perceived threat, injustice appraisal and willingness to join progressive collective action. Current Psychology, 43, 7399–7410.

Takshe, A. A., Hennawi, M., Jebril, S., & Abdelrahman, M. (2023). Investigating determinants of pro-environmental behaviors amongst UAE university students through Q-methodology. Discover Sustainability, 4(38). https://doi.org/10.1007/s43621-023-00156-4

Tavolacci, M., & Ladner, J. (2024). Eco-anxiety: An additional burden for university students? European Journal of Public Health, 34(Supplement_3), ckae144.1352.

Thomson, E. E., & Roach, S. P. (2023, November 15). The relationships among nature connectedness, climate anxiety, climate action, climate knowledge, and mental health. Frontiers in Psychology, 14, 1241400. https://doi.org/10.3389/fpsyg.2023.1241400

Tomasi, J., Zai, C., Pouget, J., Tiwari, A., & Kennedy, J. (2023). Heart rate variability: Evaluating a potential biomarker of anxiety disorders. Psychophysiology, e14481.

Uddin, M. A. (2023). A critical evaluation of environmental dispute resolution mechanisms in Bangladesh: Addressing challenges and insights. Indonesian Journal of Law and Society, 4(2), 49–70. https://doi.org/10.19184/ijls.v4i2.41732

United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development (A/RES/70/1). https://sdgs.un.org/2030agenda

United Nations Development Programme. (2024). A turbulent future: How climate change impacts young people in the Pacific. UNDP Regional Bureau for Asia and the Pacific. https://www.undp.org/asia-pacific/publications/turbulent-future-how-climate-change-impacts-young-people-pacific

van Valkengoed, A. M., Steg, L., & Perlaviciute, G. (2021). Development and validation of a climate change perceptions scale. Journal of Environmental Psychology, 76, Article 101652.

Vereschagin, M., Wang, A. Y., Richardson, C. G., Xie, H., Munthali, R. J., Hudec, K. L., Leung, C., Wojcik, K. D., Munro, L., Halli, P., Kessler, R. C., & Vigo, D. V. (2024). Effectiveness of the Minder Mobile Mental Health and Substance Use Intervention for university students: Randomized controlled trial. Journal of Medical Internet Research, 26, e54287. https://doi.org/10.2196/54287

Wahid, S. S., Raza, W. A., Mahmud, I., & Kohrt, B. A. (2023). Climate-related shocks and other stressors associated with depression and anxiety in Bangladesh: A nationally representative panel study. The Lancet Planetary Health, 7(2), e137–e146. https://doi.org/10.1016/S2542-5196(22)00315-1

Wang, Y., & Liu, L. (2024). Research on sustainable green building space design model integrating IoT technology. PLOS ONE, 19(4), e0298982. https://doi.org/10.1371/journal.pone.0298982

Whitmarsh, L., & O'Neill, S. (2010). Green identity, green living? The role of pro-environmental self-identity in determining consistency across diverse pro-environmental behaviours. Journal of Environmental Psychology, 30(3), 305–314. https://doi.org/10.1016/j.jenvp.2010.01.003

Xue, S., Massazza, A., Akhter-Khan, S. C., et al. (2024). Mental health and psychosocial interventions in the context of climate change: A scoping review. npj Mental Health Research, 3, 10.

Yaban, E. H., & Gaschler, R. (2025). Understanding pro-environmental behaviors through the Process–Person–Context–Time (PPCT) framework. Journal of Outdoor and Environmental Education.

Zhang, J., Jin, J., & Liang, Y. (2024). The impact of green space on university students' mental health: The mediating roles of solitude competence and perceptual restoration. Sustainability.