SOCIAL RESPONSIBILITY AMONG STUDENTS OF THEIR EDUCATION FOR ENVIRONMENTAL SUSTAINABILITY (CASE STUDY: AL-KHARJ GOVERNORATE, KSA)[1]

RESPONSABILIDADE SOCIAL ENTRE ALUNOS DE SUA EDUCAÇÃO PARA A SUSTENTABILIDADE AMBIENTAL (ESTUDO DE CASO: GOVERNO DE AL-KHARJ, KSA)

Mohammed Ataullah Al-Azab Ali Ismail
ORCID 0000-4522-1215-1864
Department of Islamic Studies, College of Education
Prince Sattam Bin Abdulaziz University
Al-Kharj, Saudi Arabia
m.ismail@psau.edu.sa

Mohamed Sayed Abdellatif
ORCID 0000-0002-2212-5256
Department of Psychology, College of Education
Prince Sattam Bin Abdulaziz University
Al-Kharj, Saudi Arabia
m.heby@psau.edu.sa

Abstract. A responsabilidade social é um aspecto vital da sustentabilidade econômica, ambiental e social que ajuda a melhorar a qualidade de vida na sociedade. O presente estudo foi conduzido com o objetivo de avaliar o nível de atitude ambiental e responsabilidade social em relação ao meio ambiente entre os alunos e seu treinamento para o desenvolvimento sustentável da Prince Satam Bin Abdulaziz University (PSAU) na província de Al-Kharj. Este estudo incluiu 408 alunos do sexo masculino e feminino da PSAU. Os pesquisadores usaram os critérios de sustentabilidade ambiental e responsabilidade social em relação ao meio ambiente. Usando uma abordagem analítica descritiva, especialmente o método de correlação preditiva, este estudo examinou o padrão de relações entre variáveis e sua capacidade preditiva. Os resultados mostraram altos níveis de sustentabilidade ambiental e responsabilidade social em relação ao meio ambiente entre a amostra. Uma correlação positiva e estatisticamente significativa foi observada entre a atitude de sustentabilidade ambiental e responsabilidade social. Além disso, os resultados mostraram a capacidade de prever a responsabilidade social a partir de atitudes de sustentabilidade ambiental entre a amostra estudada. De acordo com os resultados, pode-se dizer que a educação dos alunos pode fornecer sua responsabilidade social pela proteção ambiental e desenvolvimento sustentável.

Keywords: Environmental sustainability, attitudes, social responsibility, Education, Al-Kharj Governorate

Resumo. Este artigo explora como o uso de mídias sociais afeta a autoconfiança dos indivíduos. Com o avanço da tecnologia, mais pessoas estão dedicando um tempo significativo às plataformas de mídia social. Durante esse tempo, os usuários geralmente seguem outros e se comparam, o que pode influenciar suas autopercepções. A pesquisa visa investigar se há uma correlação entre o uso de mídias sociais e a autoconfiança entre alunos de diferentes disciplinas na Baku State University. A Bergen Social Media Addiction Scale e a Self-Confidence Scale foram usadas durante a pesquisa. O estudo mostrou que se $p > 0,05$, os resultados podem ser considerados normalmente distribuídos. Além disso, se $p < 0,05$, a dependência entre as quantidades é significativa; se maior, a dependência é insignificante. De acordo com os resultados da pesquisa, o nível de significância é 0, o que significa que é menor que 0,05. Em conclusão, há uma correlação significativa entre o vício em mídias sociais e a autoconfiança.

Palavras-chave: Sustentabilidade ambiental, atitudes, responsabilidade social, educação, Governo De Al-Kharj

1. INTRODUCTION

Educational institutions aim to promote sustainable development by raising students' awareness of environmental, economic, and societal issues (Kalsoom & Khanam, 2017). They provide interactive learning opportunities to develop practical skills, values, and competencies, enabling individuals and groups to move towards sustainability. The development of sustainable attitudes is crucial for understanding and promoting sustainable behavior (Probst et al., 2019).

[1] The authors extend their appreciation to Prince Sattam bin Abdulaziz University for funding this research work through the project number (PSAU/2024/02/ 28521)

Sustainable development is a multifaceted approach that emphasizes economic growth, social inclusion, and environmental protection through collective responsibility. These are considered fundamental to any comprehensive long-term approach aimed at ensuring the well-being of current and future generations (Illahaqi et al., 2021). Environmental sustainability attitudes represent a growing concern among university students due to challenges surrounding climate change and the depletion of natural resources (Judge et al., 2022).

Societies worldwide face increasing sustainability challenges due to population dynamics, climate change, urbanization, globalization, depletion and degradation of natural resources, as well as food security issues (Probst et al., 2019). The environment in various parts of the world is exposed to numerous environmental problems, to the extent that this era has been described as the era of environmental crisis. This is attributed to several reasons, most notably the lack of environmental awareness (Aminrad et al., 2012) and incorrect behavioral patterns of people; environmental problems are primarily behavioral problems (Al-Ahmadi, 2019).

Some scientists have warned about the speed and pattern of human depletion of the environment's natural resources, predicting that by 2050, humans will need two planets the size of Earth to meet the growing basic needs of humanity (Meerah et al., 2010). Consequently, the environmental issue has become one of the concerns of the global community in the twenty-first century due to its direct connection and impact on various vital sectors, including agriculture, water and energy, health, transportation and coastal areas, marine resources, sustainable development, and other sectors (Maartensson & Loi, 2022).

Saudi Arabia's Vision 2030 included several national programs aimed at raising environmental awareness about climate change and sustainable development, focusing on increasing environmental awareness among various segments of society (Alshuwaikhat & Mohammed, 2017). The sustainable development goals in Vision 2030 include spreading environmental awareness, maintaining air quality, sustaining water resources and the marine environment, and promoting eco-tourism (Al-Ahmadi, 2019).

Universities play a pivotal role in building sustainable communities through education and awareness (Almudara et al., 2023). Education is considered the cornerstone for achieving sustainable development and is essential for raising individual awareness and achieving a sustainable future (Mora et al., 2020). Ambusaidi and Al Washahi (2016) emphasize the importance of effective education in changing individuals' behavior and attitudes towards environmental sustainability at both individual and societal levels.

To improve Earth's quality of life, individuals must change their attitudes and behaviors towards the environment and lifestyles (Al-Naqbi & Alshanna, 2018). Achieving environmental sustainability requires societal and individual changes, making it a crucial topic for scientific research and educational policies. Studies have shown the importance of developing sustainable attitudes among learners at various educational stages, and integrating social responsibility into curricula is vital for a sustainable future (Kalsoom & Khanam, 2017; Michalos et al., 2011; Probst et al., 2019; Tomás et al., 2023; Tsai et al., 2018).

Social responsibility is a duty to balance the economy and ecosystem, affecting individuals and institutions alike (Palmer et al, 1995). It involves prioritizing society's interests based on solidarity and personal and social responsibility (González-Rodríguez et al., 2013). Responsible thinking emphasizes sustainable development and resource use (Al-Hamdan & Al-Azmi, 2022). Environmental problems often stem from human misconduct, leading to the concept of environmental responsibility and citizenship. Environmental protection organizations call for individuals to be held responsible for protecting the environment, rather than imposing laws and penalties. This redefines the relationship between community members and their environment, focusing on personal and social responsibility (Meerah et al., 2010).

University students' social responsibility involves understanding their behavior's impact on society and the environment. They can improve environmental awareness through daily

interactions (Aguilar & Martinez, 2006). Academic institutions should align with social responsibility policies to reduce environmental impacts. Sustainable resource management and preservation are crucial for reducing organizations' and individuals' environmental impact and promoting sustainability for future generations (Romero & Lara, 2016).

Universities adopt social responsibility policies to address the impacts resulting from the academic and organizational activities of the university community, including students, staff, and faculty members (Vallaeys, 2014). University authorities are responsible for implementing measures within these policies to mitigate environmental impacts, ensure the preservation of the natural environment, and promote sustainable development by enhancing students' environmental attitudes (Tomás et al., 2023).

Universities are committed to developing social responsibility through policies, but these policies are not distributed effectively, leading to poor participation and ignorance (Tomás et al., 2023). Studies show that 58% of participants in a public university in Peru believe university social responsibility is insufficient, while 59% show weakness in social participation (Condori & Reyna, 2019). The university should focus on providing knowledge, promoting scientific research, and social responsibility by training qualified students to positively impact the environment and society through research and civic participation (Pumacayo et al., 2020).

Environmental sustainability attitudes and social responsibility are crucial for understanding and addressing environmental challenges. These attitudes involve adopting policies and behaviors that preserve natural resources and reduce negative impacts. Studies in Saudi Arabia, particularly at Prince Sattam University, have confirmed these issues (Al-Harbi, 2017; Nour El-Din,2016). Al-Najjar (2019) found that students need to learn environmental sustainability concepts through interviews and that these concepts are not included in the university's curricula.

Social responsibility towards the environment involves individuals and institutions committing to responsible practices and sustainable solutions (Al-Hamdan & Al-Azmi, 2022). University students play a crucial role in shaping environmental awareness and promoting positive behaviors. However, youth often lack awareness of social responsibility, despite their potential to overcome challenges (Al-Amir, 2022). The importance of investing in these human energies is increasing, especially in light of global challenges. Research shows irresponsible environmental behaviors, weak social participation, and lack of commitment to social life tasks among university students.

The study aims to investigate the level of environmental sustainability attitudes and social responsibility among students at PSAU in Al-Kharj Governorate. It seeks to explore the relationship between these two constructs and whether social responsibility can be predicted based on these attitudes. The research is crucial in understanding the environmental awareness and social responsibility of university students in Saudi Arabia, potentially informing future educational policies and environmental initiatives. The study is unique in its focus on the lack of previous research on this subject, and the researchers hope to provide valuable insights into the relationship between these variables.

2. LITERATURE REVIEW

Environmental Sustainability Attitudes

The sustainable development goals emphasize environmental issues, with over half focusing on sustainable resource management, poverty alleviation, health, food, agriculture, water, sanitation, human settlements, energy, climate change, consumption, production, oceans, and terrestrial ecosystems (United Nations Environment Assembly, 2016). Saudi Arabia's Vision 2030 aims to achieve environmental sustainability through initiatives like reducing fossil fuel dependence, combating desertification, supporting biodiversity, and

achieving sustainable development goals. These goals align with the United Nations' 2015 recommendation to achieve 17 sustainable development goals by 2030, aiming to improve human life quality and protect the environment (Katila et al., 2019).

Environmental sustainability involves investing in resources to meet current needs without neglecting future generations' rights, ensuring environmental safety, economic survival, and a just society (Suleiman, 2020). Attitudes towards sustainability are individuals' values, habits, and behavioral ideas towards sustainable development (Michalos et al., 2011). It covers natural resources, climate change, and sustainable urbanization (Probst et al., 2019). Attitude towards sustainability involves pursuing environmental protection, addressing problems, developing solutions without endangering it, and enhancing individuals' adaptability to and avoid harming it (Ahmed, 2024).

Previous studies have highlighted the importance of developing sustainable attitudes among learners at different educational stages. Ull et al. (2014) showed that many participants were unaware of their daily activities' impact on the environment, suggesting the need for environmental sustainability topics in education. University students show high understanding and strong positive attitudes towards the environment and sustainable development (Al-Naqbi & Alshannag, 2018). The SOAP model, which allows online discussions on social and scientific issues, has been shown to enhance sustainable attitudes (Tsai, 2018). An intensive, multidisciplinary educational design on organic agriculture has also been shown to develop sustainable attitudes (Probst et al., 2019).

Social Responsibility

Social responsibility is an individual's responsibility towards themselves, family, friends, religion, and country which involves understanding their role in achieving goals, caring for others, and participating in solving community problems (Al-Shahrani, 2017). It includes providing service, assisting others, and caring for them (Al-Sahli, 2020). It also involves commitment to laws and regulations. Nurturing social responsibility contributes to society's development and progress. It involves committing to one's community, adhering to ethical principles, and feeling a sense of belonging (Al-Hamdan & Al-Azmi, 2022). Social responsibility is an ethical model that requires cooperation and cooperation with entities and institutions for societal benefit (Blaique et al., 2023).

Social responsibility is increasingly important in the business world, with universities playing a crucial role in driving social change (Madaan et al., 2023). Students' values and beliefs about social responsibility significantly impact their awareness and behavior (Jordaan & Jordaan, 2020). Developing social responsibility among students nurtures ethical and social aspects, influencing their perception of citizenship values and awareness of sacrifice for society and homeland (Blaique et al., 2023; Liss & Liazos, 2010). Al-Hamdan and Al-Azmi (2022) emphasize the importance of social responsibility as a driving force for societal progress. However, its absence can lead to societal breaches and negative effects on society. Almudara et al. (2023) highlight the need for developing social responsibility among students, as it can lead to complacency, indifference, psychological isolation, disintegration, weak participation, and lack of commitment to social life tasks.

Relationship between Environmental Sustainability Attitudes and Social Responsibility

The 1992 United Nations Conference on Environment and Development adopted Agenda 21, aiming for sustainable development in the 21st century. Chapter 36 highlighted the importance of environmental education and social responsibility in university education (United Nations Agenda, 1992). Since then, international conferences have emphasized the need for a sustainable development model. In 2015, the UN launched the Sustainable

Development Goals (SDGs) with 17 goals, emphasizing the role of universities in finding solutions (Madime & Gonçalves, 2022).

Social responsibility is crucial for economic, environmental, and social sustainability, affecting society's quality of life and supporting stable societies (Blaique et al., 2023). Individuals play a crucial role in environmental sustainability by solving social problems and contributing to social responsibility development (Liu et al., 2020). Responsible social thinking enhances sustainable development and resource use, with a close link between environmental conservation and social responsibility (Tomás et al., 2023). Environmental awareness is associated with social responsibility, as pollution protection and preservation are pressing issues in our contemporary world (Al-Hamdan & Al-Azmi, 2022). Social responsibility is an ethical commitment to benefit society and the environment, with a synergistic and complementary relationship between social responsibility and comprehensive development (Al-Arabi & Omar, 2023).

3. METHODOLOGY

Research Design

This study employed a descriptive analytical approach, specifically a predictive correlational design, to examine the relationship between environmental sustainability attitudes and social responsibility among university students. This approach was chosen to elucidate the pattern of relationships between variables and their predictive capacity, aligning with the research objectives and questions.

Participants

The study involved two groups of participants, all students from PSAU in Al-Kharj Governorate, Saudi Arabia. To verify the psychometric properties of the research instruments, the measures were initially administered to 131 students (Mage = 20.11 years, SD = 1.86). However, the primary research sample consisted of 408 students (213 males, 195 females) from various academic disciplines (257 from scientific colleges, 151 from humanities colleges) (Mage = 20.45 years, SD = 2.08).

Measures

Environmental Sustainability Attitudes Scale (ESAS-15)

The researchers developed this scale after reviewing relevant theoretical frameworks and existing measures (e.g., Al-Ahmadi, 2019; Al-Dosari & Abdellatif, 2024; Malkus, 1995). The scale comprises three components: a) Cognitive component: Students' knowledge of environmental sustainability issues b) Affective component: Students' attitudes towards environmental sustainability issues c) Behavioral component: Students' behaviors in life situations regarding environmental sustainability issues

The initial version consisted of 15 items, with five items per component. Participants rated each item on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate a higher level of environmental sustainability attitudes. The total score ranges from 15 to 75.

Content validity was established through expert review by five faculty members in education and psychology, with agreement rates ranging from 80% to 100%. Internal consistency was assessed by calculating Pearson correlation coefficients between each item score and its respective component score, as well as between component scores and the total scale score. All correlations were statistically significant at $p < 0.01$, ranging from 0.547 to 0.804. Reliability was evaluated using Cronbach's alpha ($\alpha = 0.708$) and Guttman's split-half coefficient (0.784), indicating high reliability.

Social Responsibility Scale (SRS-15)

This scale was developed based on a review of theoretical frameworks and existing measures (e.g., Al-Hamdan & Al-Azmi, 2022; Condori & Reyna, 2019; Tomás et al., 2023). It consists of three components: Personal responsibility, Collective responsibility, and National responsibility

The scale comprises 15 items, with five items per component. Participants rated each item on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate a higher level of social responsibility. The total score ranges from 15 to 75.

Content validity was established through expert review by five faculty members in education and psychology, with agreement rates ranging from 80% to 100%. Internal consistency was assessed by calculating Pearson correlation coefficients between each item score and its respective component score, as well as between component scores and the total scale score. All correlations were statistically significant at $p < 0.01$, ranging from 0.631 to 0.838. Reliability was evaluated using Cronbach's alpha ($\alpha = 0.735$) and Guttman's split-half coefficient (0.884), indicating high reliability.

Procedure

After obtaining necessary approvals from the university's ethics committee, the researchers administered both scales to the pilot study participants to assess psychometric properties. Following refinement of the instruments, the main study data collection took place. Participants were recruited from various colleges within PSAU. They were informed about the study's purpose and assured of confidentiality and anonymity. Participation was voluntary, and informed consent was obtained from all participants. The scales were administered either in person or through an online platform, depending on accessibility and participant preference.

Data Analysis

Data were analyzed using IBM SPSS Statistics (version 23). Descriptive statistics (means, standard deviations) were calculated to assess levels of environmental sustainability attitudes and social responsibility. Pearson correlation coefficients were computed to examine the relationship between the two main variables. Multiple regression analysis was conducted to investigate the predictive capacity of environmental sustainability attitudes on social responsibility. Additionally, independent samples t-test was performed to explore potential differences based on demographic variables such as gender and academic discipline.

4. RESULTS

This study aimed to investigate the relationship between environmental sustainability attitudes and social responsibility among university students at PSAU in Al-Kharj Governorate, Saudi Arabia. The results are presented in accordance with the research questions.

The first research question asked: What is the level of environmental sustainability attitudes among students at PSAU in Al-Kharj Governorate? To answer this question, a one-sample t-test was conducted to compare the hypothetical mean of the Environmental Sustainability Attitudes Scale (ESAS-15) and its components with the actual mean scores of the study sample. The results are presented in Table 1.

The results indicate statistically significant differences between the hypothetical means and the actual means of the students' scores across all components (cognitive, affective, and behavioral) as well as the total score for environmental sustainability attitudes. The t-values ranged from 48.828 to 234.677, indicating large and statistically significant differences in favor of the higher actual means of students' scores ($p < .01$). These findings suggest that the students in the study sample have higher than average levels of environmental sustainability attitudes across all components and in the total score.

Table 1. Results of One-Sample t-test Comparing Hypothetical and Actual Means on the ESAS-15 and its Components

Component	Test Value	Mean	Std. Deviation	Mean Difference	df	t
Cognitive	15	19.13	1.188	4.132	407	70.234**
Affective	15	19.70	1.513	4.708	407	62.837**
Behavioral	15	18.92	1.624	3.926	407	48.828**
Total Score	45	57.76	3.681	42.767	407	234.677**

Note: ** Significant at the 0.01 level

The second research question asked: What is the level of social responsibility among students at PSAU in Al-Kharj Governorate? To address this question, another one-sample t-test was conducted to compare the hypothetical mean of the Social Responsibility Scale (SRS-15) and its components with the actual mean scores of the study sample. The results are presented in Table 2.

Table 2. Results of One-Sample t-test Comparing Hypothetical and Actual Means on the SRS-15 and its Components

Component	Test Value	Mean	SD	Mean Difference	df	T
Personal Responsibility	15	18.5637	1.33037	3.56373	407	54.108**
Collective Responsibility	15	18.7377	1.31233	3.73775	407	57.530**
National Responsibility	15	18.6299	1.37646	3.62990	407	53.268**
Total Score	45	55.9314	3.83892	40.93137	407	215.366**

Note: ** Significant at the 0.01 level

The results reveal statistically significant differences ($p < .01$) between the hypothetical means and the actual means of students' scores across all components of social responsibility (personal, collective, and national) as well as the total score. The t-values ranged from 53.268 to 215.366, indicating large and statistically significant differences in favor of the higher actual means of students' scores. These findings suggest that the students in the study sample demonstrate higher than average levels of social responsibility across all components and in the total score.

The third research question asked: What is the nature of the relationship between environmental sustainability attitudes and social responsibility among students at PSAU in Al-Kharj Governorate? To examine this relationship, Pearson correlation coefficients were calculated between the scores on the ESAS-15 and its components and the scores on the SRS-15 and its components. The results are presented in Table 3.

Table 3. Pearson Correlation Coefficients between ESAS-15 and SRS-15 Scores and Their Components

Variable	Cognitive	Affective	Behavioral	Total ESAS-15
Personal Responsibility	.678**	.513**	.573**	.683**
Collective Responsibility	.769**	.565**	.644**	.765**
National Responsibility	.652**	.546**	.592**	.696**
Total SRS-15	.732**	.567**	.631**	.748**

Note: ** Correlation is significant at the 0.01 level (2-tailed).

The results indicate statistically significant positive correlations ($p < .01$) between all components of environmental sustainability attitudes and all components of social responsibility, as well as between their total scores. The correlation coefficients ranged from .513 to .769, suggesting moderate to strong relationships between the constructs. The strongest correlation was observed between the cognitive component of environmental sustainability attitudes and collective responsibility ($r = .769$, $p < .01$), while the weakest correlation was found between the affective component of environmental sustainability attitudes and personal responsibility ($r = .513$, $p < .01$).

The fourth research question asked: Can social responsibility be predicted from the level of environmental sustainability attitudes among students at PSAU in Al-Kharj Governorate? To address this question, a simple linear regression analysis was conducted, with the total score of the SRS-15 as the dependent variable and the total score of the ESAS-15 as the independent variable. The results of the regression analysis are presented in Table 4.

Table 4. Simple Linear Regression Results for Predicting Social Responsibility from Environmental Sustainability Attitudes

Variables	B	Std. Error	Beta	F value	Sig.	T value	Sig.	R	R^2	Adjusted R^2
Constant	10.885	1.989		514.83	.000[b]	5.472	.00	.748[a]	.559	.558
ESAS-15 Total	.780	.034	.748			22.690	.00			

Note: Dependent Variable: SRS-15 Total Score

The regression analysis yielded an F-value of 514.834 ($p < .001$), indicating that the model is statistically significant and that environmental sustainability attitudes can significantly predict social responsibility. The multiple correlation coefficient (R) was .748, and the coefficient of determination (R^2) was .559, suggesting that environmental sustainability attitudes explain 55.9% of the variance in social responsibility scores.

The regression equation can be expressed as follows: Social Responsibility = 10.885 + (0.780 × Environmental Sustainability Attitudes)

In summary, the results of this study reveal high levels of both environmental sustainability attitudes and social responsibility among the sampled university students. Furthermore, there is a strong positive relationship between these two constructs, with environmental sustainability attitudes serving as a significant predictor of social responsibility. These findings have important implications for educational policies and practices aimed at promoting environmental awareness and social responsibility among university students.

5. DISCUSSION

The high level of environmental sustainability attitudes observed among the students alis with some previous research (e.g., Al-Dosari & Abdellatif, 2024; Al-Harbi, 2017) but contrasts with other studies that found lower levels of environmental awareness among university students (e.g., Al-Najjar, 2019; Ahmed & Dawood, 2022; Al-Hamdan & Al-Azmi, 2022). This discrepancy may be attributed to several factors specific to the current study's context.

The high level of environmental sustainability attitudes may reflect the effectiveness of environmental education programs and courses at PSAU. As Al-Harbi (2017) noted, higher education plays a crucial role in shaping environmental attitudes through the knowledge, perspectives, and behaviors cultivated in students. The university's efforts to organize environmental activities and awareness campaigns, such as the "Green University Initiative" and Environment Week, likely contributed to heightening students' environmental consciousness.

The broader national context of Saudi Arabia's Vision 2030, which emphasizes environmental sustainability and includes initiatives like the Saudi Green Initiative, may have influenced students' attitudes. The increased focus on environmental issues at the national level could have permeated into higher education institutions and students' awareness. Moreover, the characteristics of university students themselves may contribute to their high environmental sustainability attitudes. As noted by Calculli et al. (2021), younger generations often demonstrate a deeper awareness of environmental conditions and are more likely to adopt "good environmental practices." This generational trend, combined with increased access to

information through media and technology, may have fostered stronger environmental attitudes among the sampled students.

The high level of social responsibility observed among the students aligns with some previous research (e.g., Al-Shahrani, 2017; Al-Sahli, 2020) but differs from other studies that found lower levels of social responsibility among university students (e.g., Al-Hamdan & Al-Azmi, 2022; Condori & Reyna, 2019; Tomás et al., 2023). This finding can be interpreted through several lenses.

The university's commitment to social responsibility is evident through its 2023 dedicated social responsibility management program and community service units across all colleges. These initiatives offer students practical opportunities to engage in socially responsible behaviors. Aligning these initiatives with Saudi Arabia's Vision 2030 may have amplified their impact. The cultural and religious context of Saudi Arabia, which emphasizes communal values and social cohesion, may also contribute to higher levels of social responsibility among students. The demographic characteristics of young, educated individuals may also predispose them to higher levels of social responsibility, as they have the potential to address social challenges (Al-Amir, 2022).

The strong positive correlation between environmental sustainability attitudes and social responsibility, as well as the predictive capacity of the former for the latter, aligns with previous research (e.g., Al-Hamdan & Al-Azmi, 2022; Blaique et al., 2023; Liu et al., 2020; Tomás et al., 2023). This relationship can be understood through several theoretical and practical considerations.

Environmental sustainability attitudes and social responsibility share common values like cooperation, resource conservation, and concern for others and society. A synergistic relationship between social responsibility and comprehensive development, including environmental sustainability, may explain the strong positive correlation between the two constructs (Al-Arabi & Omar, 2023). Positive attitudes towards environmental sustainability motivate students to engage in solving environmental and social problems, enhancing their sense of social responsibility (Liu et al., 2020). The predictive capacity of environmental sustainability attitudes for social responsibility may be explained by the dynamic interplay between these constructs. As students develop more positive attitudes towards environmental sustainability, they become more aware of their role in society, leading to a heightened sense of social responsibility (Meerah et al., 2010). The university environment may foster the connection between these two constructs by providing opportunities for environmental engagement and emphasizing the social implications of environmental issues. The cultural and religious context of Saudi Arabia may also contribute to this relationship.

6. CONCLUSION

This study aimed to assess environmental sustainability attitudes and social responsibility towards the environment among students at PSAU in Al-Kharj Governorate. The findings revealed high levels of both environmental sustainability attitudes and social responsibility among the students. A significant positive correlation was found between these variables, indicating that enhancing environmental sustainability attitudes contributes to increasing students' social responsibility towards the environment. Furthermore, the study demonstrated the ability to predict social responsibility levels based on environmental sustainability attitudes. These results underscore the importance of integrating environmental education into university curricula and promoting environmental awareness among students to achieve sustainable development and address current environmental challenges. The study recommends incorporating concepts of environmental sustainability and social responsibility into higher education curricula and implementing activities and programs that reinforce these concepts among students.

ACKNOWLEDGE

"The authors extend their appreciation to Prince Sattam bin Abdulaziz University for funding this research work through the project number (PSAU/2024/02/ 28521)"

REFERENCES

Aguilar Luzón, M., & Martinez, G. (2006). Prediction of recycling behavior from the theory of planned behavior and from the model of value, norms and beliefs towards the environment. *Granada University*. https://2u.pw/03rwaWSu

Ahmed, R. R. & Dawood, D. S. (2022). Motivation towards environmental sustainability among students of the College of Education for Pure Sciences. Iraqi University, College of Education, *Journal of Educational and Scientific Studies, 1*(9), 103-114. https://2u.pw/H2tBExAA

Ahmed, S. J. (2024). A proposed unit in green chemistry based on the Eisencraft investigative model to develop the depth of chemical knowledge, motivation towards environmental sustainability, and decision-making skills among first-year secondary school students. *Educational Journal, 122*, 815-868. https://2u.pw/102fcADX

Al-Ahmadi, A. H. (2019). The effectiveness of a program in environmental sustainability based on integrating the RAFT and PWTW strategies in developing the skills of writing scientific articles and the attitude towards environmental sustainability issues among students of the College of Science at the Islamic University in the Kingdom of Saudi Arabia. *Al-Azhar Journal of Education, (184)* part 1, 429- 472. https://2u.pw/l0FqgK23

Al-Amir, I. H. (2022). Time management and its relationship to social responsibility among a sample of female students at the College of Law and Judicial Studies at Jeddah University, *Al-Azhar Journal of Education, (194)* 2, 354-392. https://n9.cl/jmgcb

Al-Arabi, H. Y. & Omar, E. A. (2023). A proposed vision to activate the role of faculties of education in achieving their societal responsibility towards developing public education in Egypt. *Arab Studies in Education and Psychology, (147)*, 137-214. https://n9.cl/4gkc5

Al-Dosari, M. N., & Abdellatif, M. S. (2024). The Environmental Awareness Level Among Saudi Women and its Relationship to Sustainable Thinking. *Acta Innovations*, *52*, 28-42. https://n9.cl/dlf7kj

Al-Hamdan, S. I. & Al-Azmi, H. S. (2022). Environmental awareness related to climate change among secondary school students in the State of Kuwait and its relationship to their social responsibility. *Al-Azhar Journal of Education, (196)* 4, 229 - 274. https://2u.pw/WtOX7Pqg

Al-Harbi, A. F. (2017). Attitudes of secondary school students in Aqlat Al-Suqur Governorate towards environmental problems. National Center for Research, Gaza, *Journal of Educational and Psychological Sciences, 1* (5), 183-200. https://2u.pw/4DtChxCQ

Almudara, S. B., El-Gammal, M. M., Ali, M. H., Abdellatif, M. S., Elshazly, A. I. A., Ibrahim, S. A., & Al-Rashidi, A. H. (2023).The impact of training on digital citizenship skills in developing students' attitudes towards sustainable development at the university level. *Research Journal in Advanced Humanities, 5*(3), 78-99. https://doi.org/10.58256/8jrvr939

Al-Najjar, F. K. (2019). The effect of a training program in sustainable development practices on developing awareness of environmental problems and volunteer work skills for female students at Sattam bin Abdulaziz University. *Journal of Educational and Psychological Sciences, 3*(2), 52-78. https://2u.pw/qAm5KfNm

Al-Naqbi, A. K., & Alshanna, Q. (2018). The status of education for sustainable development and sustainability knowledge, attitudes, and behaviors of UAE University students. *International Journal of Sustainability in Higher Education*, *19*(3), 566-588. https://doi.org/10.1108/IJSHE-06-2017-0091

Al-Sahli, H. I. (2020). Social responsibility and its relationship to psychological security among male and female students of Imam Muhammad ibn Saud Islamic University. Cairo University, *Educational Sciences, 28* (3), 429-460. https://n9.cl/yhtgm

Al-Shahrani, A. F. (2017). The role of the university in promoting social responsibility and the culture of volunteer work: A field study on male and female students of the General Diploma in Education at

Bisha University. Benha University, *Journal of Faculty of Education, 28* (110), 1 - 52. https://2u.pw/mhWWLOcQ

Alshuwaikhat, H. M., & Mohammed, I. (2017). Sustainability matters in national development visions—Evidence from Saudi Arabia's Vision for 2030. *Sustainability*, *9*(3), Article 408. https://doi.org/10.3390/su9030408

Ambusaidi, A., & Al Washahi, M. (2016). Prospective teachers' perceptions about the concept of sustainable development and related issues in Oman. *Journal of Education for Sustainable Development*, *10*(1), 3-19. https://doi.org/10.1177/0973408215625528

Aminrad, Z., Zakariya, S., Hadi, A., & Sakari, M. (2012). Environmental education in Malaysia, progresses and challenges ahead. *Life Science Journal*, *9*(2), 1149-1154. Retrieved from http://www.lifesciencesite.com/

Blaique, L., Nazmy, P., Aldabbas, H., & Corbin, T. (2023). Understanding Social Responsibility Awareness Among University Students. *Journal of Law and Sustainable Development*, *11*(11), e1644-e1644. https://2u.pw/ecoasBHM

Calculli, C., D'Uggento, A. M., Labarile, A., & Ribecco, N. (2021). Evaluating people's awareness about climate changes and environmental issues: A case study. *Journal of Cleaner Production*, *324*, 129244. https://doi.org/10.1016/j.jclepro.2021.129244

Condori, M., & Reyna, G. (2019). Percepción de la responsabilidad social universitaria en estudiantes de la Facultad de Sociología de una universidad pública de la ciudad de Huancayo, Perú. *Espacios*, *40*(39), 8-16. https://2u.pw/G3tybYUu

González-Rodríguez, M. R., Díaz-Fernández, M. C., & Simonetti, B. (2013). Corporative social responsibilities perceptions: an aproximation through Spanish university students' values. *Quality & quantity*, *47*, 2379-2398. https://doi.org/10.1007/s11135-012-9813-1

Illahaqi, A. A. D., Nurcahyo, H., & Panjaitan, M. H. (2021, March). Advancing students' environmental sustainability awareness through science mobile learning: A literature review. In *6th International Seminar on Science Education (ISSE 2020)* (pp. 795-800). Atlantis Press. https://n9.cl/euf3h

Jordaan, M., & Jordaan, D. (2020). The Role of Community Partners in the Development of Students' Social Responsibility–Insights from a South African Case Study. In *University–Community Partnerships for Promoting Social Responsibility in Higher Education* (pp. 75-88). Emerald Publishing Limited. https://doi.org/10.1108/S2055-364120200000023006

Judge, J. P., Morgan, K. N., & Clifton, A. (2022). Video Modeling to Support Physical Activity in Children with Autism Spectrum Disorder: A Systematic Review. *Journal of the American Academy of Special Education Professionals*, *34*, 48. https://eric.ed.gov/?id=EJ1353982

Kalsoom, Q., & Khanam, A. (2017). Inquiry into sustainability issues by preservice teachers: A pedagogy to enhance sustainability consciousness. *Journal of cleaner production*, *164*, 1301-1311. https://doi.org/10.1016/j.jclepro.2017.07.047

Katila, P., Colfer, C. J., De Jong, W., Galloway, G., Pacheco, P., & Winkel, G. (Eds.). (2019). *Sustainable development goals*. Cambridge University Press. https://dlib.hust.edu.vn/bitstream

Liss, J. R., & Liazos, A. (2010). Incorporating education for civic and social responsibility into the undergraduate curriculum. *Change: The Magazine of Higher Learning*, *42*(1), 45-50. https://doi.org/10.1080/00091380903449128

Liu, B., Liu, Z., & Chen, L. (2020). Development of a social responsibility scale for Chinese university students. *Current Psychology*, *39*(1), 115-120. https://doi.org/10.1007/s12144-017-9743-0

Maartensson, H., & Loi, N. M. (2022). Exploring the relationships between risk perception, behavioural willingness, and constructive hope in pro-environmental behaviour. *Environmental Education Research*, *28*(4), 600-613. https://doi.org/10.1080/13504622.2021.2015295

Madaan, G., Kaur, M., Gowda, K. R., Gujrati, R., & Uygun, H. (2023). Business responses towards corporate social responsibility and sustainable development goals during COVID-19 pandemic. *Journal of Law and Sustainable Development*, *11*(1), Article e0309-e0309. https://ojs.journalsdg.org/jlss/article/view/309

Madime, E., & Gonçalves, T. C. (2022). Consequences of social and environmental corporate responsibility practices: Managers' perception in mozambique. *International Journal of Financial Studies*, *10*(1), 4. https://doi.org/10.3390/ijfs10010004

Malkus, A. J. (1995). *Environmental concern in school-age children: Relationship with environmental attitudes and behaviors, anxiety, locus of control, and perceived competencies* (Doctoral dissertation, Purdue University). https://2u.pw/ijN6jiu5

Meerah, T. S. M., Halim, L., & Nadeson, T. (2010). Environmental citizenship: What level of knowledge, attitude, skill and participation the students own?. *Procedia-Social and Behavioral Sciences*, *2*(2), 5715-5719. https://doi.org/10.1016/j.sbspro.2010.03.933

Michalos, A. C., Creech, H., McDonald, C., & Kahlke, P. M. H. (2011). Knowledge, attitudes and behaviours. Concerning education for sustainable development: Two exploratory studies. *Social indicators research*, *100*, 391-413. https://doi.org/10.1007/s11205-010-9620-9

Mora, H., Pujol-López, F. A., Mendoza-Tello, J. C., & Morales-Morales, M. R. (2020). An education-based approach for enabling the sustainable development gear. *Computers in Human Behavior*, *107*, 105775. https://doi.org/10.1016/j.chb.2018.11.004

Nour El-Din, Wedad. (2016). A diagnostic study towards university students' attitudes towards some minor problems at Jeddah University. Tanta University, *Journal of Faculty of Education, (62)* 319-354. https://2u.pw/mxbPmtpA

Palmer, K., Oates, W. E., & Portney, P. R. (1995). Tightening environmental standards: the benefit-cost or the no-cost paradigm?. *Journal of economic perspectives*, *9*(4), 119-132. DOI: 10.1257/jep.9.4.119

Probst, L., Bardach, L., Kamusingize, D., Templer, N., Ogwali, H., Owamani, A., ... & Adugna, B. T. (2019). A transformative university learning experience contributes to sustainability attitudes, skills and agency. *Journal of Cleaner Production*, *232*, 648-656. https://doi.org/10.1016/j.jclepro.2019.05.395

Pumacayo, I., Calla, K., Yangali, V.,Vásquez, M., Arrátia, G. & Rodríguez, J. (2020) Social responsibility in the university and quality of administrative service. *Apuntes Universitarios Journal* *10*(2), 46-64. https://doi.org/10.17162/au.v10i2.440

Romero, X. A. V., & Lara, E. D. C. (2016). Los diferentes tipos de responsabilidad social y sus implicaciones éticas. *Dominio de las Ciencias*, *2*(3), 117-126. https://n9.cl/8hnw

Suleiman, F. R. A. (2020). A proposed unit in light of sustainable development and the green economy to impart to students of the scientific departments at the College of Education some concepts related to green economy and sustainable trends. *Educational and Psychological Studies*, *10*(108), 85-149. https://2u.pw/yjCu4I5v

Tomás, M. R. V., Vicente, J. S. Y., De La Cruz, M. D. B., & Acha, D. M. H. (2023). University social responsibility from an environmental perspective. *Earth Sciences and Human Constructions*, *3*, 1-11. https://n9.cl/0vgyn

Tsai, C. Y. (2018). The effect of online argumentation of socio-scientific issues on students' scientific competencies and sustainability attitudes. *Computers & Education*, *116*, 14-27. https://doi.org/10.1016/j.compedu.2017.08.009

Ull, M. A., Martínez-Agut, M. P., Piñero, A., & Aznar-Minguet, P. (2014). Perceptions and attitudes of students of teacher-training towards environment and sustainability. *Procedia-Social and Behavioral Sciences*, *131*, 453-457. https://doi.org/10.1016/j.sbspro.2014.04.147

United Nations Agenda (1992). Available online: https://2u.pw/Qh1CzyBA

United Nations Environment Assembly (2016) *Achieving the 2030 Agenda for Sustainable Development*. Nairobi, Kenya, United Nations Environment Programme. https://n9.cl/ewai6

Vallaeys, F. (2014). University social responsibility: a new university model against commodification. *Revista iberoamericana de educación superior*, *5*(12), 105-117. https://n9.cl/05fbq9