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THE IMPACT OF ENVIRONMENTAL RESPONSIBILITY ON THE WELLBEING OF UNIVERSITY STUDENTS

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Abstract

Despite growing awareness of environmental issues and the increasing integration of sustainability into educational settings, the relationship between environmental responsibility and the well-being of university students remains insufficiently explored. Presently, environmental issues pose challenges for Malaysia, becoming a global concern that demands serious attention. While the general displays a high level of awareness regarding environmental issues, conservation and preservation efforts remain low. This study aims to examine environmental responsibility's impact on university students' well-being. The study was conducted on 309 students, and the obtained data were analysed using SPSS version 20. The findings demonstrate a moderate positive relationship for all variables, including environmental knowledge, emotions towards the environment, self-efficacy, motivation, intention, and environmental behaviour toward the well-being of university students. Regression analysis results reveal that two variables, namely self-efficacy and environmental behaviour, exhibit a significant and positive influence on the well-being of university students. It is crucial to foster environmental consciousness among Malaysians, especially students, because this generation plays a crucial role in shaping the future of the environment. Also, the Malaysian government must prioritise addressing environmental challenges, as they are progressively worsening and concerning.

Keywords: Environmental Responsibility, Wellbeing, University

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INTRODUCTION

Environmental responsibility has emerged as a progressively significant determinant of an individual's well-being, especially among university students. In light of the increasing environmental issues the world is currently confronting, the recognition and adoption of proactive measures to ensure environmental sustainability are considered crucial elements for overall well-being (Jones & Kahn, 2023; Siron & Kasavan, 2023). University students, who embody the future leaders and catalysts of change, are especially vulnerable to the impacts of environmental problems, both directly and indirectly.

Recent research suggests that students who actively engage in environmentally responsible behaviours, such as recycling, lowering their carbon footprints, and participating in environmental activism, will experience favourable effects on their mental health and emotional well-being (Smith et al., 2024; Dooris et al., 2021). This connection can be attributed to the sense of purpose and community that comes from contributing to a larger cause, which helps alleviate feelings of anxiety and helplessness commonly associated with concerns about climate change (Rodriguez & Lee, 2023). Moreover, these individual actions not only foster personal well-being but also strengthen organisations such as educational institutions, community groups, and environmental NGOs that support these initiatives. This collective effort will then significantly contribute to the sustainable future of the destination as a whole (Azinuddin et al., 2023).

In addition, adding environmental responsibility to university courses and campus life has been demonstrated to improve students' entire educational experience and personal growth (Rezaei et al., 2022). As universities progressively implement sustainable measures, such as establishing environmentally friendly campuses and promoting eco-conscious initiatives, students' engagement and involvement in these practices not only enhance their education but also cultivate a deeper sense of connection to their surroundings, consequently enhancing their overall well-being (Giannetti et al., 2021).

This study seeks to investigate the precise ways in which responsibility for the environment affects the mental well-being of university students, considering the increasing significance of environmental challenges. Gaining a thorough understanding of this connection is essential for formulating tactics to improve students'well-being and foster a sustainable culture in higher education establishments (Ismail et al., 2023).

LITERATURE REVIEW

Environmental Knowledge

More people realise the importance of environmental knowledge in influencing individual opinions and behaviours toward sustainability. Inculcating individuals with a thorough grasp of environmental concerns is crucial for creating

responsible and informed citizens in the face of the world's mounting environmental challenges, which range from biodiversity loss to climate change (Radwan & Khalil, 2021). This notion is especially true in educational environments, where learners are being prepared to deal with challenging environmental issues in their personal and professional lives down the road.

Recent studies highlight the significance of environmental awareness in encouraging environmentally conscious behaviour. Zhao and Cheah (2023) discovered that students at universities are more inclined to participate in sustainable behaviours, such as cutting back on trash and energy use if they have a higher degree of environmental knowledge. Gaining information improves people's capacity to evaluate environmental policies critically and push for the needed changes, enabling them to make well-informed decisions (Johnson et al., 2024; Yusof et al., 2023).

Furthermore, enhanced mental wellness has been associated with environmental understanding, especially when it comes to worry related to climate change. Clayton et al. (2024) explained that, people who have a greater comprehension of environmental issues are better able to handle the psychological effects of environmental degradation. The relationship between knowledge and well-being emphasises how crucial it is to include comprehensive environmental education in academic courses, particularly in higher education.

Despite the increased focus on this topic, a gap remained in the efficiency of environmental education teaching and application. Although students may acquire theoretical knowledge, there is frequently little opportunity for this knowledge to be applied practically in real-world situations. To adequately prepare students for the complex environmental difficulties they will encounter, more multidisciplinary approaches are required that combine environmental knowledge with other subjects, such as economics, politics, and social sciences.

Environmental Emotion

Environmental emotions refer to the various experiences that humans have in response to changes and challenges in the environment. These emotions highlight the deep relationship between human psychology and the natural world. With the growing urgency of climate change and environmental degradation, there is a heightened need to comprehend the emotions associated with these issues, including eco-anxiety, eco-guilt, and environmental bereavement. Recent studies highlight how these emotions can deeply impact individuals' behaviour (Xiong et al., 2023).

Self-efficacy

Environmental self-efficacy refers to the belief in one's ability to take effective actions that positively impact the environment. This belief is increasingly

recognised as a crucial factor in promoting sustainable behaviours and addressing environmental challenges. Individuals with high environmental self-efficacy are more inclined to engage in behaviours like recycling, conserving energy, and advocating for environmental policies (Sh. Ahmad et al., 2022). Their confidence in making a meaningful difference drives their actions. Recent studies emphasise the importance of enhancing environmental self-efficacy, especially among young people, to foster a more sustainable future. For example, Yang et al. (2024) found that students who participated in environmental education programs focused on building self-efficacy were significantly more likely to engage in pro-environmental actions than those who did not receive such training.

Motivation

Environmental motivation encompasses intrinsic and extrinsic factors encouraging individuals to factors like societal expectations, regulations, and rewards. Personal values and beliefs form the foundation of intrinsic motivation, which is highly effective in cultivating enduring dedication to environmental behaviours (Budzanowska-Drzewiecka & Tutko, 2021). Individuals who experience a profound affinity for the natural environment will be inclined to engage in conservation endeavours and diminish their impact on the ecosystem. Recent research has indicated that environmental education and awareness initiatives that prioritise intrinsic motivation are more successful in encouraging sustainable habits compared to programs that exclusively focus on external rewards (Radwan & Khalil, 2021).

Extrinsic motivation, although significant, typically encompasses external stimuli or obligations, such as monetary incentives, social acknowledgement, or adherence to regulations. These variables can significantly promote pro-environmental behaviours, particularly when complemented by legislation that endorses sustainable practices (Budzanowska-Drzewiecka & Tutko, 2021). Gibovic and Bikfalvi (2021) conducted a study that showed how offering monetary incentives for recycling greatly boosted the number of people participating, especially in areas with low levels of environmental awareness. Nevertheless, the durability of actions influenced by external motivation may be compromised when the external rewards are eliminated. Thus, a blend of inherent and external reasons is frequently the most efficient approach to promoting long-lasting involvement in environmental matters, with educational programs playing a vital part in nurturing a more profound and personal dedication to environmental responsibility.

Environmental Intention

Environmental intention refers to an individual's conscious and intended choice to participate in behaviours that have a beneficial effect on the environment. This idea is frequently regarded as a preliminary stage to tangible environmental

conduct, functioning as a link between consciousness and implementation. Environmental intentions are influenced by multiple factors, such as individual attitudes toward the environment, perceived ability to manage behaviour, and societal norms (Ismail & Amin, 2020). The Theory of Planned Behavior (TPB), commonly used in environmental research, suggests that individuals are more inclined to form strong intentions to engage in pro-environmental behaviours when they have favourable attitudes towards these behaviours, perceive a sense of control over their actions, and believe that their social circle supports such actions (Ajzen, 1991). Ismail et al. (2023) have verified that these elements have a substantial impact on environmental intentions, particularly among young individuals who are displaying growing apprehension towards climate change and sustainability.

Environmental Behaviour

Environmental behaviour refers to the acts that individuals perform that have a direct impact on the environment, whether that impact is beneficial or harmful (Ismail & Amin, 2020). These behaviours involve a wide variety of actions, such as recycling, conserving energy, minimising water usage, and supporting policies that are designed to protect the environment. To promote sustainable behaviours, it is essential to have a solid understanding of the factors that influence environmental behaviour. Recent research showed that, environmental behaviour is influenced by a variety of factors, including personal beliefs, social standards, perceived behavioural control, and, increasingly, the emotional and psychological ties that individuals have with nature. Individuals who have a deep emotional connection to the natural environment are more likely to engage in actions that are beneficial to the environment, such as lowering their carbon footprint and participating in conservation initiatives, as Ismail et al. (2023) demonstrated.

Well-being

Environmental knowledge equips pupils with the comprehension required to identify and address environmental concerns, cultivating a feeling of accountability and consciousness. When students possess a deep understanding of environmental challenges, they are more prone to experiencing feelings like eco-anxiety or environmental bereavement. Although these emotions can be painful, they can also serve as a catalyst for them to engage in significant and impactful actions. Emotional involvement frequently results in a heightened feeling of attachment to the natural world and a stronger drive to participate in actions that safeguard and maintain the environment (Clayton & Manning, 2018). Furthermore, students who possess a strong sense of environmental self-efficacy, meaning they have confidence in their ability to make a difference, are more inclined to convert their environmental knowledge and emotions into proactive

actions. This sense can lead to an increased sense of purpose and satisfaction, ultimately resulting in improved overall well-being.

METHODOLOGY

This study employed a quantitative research method to gather and analyse data. Using a simple random sampling technique, 309 university students from Universiti Sultan Zainal Abidin (UniSZA) and Universiti Malaysia Terengganu (UMT) were selected as respondents. The data collection process was conducted through the distribution of questionnaires, both in physical form and via Google Forms, to ensure a broad and accessible reach among the participants.

The collected data were then analysed using the Statistical Package for the Social Sciences (SPSS) software. This software was utilised to perform descriptive and inferential statistical analyses, allowing for a comprehensive examination of the data. The analysis included various statistical tests to identify relationships and patterns relevant to the objectives, ensuring the reliability and validity of the findings.

ANALYSIS AND DISCUSSION

Respondent's Profile

The respondent profile provides an overview of the demographic and educational characteristics of the 309 university students from Universiti Sultan Zainal Abidin (UniSZA) and Universiti Malaysia Terengganu (UMT) who participated in the research. Table 1 shows the sample is composed of 133 male respondents, representing 43.0% of the total, and 176 female respondents, accounting for 57.0%, indicating a slightly higher participation of female students in the study.

The age distribution shows that the majority of respondents are between 21 and 25 years old, with 170 individuals in this category making up 55.0% of the total. This category is followed by 115 respondents (37.2%) in the 18 to 20 age group. A smaller percentage of respondents fall into the 26 to 30 age group (7.2%), and only 2 respondents (0.6%) are aged 31 and above.

The educational background of the respondents reveals that 221 participants (71.5%) are pursuing a degree, making it the predominant educational level among the sample. This is followed by 77 respondents (25.0%) who are enrolled in diploma programs. A minority of respondents are pursuing higher degrees, with 9 individuals (2.9%) working towards a master's degree and 2 respondents (0.6%) pursuing a PhD.

The respondents are fairly evenly distributed between the two institutions, with 163 students (52.8%) from UniSZA and 146 students (47.2%) from UMT. This balance ensures that the data reflects perspectives from both universities, contributing to the study's overall representativeness. Table 1 shows the summary of the respondents'profiles.

Table 1: Respondents' Profiles

Characteristics		No. of respondents	%
Gender			
	Male	133	43.0
	Female	176	57.0
Age			
	18 to 20	115	37.2
	21 to 25	170	55.0
	26 to 30	22	7.2
	31 above	2	0.6
Education level			
	Diploma	77	25.0
	Degree	221	71.5
	Master	9	2.9
	PhD	2	0.6
Institution			
	UniSZA	163	52.8
	UMT	146	47.2

The Descriptive Analysis

The descriptive analysis of the study's variables in Table 2 provides insight into the respondents' overall levels of environmental knowledge, emotions, self-efficacy, motivation, intention, behaviour, and well-being. The mean scores and corresponding levels indicate how the respondents generally perceive and engage with environmental issues and their overall well-being.

Table 2: The descriptive analysis of variables

Variables	Mean	Level
Environmental Knowledge	3.69	High
Environmental Emotion	4.38	High
Self-efficacy	3.70	High
Motivation	4.07	High
Environmental Intention	4.13	High
Environmental Behaviour	3.48	Moderate
Well-being	3.81	High

The respondents demonstrated a high level of environmental knowledge, with a mean score of 3.69. This suggests that the students are well-informed about environmental issues, which likely influences their attitudes and behaviours towards sustainability. Next, environmental emotion, with a mean score of 4.38, is the highest among all the variables. This indicates that the respondents have strong emotional responses to environmental issues, reflecting a deep concern and connection to the natural environment. Such strong emotions

can be a powerful driver for environmental action. Meanwhile, the high level of self-efficacy, with a mean score of 3.70, suggests that the respondents feel confident in their ability to make a positive impact on the environment. This confidence is crucial for translating environmental knowledge and emotions into tangible actions.

Motivation toward the environment also scored highly, with a mean of 4.07. This high level of motivation indicates that both internal and external factors drive the respondents to engage in behaviours that benefit the environment. Besides, the high mean score of 4.13 for environmental intention suggests that the respondents are committed to engaging in pro-environmental behaviours. This strong intention is a key precursor to actual environmental action.

Despite high levels of knowledge, emotion, self-efficacy, motivation, and intention, the mean score for environmental behaviour is 3.48, which is at a moderate level. This suggests that while respondents are knowledgeable and motivated, there may be barriers or challenges that prevent them from fully engaging in pro-environmental behaviours. Lastly, the overall well-being of the respondents is at a high level, with a mean score of 3.81. This indicates that, on average, the respondents feel positive about their lives, and their engagement with environmental issues may contribute to this sense of well-being.

The Relationship Between Environmental Responsibility on the Wellbeing

The Pearson correlation coefficients (r) presented in the analysis in Table 3 indicate the strength and direction of the relationships between various environmental variables (knowledge, emotion, self-efficacy, motivation, intention, behaviour) and well-being among the respondents. All correlations are statistically significant at the $p < .005$ level, as indicated by the p-values of .000.

Table 3: Pearson Correlation Coefficient (r)

Variables	Pearson Correlation (r)	P
Environmental Knowledge	.493**	.000
Environmental Emotion	.257**	.000
Self-efficacy	.558**	.000
Motivation	.446**	.000
Environmental Intention	.422**	.000
Environmental Behaviour	.515**	.000

Significant level $p<0.05$

The findings show a moderate to strong positive correlation between environmental knowledge and well-being, with a Pearson correlation coefficient of .493. This result suggests that as students' environmental knowledge increases, their sense of well-being tends to improve significantly. Understanding environmental issues may enhance students' sense of control and connection to

the world around them, contributing positively to their overall well-being. Meanwhile, the correlation between environmental emotion and well-being is weaker, with a coefficient of .257, but still statistically significant. It indicates that while strong emotional connections to the environment are associated with better well-being, the effect is less pronounced compared to other variables. Emotional engagement with the environment can contribute to well-being, but it may also lead to stress or anxiety if not balanced with action or coping strategies.

Next, self-efficacy shows the strongest positive correlation with well-being among all the variables, with a Pearson correlation coefficient of .558. This strong relationship suggests that students who feel capable of taking effective environmental action also tend to have higher levels of well-being. This may be because a strong belief in one's ability to influence positive change can enhance a sense of purpose and personal satisfaction, thereby boosting overall well-being.

The findings indicate a moderate positive correlation between motivation and well-being, with a coefficient of .446. It indicates that higher levels of motivation toward environmental issues are associated with better well-being. Motivated individuals are likely to feel more engaged and purposeful, which can contribute positively to their mental and emotional health. Environmental intention also shows a moderate positive correlation with well-being, with a coefficient of .422. This suggests that students who intend to engage in pro-environmental behaviours are likely to experience higher levels of well-being. Having clear intentions to act in environmentally responsible ways can provide a sense of direction and fulfilment, which supports overall well-being.

Lastly, the correlation between environmental behaviour and well-being is moderate to strong, with a coefficient of .515. This result suggests that students who actively engage in pro-environmental behaviours tend to report higher well-being. Engaging in these behaviours may provide a sense of accomplishment and align with personal values, thereby enhancing life satisfaction and well-being.

The Impact on the Wellbeing of University Students

The multiple regression analysis assesses the influence of various environmental responsible factors including knowledge, emotion, self-efficacy, motivation, intention, and behaviour, on the well-being of university students (refer to Table 4). The model's overall effectiveness is indicated by an R-value of 0.652, suggesting a strong collective relationship between these variables and well-being. The Adjusted R Square value of 0.413 means that approximately 41.3% of the variance in well-being can be explained by the combined effect of these predictors. The F-value of 37.129 is significant, confirming that the model as a whole is statistically significant.

Table 4: Impact Wellbeing

Variables	Beta	t	P
Environmental Knowledge	.109	1.776	.077
Environmental Emotion	.043	.770	.442
Self-efficacy	.357	6.583	.000
Motivation	-.010	-.136	.892
Environmental Intention	..081	1.275	.203
Environmental Behaviour	.254	4.371	.000

R = 0.652; F = 37.129; Adjusted R Square = 0.413

Environmental knowledge has a positive but non-significant impact on well-being. The beta coefficient of .109 indicates a weak relationship, with a p-value of .077. Thus, it does not meet the conventional threshold for statistical significance ($p < .05$). This result suggests that while knowledge contributes somewhat to well-being, its impact is not strong enough to be considered a major predictor in this model. Next, the impact of environmental emotion on well-being is also positive but not significant, with a beta coefficient of .043 and a p-value of .442. This result suggests that the emotional response to environmental issues does not have a strong or significant influence on the well-being of university students in this sample.

Self-efficacy stands out as the strongest predictor of well-being, with a significant beta coefficient of .357 and a p-value of .000. This result indicates that students who feel confident in their ability to take effective environmental action are likely to experience significantly higher levels of well-being. The strong relationship underscores the importance of fostering environmental self-efficacy as a key factor in enhancing student well-being. Surprisingly, motivation has a negative and non-significant impact on well-being, with a beta coefficient of -.010 and a p-value of .892. Thus, motivation, in isolation, does not significantly contribute to well-being, and its slight negative beta indicates that other factors may overshadow its direct effect.

Meanwhile, environmental intention has a positive but non-significant impact on well-being, with a beta coefficient of .081 and a p-value of .203. It indicates that while having intentions to act pro-environmentally is associated with better well-being, the relationship is not strong or significant in this model. Environmental behaviour is the second strongest predictor after self-efficacy, with a significant positive impact on well-being (Beta = .254, p = .000). This finding highlight that actively engaging in environmentally responsible behaviours contributes meaningfully to students' well-being, reinforcing the idea that practical action is key to enhancing life satisfaction.

CONCLUSION

This finding underscores the critical role of environmental self-efficacy and behaviour in enhancing the well-being of university students. While students exhibit high levels of environmental knowledge, emotion, motivation, and intention, a moderate level of environmental behaviour indicates a possible gap between what they intend to do and their actual actions. This gap presents an opportunity for further research to explore the barriers preventing students from translating their environmental intentions into behaviours.

The positive correlations between all environmental variables and well-being, with self-efficacy showing the strongest correlation, highlight the importance of fostering confidence in students' ability to effect positive environmental change. This confidence, coupled with actual environmental behaviour, emerges as a key predictor of well-being, suggesting that strategies to empower students to act on their environmental knowledge and intentions could significantly enhance their overall quality of life.

In summary, the study suggests that while knowledge, emotion, motivation, and intention are important, translating these factors into action supported by a strong belief in one's ability to make a difference is essential for promoting both pro-environmental behaviours and the well-being of university students. Therefore, initiatives that enhance self-efficacy and encourage active participation in environmental efforts are likely to be the most effective in fostering a sustainable and well-balanced student life.

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