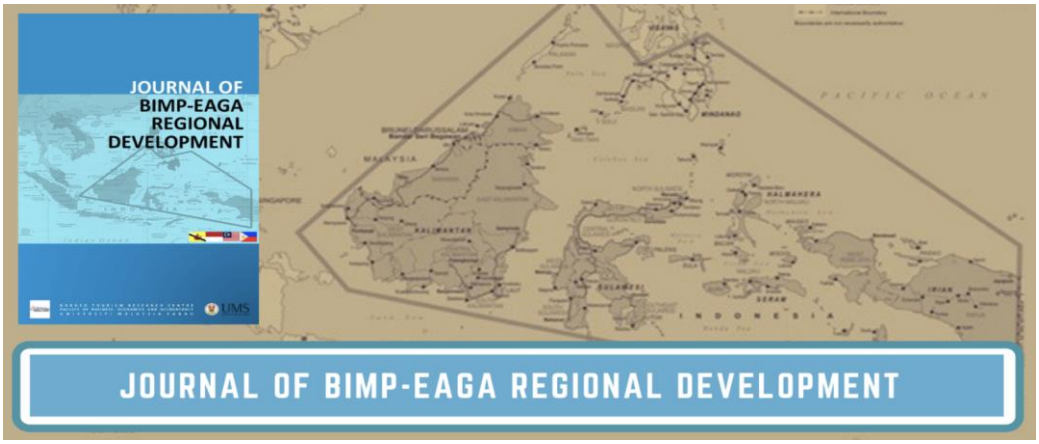

Exploring Resilience and Self-Efficacy as Predictors of Sustainable Behaviour through Structural Equation Modelling

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Abstract

Sustainability behavior in universities is increasingly recognized as a vital component of fostering environmental consciousness among university members, particularly academic staff. These elements not only enhance university member's commitment to sustainable practices but also foster a supportive environment for green initiatives. While individual psychological factors like resilience and self-efficacy are crucial, many studies neglect how these traits interact with external factors. Thus, the objective of this study is to examine the influence of transformational leadership on sustainable behaviour practice, with a focus on how resilience and self-efficacy as mediators in this relationship. The respondents are academic staffs from Guangdong Province, representing key participants in implementing and experiencing campus sustainability practices. Using a sample of 241 academic staff from universities in Guangdong, the sample size was carefully determined with G*Power for adequate statistical power and selected through a convenience sampling method. The data was analysed using Structural Equation Modelling (SEM) with SmartPLS 4, a powerful tool for evaluating complex relationships between variables. The results show that while transformational leadership plays a key role in fostering positive attitudes toward sustainability behaviour, it doesn't directly translate into more active engagement in sustainable practices. In additional, the study reveals that resilience and self-efficacy act as important mediators in the relationship between transformational leadership and sustainability behaviour. Transformational leadership helps build these qualities, and in turn, it drives individuals to engage more deeply in sustainable actions. This suggests that leadership can inspire positive thinking, but it's the inner strength and confidence of individuals that truly make a difference in turning those attitudes into real, sustainable behaviour. This research provides critical insights for academic leaders and policymakers aiming to promote and enhance sustainable behaviour practices within academic institutions, offering a deeper understanding of the psychological mechanisms and leadership that drive sustainability behaviour.

Keywords: Leadership, Mediation Model, Resilience, Sustainability Behaviour, Self-Efficacy, Structural Equation Modelling

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1. Introduction

Sustainable behaviour among university lecturers is crucial for fostering environmental sustainability, as these educators play a pivotal role in shaping future leaders and promoting sustainable practices (Osagie et al., 2020). Their actions contribute directly to environmental sustainability by reducing resource consumption, minimizing waste, and influencing institutional policies. The relationship between lecturers' sustainable behaviour and environmental sustainability lies in their ability to bridge theory and practice, thereby driving systemic changes within and beyond academic institutions (Swaim et al., 2020). University lecturers play a critical role in promoting sustainability by serving as role models for students, shaping their attitudes toward environmental responsibility through teaching and research (Radaković et al., 2024). Besides that, They can also implement sustainable practices within their institutions, such as reducing resource consumption and promoting green initiatives (Khan & Terason, 2021). Engaging in pro-environmental behaviour (PEB) has been shown to increase happiness and fulfillment among lecturers, as they derive intrinsic motivation from contributing to environmental causes (Sharma, 2024). However, barriers such as institutional pressures and power dynamics, especially among junior faculty, hinder the adoption of sustainable practices, underscoring the need for supportive institutional frameworks (Stavrianakis & Ramos, 2021).

Several studies on related sustainability behaviour successfully conducted in China such as (Du et al., 2023), (Huang & Lee, 2014), (Hong et al., 2024), (Liu et al., 2024),(Mu et al., 2015), (Xiao & Du, 2024), (Yao & Desalegn, 2023), and (Yu et al., 2022). These pieces of evidence show encouraging sustainable practice-related behaviour provides many benefits. For example, a study in Sichuan Province revealed that university lecturers exhibit strong subject knowledge but weaker sustainable learning competencies (Guangping et al., 2024). While significant attention is on environmental awareness and institutional constraints, there is insufficient exploration of psychological factors that might influence lecturers' sustainability practices (Chen et al., 2023; Zhang & Zhao, 2021). Conversely, the latest study on promoting sustainability indicated that current leadership models often do not adequately address the skills and behaviors necessary for promoting sustainability (Sebastian & Hühn, 2024). Promoting sustainable behavior among university lecturers requires addressing psychological factors like resilience and self-efficacy to foster environmental sustainability in higher education. This study aims to investigate the influence of resilience and self-efficacy on sustainability behavior and to examine resilience and self-efficacy as mediators in the relationship between leadership and sustainability behavior in universities in Guangdong Province, China.

2. Literature Review

2.1 The Importance of Sustainability Behavior in China

Sustainable behaviour practices in China are increasingly recognized as essential for addressing environmental challenges and promoting economic resilience. These practices are vital not only for compliance with regulations but also for enhancing corporate responsibility and fostering innovation. Sustainable Behaviour refers to actions that minimize environmental impact and promote social equity, such as responsible consumption and waste reduction (Ismael & Balogh, 2024; Sargın & Dursun, 2023). Engaging in sustainable practices can enhance individual happiness and fulfillment, as evidenced by studies linking pro-environmental actions to increased well-being (Sharma, 2024). The following sections outline the significance of sustainable behavior in various contexts within China.

According to several researchers Liu et al., (2024)., Corporate Environmental Responsibility (CER) is essential for encouraging pro-environmental behaviours in organizations and communities. In places like mainland China and Hong Kong, differences in laws and cultural values strongly influence corporate sustainability efforts. To succeed, CER initiatives must adapt to these local conditions, considering government policies and cultural attitudes toward environmental responsibility (Liu et al., 2024). It has been done the Chinese government has integrated regulatory frameworks to embed sustainability into business operations, offering both direct incentives and creating a broader policy environment that supports environmental goals. By addressing critical environmental challenges, these regulations are central to China's transition toward more sustainable business practices (Elhaoussine et al., 2023).

Psychological factors like attitudes, values, and beliefs play a key role in sustainability behaviour. Self-efficacy, or belief in one’s ability to achieve goals, influences behaviours like energy conservation and waste reduction (Schultz et al., 2016). Resilience, the ability to adapt to challenges, encourages long-term sustainable practices (Jackson & Adams, 2020). In China, sustainable practices are vital for environmental responsibility, but their integration into university education remains limited (Filho et al., 2020; Xiao & Du, 2024).

In sum, sustainability behaviour is influenced by a wide range of factors. Therefore, addressing these factors and sustainability behavior from higher education/university is crucial for nurturing environmentally responsible citizens in China.

2.2 Leadership and Sustainability in Universities

Leadership in universities is crucial for promoting sustainability and shaping the institution's strategies and governance (Engel, 2023). The study found that sustainable leadership positively impacts faculty members' sense of belonging and commitment to the university's sustainability values. Leaders who focus on sustainability help increase faculty engagement and support for sustainable practices (Engel, 2023). A case study identified five leadership roles: support, drive, divert, block, and no role, highlighting the complexity of leadership dynamics in sustainability efforts (Veidemane et al., 2024). Leaders must navigate transformation tensions, such as competing priorities and the pace of change, to effectively implement sustainability strategies (Bahkia et al., 2020: Rahlin et al., 2021: Rahlin et al., 2022; 2023).

Universities bear the responsibility of educating students on sustainability, cultivating a mindset that embraces sustainable practices as integral to academic and societal life (Stanciu & Condrea, 2023). Programs centered on Education for Sustainable Development (ESD) are essential in instilling sustainable behaviours and attitudes among students, preparing them to engage meaningfully with sustainability challenges (Stanciu & Condrea, 2023). Furthermore, engaging in community outreach and research initiatives enhances the impact of universities on societal sustainability, extending their influence beyond campus boundaries (Smith, 2023). Addressing the human aspect of leadership is crucial for fostering a culture that supports sustainability (Wamsler et al., 2023). The above review of previous studies on leadership and sustainability shows a strong relationship between these variables. The first hypothesis is:

H1: There is an influence of transformational leadership on sustainability behaviour among academic staff university students in China.

2.3 Resilience and Sustainability Behaviour

Resilience refers to the ability to recover from disruptions, while sustainability emphasizes long-term environmental, social, and economic health (Mazhieva et al., 2024).. The following sections explore key aspects of these concepts (Mazhieva et al., 2024). Individual resilience can be defined as positive adaptation or the ability to maintain or regain mental health despite experiencing adversity" (Masten, 2001).

In higher education, resilience and sustainability are influenced by teamwork, leadership, and a supportive work environment. Effective interventions, such as team-building and skills development, enhance organizational resilience and promote sustainable practices (Mazhieva et al., 2024). Challenges like unequal task distribution can hinder progress, highlighting the need for clear responsibilities. Environmental education fosters resilience by equipping individuals with knowledge and skills to address sustainability challenges, particularly in vulnerable communities (Cajigal et al., 2018).

A previous study by Wood (2019) revealed that integrating resilience into social marketing emphasizes the importance of community and environmental contexts in shaping sustainable behaviors (Wood, 2019). Resilience-building strategies can lead to significant social change, addressing issues like health and inequality through supportive environments (Wood, 2019). From the above evidences, so second hypothesis can be postulated:

H2: There is an influence of resilience on sustainability behaviour among academic staff university students in China.

H4: Self-efficacy mediates the relationship between transformative leadership and sustainability behaviour.

2.4 Self-Efficacy and Sustainability Behaviour

Albert Bandura (1977) defines self-efficacy as *"the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations"*. Self-efficacy determines how individuals approach goals, tasks, and challenges. Those with higher self-efficacy tend to persevere and perform better under stress compared to those with low self-efficacy (Demirci and Teksöz, 2017).

Self-efficacy plays a significant role in fostering sustainability behaviours. Individuals with higher self-efficacy regarding sustainability are more likely to take actions such as recycling, conserving energy, and supporting environmental initiatives. Research suggests that self-efficacy influences one's ability to integrate sustainable practices into daily and professional life, particularly when supported by education and training (Parrott, Mitchell, Emmel, and Beamish, 2011).

H3: There is an influence of self-efficacy on sustainability behaviour among academic staff university students in China.

H5: Self-efficacy mediates the relationship between transformative leadership and sustainability behaviour.

2.5 Theoretical Framework and Research Model

Bandura's Social Cognitive Theory (1986) can serve as the foundation for your model. SCT emphasizes the dynamic interrelationship between personal factors, environmental influences, and behavior. It is often referred to as reciprocal determinism (Bandura, 1986). The theory highlights that individuals do not merely react to external influences but actively shape their environment through their actions and decisions. Some latest studies using SCT in investigating sustainability-related behavior are Aman, Z., & Ahmad, A. (2023), Cohen, L. E., & Koeske, G. F. (2022), Chen, Y., & Lin, Z. (2021), Moser, G., & Brügger, A. (2021), and Alvarez, M., & Salgado, J. F. (2020). Figure 1 shows the Theoretical Framework of this study. In this study, transformational leadership is an external influence that shapes individuals' motivation, values, and behaviors toward sustainability. Leaders inspire their followers to adopt sustainable behaviors by modeling these behaviors and creating a vision focused on sustainability. Resilience is a personal trait that helps individuals overcome challenges and keep practicing sustainability, and transformational leaders foster resilience by providing support and encouragement. Self-efficacy, another key concept in Social Cognitive Theory (SCT), refers to individuals' belief in their ability to carry out sustainable actions. Transformational leadership boosts self-efficacy by offering encouragement and resources.

Sustainability behavior results from the interaction between transformational leadership, resilience, and self-efficacy. According to SCT, lasting behavior change occurs when individuals feel capable (self-efficacy) and supported (through leadership and resilience). In the context of sustainability, SCT helps explain how leaders can model sustainable behaviors, promote resilience, and build self-efficacy, leading to positive sustainability outcomes.

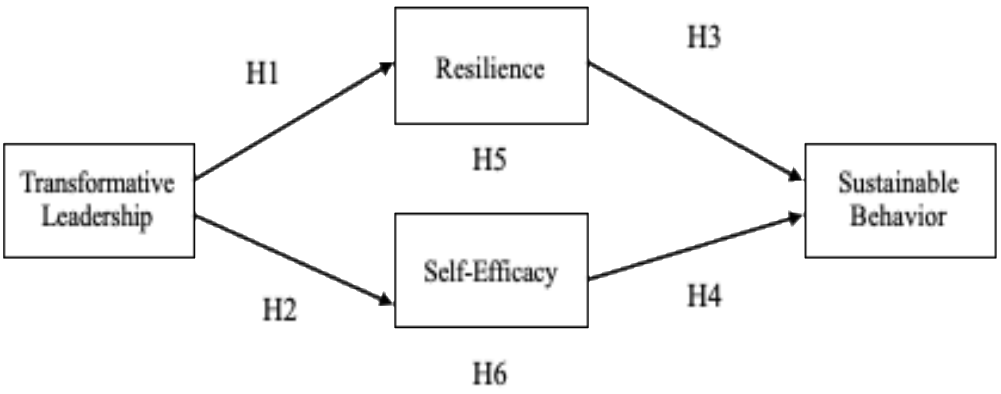

Figure 1: Theoretical Framework

3. Methodology

3.1 Research Design

This study adopts a quantitative research design to investigate the relationships among transformational leadership, resilience, self-efficacy, and sustainability behavior. The study uses a cross-sectional survey design. Data is collected at a single point in time through an online questionnaire, ensuring cost-efficiency and ease of distribution among the target population.

3.2 Sample and Setting

Sample Size determined through G*Power. Based on the results of a G*Power analysis, a minimum sample size of 160 participants is determined and the sample size increased to 241. The study uses a convenience sampling technique to recruit participants. This non-probabilistic approach is chosen for its practicality and accessibility, allowing researchers to gather data efficiently.

3.3 Data Analysis

This study analyzed data via SmartPLS 4, a powerful tool for partial least squares structural equation modeling (PLS-SEM). The analysis starts with initial descriptive statistics to determine the characteristics of the participants. Next, reliability analysis and Inferential Statistics analysis were done through PLS-SEM. Bootstrapping is a non-parametric resampling technique used to estimate the precision of path coefficients. In this study, 500 resamples are generated to calculate standard errors, p-values, and confidence intervals to evaluate the mediation effect of resilience and self-efficacy.

3.4 Data Collection Methods and Measurement

A reliable Chinese online survey platform was used for this study, ensuring representativeness across academic ranks and institutions. Measurement tools were adapted from established scales for Guangdong universities. The questionnaire is divided into sections corresponding to the study variables: Transformational Leadership (Carless et al., 2000), Resilience (Näswall et al., 2019), Self-Efficacy (Chen et al., 2014), and Sustainability Behaviour (Dowd & Burke, 2013). The items were selected and modified for the context of higher education in Guangdong, China. A total of 20 items using a 5-point Likert scale were chosen to allow a nuanced capture of participants' responses, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

4. Results and Discussion

4.1 Demographic

The demographic profile of the respondents in Table 1 provides valuable context for understanding the characteristics of the study participants. The survey, conducted in January 2024 among 421 university faculty members in Guangdong Province, achieved a high response rate, underscoring the relevance and engagement of the research. As detailed in Table 2, the gender distribution was relatively balanced, with 219 female and 202 male participants. Regarding academic position, the majority of respondents were teachers (n = 322), followed by teaching assistants (n = 99). In terms of academic rank, the distribution was as follows: 128 assistant teachers, 130 associate professors, and 121 lecturers, with professors representing a smaller proportion (n = 42). The sample also varied in employment type, with 335 respondents holding full-time positions and 86 employed part-time. Age distribution spanned from 25 to over 65 years, with the largest groups in the 35–44 (n = 140) and 45–54 (n = 121) age ranges, reflecting a diverse mix of early-career, mid-career, and senior educators.

Table 1: Demographic information

Category	Options	Gender		Total
		Female	Male	
Position	Teacher	171(53.1%)	151(46.9%)	322
	Teaching Assistant	48(48.5%)	51(51.5%)	99
Designation	Assistant Teacher	68(53.1%)	60(46.9%)	128
	Associate Professor	67(51.5%)	63(48.5%)	130
	Lecturer	63(52.1%)	58(47.9%)	121
	Professor	21(50.0%)	21(50.0%)	42
Type of Employment	Full-time	178(53.1%)	157(46.9%)	335
	Part-time	41(47.7%)	45(52.3%)	86
Age Group	25-34	54(57.4%)	40(42.6%)	94
	35-44	71(50.7%)	69(49.3%)	140
	45-54	64(52.9%)	57(47.1%)	121
	55-64	20(40.8%)	29(59.2%)	49
	65 or older	10(58.8%)	7(41.2%)	17

4.2 Validation of Reliability and Validity

As shown in Table 2, the reliability and validity assessment of the constructs in this study reveal varying levels of internal consistency and construct reliability. Cronbach's Alpha: The values range from 0.605 to 0.684, which are slightly below the commonly accepted threshold of 0.7 but are still acceptable for exploratory studies (Hair et al., 2010). This indicates moderate internal consistency of the constructs. Composite Reliability (rho_c): All constructs meet the threshold of 0.7, with values ranging from 0.719 to 0.782, demonstrating good reliability (Fornell & Larcker, 1981), (Rahlin & Christine, 2023) (Rahlin et al., 2024). Average Variance Extracted (AVE): The AVE values for all constructs exceed the minimum criterion of 0.5, with scores ranging from 0.647 to 0.754, confirming that the constructs explain a sufficient proportion of the variance in their indicators, which is indicative of good convergent validity. Overall, the results confirm that the constructs in the study possess sufficient reliability and validity for use in structural equation modeling.

Table 2: Reliability and validity assessment of the constructs

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
TL	0.625	0.751	0.719	0.713
RS	0.684	0.695	0.782	0.647
SE	0.605	0.618	0.668	0.685
SB	0.659	0.668	0.761	0.754

Table 3 shows the Discriminant validity of the Fornell–Larcker criterion. The Fornell-Larcker criterion results confirm that the constructs in the model exhibit strong discriminant validity. This ensures that each construct is empirically distinct and measures unique aspects of the theoretical framework. As a result, the structural model's validity is supported

Table 3: Discriminant validity of Fornell–Larcker criterion

	TL	Resilience	Self-efficacy	
TL	**0.844**			
RS	0.686	**0.804**		
SE	0.591	0.479	**0.802**	
SB	0.444	0.345	0.234	**0.868**

4.3 SEM Result and Hypothesis Testing

Table 5 presents the results of path coefficient analysis, highlighting the relationships between various constructs. The relationship between Resilience (RS) and Sustainability Behaviour (SB) is significant, with a path coefficient of 0.345, a T-statistic of 2.56, and a p-value of 0.01, indicating strong support for this path. The path from Self-efficacy (SE) to SB has a moderate coefficient of 0.234 and approaches significance with a T-statistic of 1.76 and a p-value of 0.08. Additionally, Transformational Leadership (TL) exhibits significant positive relationships with all two constructs: Resilience (path coefficient = 0.686, T-statistic = 5.12, p-value = 0.00), and

Self-Efficacy (path coefficient = 0.59, T-statistic = 4.15, p-value = 0.00). Similarly, research by Schaufeli and Taris (2014) emphasized that resilient employees are more likely to engage in pro-environmental behaviours when supported by transformational leaders.

Table 5: Path coefficients, t statistics, and p values for key relationships

Path Relationships	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
TL-> Resilience	0.686	0.689	0.024	5.12	0.00*
TL > Self-Efficacy	0.59	0.592	0.032	4.15	0.00*
TL > SB	0.444	0.446	0.044	3.45	0.00*
Resilience -> Sustainability Behavior	0.345	0.347	0.045	2.56	0.01*
Self-Efficacy> SB	0.234	0.236	0.048	1.76	0.08*

Note: * $p < 0.01$

Table 6 shows the mediating roles of self-efficacy and resilience in the relationship between Transformational Leadership (TL) and Sustainability Behaviour (SB). The indirect effect of TL on SB through Self-Efficacy (SE) is 0.138, with a standard error of 0.030, a t-value of 4.60, and a p-value of 0.000. The confidence interval (95% UL = 0.197, LL = 0.078) does not include zero, confirming a statistically significant mediation. The positive relationship between TL and SE aligns with Bandura's (1997) social cognitive theory, which emphasizes that leaders can influence followers' perceptions of their own abilities. Transformational leaders inspire and motivate followers, providing them with the confidence to adopt behaviours aligned with organizational values (Bass, 1999). Previous studies have similarly found that transformational leadership fosters greater self-efficacy, which, in turn, promotes pro-environmental behaviour (Zhang et al., 2021).

The indirect effect of TL on SB through resilience is the strongest at 0.237, with a standard error of 0.035, a t-value of 6.77, and a p-value of 0.000. The confidence interval (95% UL = 0.306, LL = 0.168) excludes zero, demonstrating significant mediation. This is consistent with findings from studies by Bennett, J., & Lemoine, G. J. (2021), Farrukh, M., Zhang, A., & Khan, A. (2022) and Shin, D., & Hwang, J. (2021) supporting the mediating role of resilience between transformational leadership and sustainability behaviour, and they contribute to understanding the psychological mechanisms at play in this relationship.

Mediation exists in all two paths, with resilience showing the strongest mediating effect, followed by self-efficacy. In line with previous research has shown that transformational leadership is positively associated with both self-efficacy and resilience, and these factors are crucial for fostering sustainability behaviours (Geldenhuys et al., 2014: Zhang et al. 2021). This current study builds on these findings by providing empirical evidence of both self-efficacy and resilience as mediators in the TL-SB relationship.

Table 6 : Specific Indirect Effects of Variables

Variables	Specific indirect effects	Std. Error	t-value	p-value	95%UL	95%LL
TL -> SE -> SB	0.138	0.030	4.60	0.000	0.197	0.078
TL -> RS -> SB	0.237	0.035	6.77	0.000	0.306	0.168

5. Conclusions

In summary, the present study demonstrates that transformational leadership influences sustainability behavior through the mediation of self-efficacy and resilience, with resilience showing the strongest effect. These findings contribute to the understanding of how leadership can shape sustainability outcomes through psychological mechanisms, offering valuable insights for both researchers and practitioners in the field of sustainability. The novelty of this study lies in its empirical demonstration of the dual mediating roles of self-efficacy and resilience in the leadership-sustainability behavior link, expanding on existing literature by incorporating both psychological constructs in a unified model. This research uniquely highlights how transformational leadership can shape sustainability behavior through both cognitive and emotional mechanisms, providing a more nuanced understanding of leadership's impact on sustainability. Future studies could explore additional mediating or moderating factors, such as organizational culture or environmental values, to further refine the mechanisms linking leadership to sustainability behavior. Additionally, longitudinal research could examine the long-term effects of transformational leadership on sustainability behavior and explore how these psychological factors evolve. It would also be valuable to investigate these relationships in different cultural or organizational contexts to assess the generalizability of the findings.

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References

Alvarez, M., & Salgado, J. F. (2020). Using social cognitive theory to explain environmental behaviors in the workplace: Insights from the Spanish context. Journal of Environmental Management, 264, 110442. https://doi.org/10.1016/j.jenvman.2020.110442

Aman, Z., & Ahmad, A. (2023). The role of social cognitive theory in promoting sustainable behaviors in university students: A case study of environmental activism. Journal of Environmental Psychology, 88, 101957. https://doi.org/10.1016/j.jenvp.2023.101957

Bandura, A. (1977). *Self-efficacy: Toward a unifying theory of behavioral change*. Psychological Review, 84(2), 191–215.

Bandura, A. (1997). Self-efficacy: The exercise of control. W.H. Freeman.

Bass, B. M. (1999). Transformational leadership: Industrial, military, and educational impact. Lawrence Erlbaum Associates.

Bennett, J., & Lemoine, G. J. (2021). Leading for resilience: The role of transformational leadership in fostering employee resilience and sustainable practices. Journal of Leadership & Organizational Studies, 28(3), 339-353. https://doi.org/10.1177/15480518211017888

Chen, X., Wang, Y., & Li, Z. (2023). Psychological factors influencing pro-environmental behaviors in Chinese university teachers. Journal of Environmental Psychology, 73, 101536.

Chen, Y., & Lin, Z. (2021). Understanding the impact of social cognitive theory on pro-environmental behaviors in emerging markets: A comparative study in China. Environmental Behavior, 53(7), 761-787. https://doi.org/10.1177/00139165211012651

Cajigal., Erick, Ana, Lucía, Maldonado., Edgar, J., González-Gaudiano. (2018). Individual Resilience and the Environmental Education for Sustainability as a Base of Community Resilience. A Case Study with High School Teachers. 185-198. doi: 10.1007/978-3-319-70560-6_12

Demirci, S., & Teksöz, G. (2017). Self-efficacy beliefs on integrating sustainability into profession and daily life: in the words of university students. International Electronic Journal of Environmental Education, 7(2), 116-133

Du., Jiangguo, Xiao-Wen, Zhu., Xingwei, Li., Enes, Unal., Philip, Longhurst. (2023). Explaining the Green Development Behavior of Local Governments for Sustainable Development: Evidence from China. Behavioral science, doi: 10.3390/bs13100813

Eisenbeiss, S. A., van Knippenberg, D., & Boerner, S. (2008). Transformational leadership and team innovation: Integrating team climate principles. The Journal of Applied Psychology, 93(6), 1438–1446. https://doi.org/10.1037/a0012716

Engel. Judith, Valerie, (2023). The Relationship Between Sustainable Leadership and Organizational Identification in Universities. Advances in educational marketing, administration, and leadership book series, 136-155. doi: 10.4018/978-1-6684-8356-5.ch007

Filho., Walter, Leal, João, Henrique, Paulino, Pires, Eustachio., Adriana, Cristina, Ferreira, Caldana., Markus, Will., Amanda, Lange, Salvia., Izabela, Simon, Rampasso., Rosley, Anholon., Johannes, Platje., Marina, Kovaleva. (2020). Sustainability leadership in higher education institutions: An overview of challenges. Sustainability, 12(9):3761-. doi: 10.3390/SU12093761

Elhaoussine., Youssef, Ying, Du., Huicong, Jia. (2023). The Role of Government Regulations on Business Practices in China. Advances in logistics, operations, and management science book series, 13-32. doi: 10.4018/978-1-6684-9062-4.ch002

Guangping, Qiang., Luxana, Keyuraphan., Padet, Kakham., Sarayuth, Sethakhajorn., Chawalit, Jujia. (2024). Development of Strategies to Promote Sustainable Professional Competences for University Lecturers in the Digital Era, Sichuan Province. World Journal of Education, 14(3):87-87. doi: 10.5430/wje.v14n3p87

Geldenhuys, M., Leo, A., & Venter, C. (2014). The role of leadership in promoting pro-environmental behaviors in organizations: A review. Sustainability, 6(10), 6517–6533. https://doi.org/10.3390/su6106517

Hong., Yingxiu, Abdullah, Al, Mamun., Mohammad, Masukujjaman., Qing, Yang. (2024). Sustainable consumption practices among Chinese youth. Humanities & social sciences communications, 11(1) doi: 10.1057/s41599-024-03582-5

Jelena, Andreja, Radaković., Marko, Cirovic., Milan, Radojicic., Nemanja, Milenković., Nataša, Petrović. (2024). Higher Education Institutions as Pivotal Change Agents for Environmental Sustainability: A Case Study of FAZON. doi: 10.18690/um.fov.3.2024.59.

Ismael., Awaz, Péter, István, Balogh. (2024). A képzési és fejlesztési programok jelentősége a humán erőforrás-menedzsment szempontjából a fenntartható fogyasztási magatartás ösztönzésében. Régiókutatás szemle, doi: 10.30716/rsz/23/1/5

Jackson, T., & Adams, A. (2020). Psychological resilience and sustainable behavior: Toward an integrated approach. *Journal of Environmental Psychology*, 69, 101430.

Kong., Lingchao, Nestor, Natividad. (2024). Sustainability Practices of Small and Medium Enterprises (SMEs) in China: Basis for Strategic Plan. The Quest, 3(2) doi: 10.60008/thequest.v3i2.200

Kalpana, Sharma. (2024). Sustainable Behaviour. Advances in medical education, research, and ethics (AMERE) book series, 205-216. doi: 10.4018/979-8-3693-1178-3.ch010

Kostas, Stavrianakis., William, Ramos. (2021). Exploring environmental sustainability of academia as a working space.. International Journal of Sustainability in Higher Education, doi: 10.1108/IJSHE-02-2021-0045

Liu., Chufan, Lili, Yin., Yuanzhe, Li. (2024). Corporate Environmental Responsibility and Cultural Contexts: Fostering Pro-Environmental Behaviors in China's mainland and Hong Kong. doi: 10.54097/v0qhhw39

Masten, A. S. (2001). *Ordinary magic: Resilience processes in development*. *American Psychologist*, 56(3), 227–238. https://doi.org/10.1037/0003-066X.56.3.227

Mazhieva., G., M., M., S., Aimurzinov., Saule, Serikbayeva. (2024). Factors Influencing Sustainable and Positive Organizational Behavior: the Example of Higher Education in Kazakhstan. Экономика: стратегия и практика, 18(4):73-89. doi: 10.51176/1997-9967-2023-4-73-89

Moser, G., & Brügger, A. (2021). Social cognitive factors influencing sustainable travel behavior: A study among European commuters. Transportation Research Part F: Traffic Psychology and Behaviour, 77, 329-342. https://doi.org/10.1016/j.trf.2021.01.013

Muhammad, S., Khan., Sid, Terason. (2021). Encouraging pro-environmental behavior in university employees: An approach toward environmental sustainability as moderated by green organizational culture.. Journal of Community Psychology, doi: 10.1002/JCOP.22726

Osagie, E. R., Wesselink, R., Blok, V., & Lans, T. (2020). Individual competencies for sustainable development: A systematic review on the role of sustainability education and lifelong learning. *Sustainability*, *12*(8), 3175.

Parrott, Mitchell, Emmel, & Beamish (2011). Outcomes of education fostering sustainability and self-efficacy.

Rahlin, N.A., Bahkiar, A.S.S.A., Awang, Z., Idris, S., Lily, J., Razak, R.A. (2022). A Review on the Importance of Safety Leadership Role on Safety Climate and Safety Performance in High Risk Industry. In: Alareeni, B., Hamdan, A. (eds) Financial Technology (FinTech), Entrepreneurship, and Business Development. ICBT 2021. Lecture Notes in Networks and Systems, vol 486. Springer, Cham. https://doi.org/10.1007/978-3-031-08087-6_12

Rahlin, N.A., Awang, Z., Fauzi, S.N.M. (2023). A Mediation Model of Safety Performance in Small and Medium Enterprises: A Structural Equation Modelling. In: Alareeni, B., Hamdan, A. (eds) Explore Business, Technology Opportunities and Challenges After the Covid-19 Pandemic. ICBT 2022. Lecture Notes in Networks and Systems, vol 495. Springer, Cham. https://doi.org/10.1007/978-3-031-08954-1_72

Rahlin, N. A., Jas, O., Mohamad Fauzi, S. N., & @ Siti Aisyah Bahkia, A. S. (2024). Factors Influencing Online Shopping Behaviour Of Youth Customers In Malaysia After Covid-19 Pandemic. *Journal of Nusantara Studies (JONUS)*, *9*(1), 193–223. https://doi.org/10.24200/jonus.vol9iss1pp193-223

Rahlin, N, A,., & Christine, J. G. (2023). A Bright Sight of Green Product Market in Malaysia: An Empirical Evidence Using Structural Equation Modelling. *Global Business and Management Research: An International Journal*, *15*(1), 22–36.

Sebastian, Ann, Mary., Matthias, P., Hühn. (2024). Sustainable Leadership and Hegelian Self-Awareness. Administrative Sciences, doi: 10.3390/admsci14010019.

Sargın., Sinem, Yunus, Dursun. (2023). Sustainable consumption behaviour: A conceptual assessment. Business And Management Studies: An International Journal, 11(1):400-412. doi: 10.15295/bmij.v11i1.2184

Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the job demands-resources model: Implications for improving work and health. In The Handbook of Work and Health Psychology (pp. 93-120). Wiley.

Sharma. Kalpana, (2024). Sustainable Behaviour. Advances in medical education, research, and ethics (AMERE) book series, 205-216. doi: 10.4018/979-8-3693-1178-3.ch010

Shin, D., & Hwang, J. (2021). Transformational leadership and sustainability behavior: The mediating role of resilience and self-efficacy. Journal of Organizational Behavior, 42(7), 1055-1072. https://doi.org/10.1002/job.2549

Schultz, P. W., et al. (2016). The role of self-efficacy in pro-environmental behavior. *Environmental Psychology*, 45, 23-30.

Smith. Roderick, A., (2023). Sustainable Campus Design in Universities. Advances in educational marketing, administration, and leadership book series, 121-135. doi: 10.4018/978-1-6684-8356-5.ch006

Stanciu., Anca, Cristina, Elena, Condrea. (2023). Sustainability in Higher Education. doi: 10.24818/basiq/2023/09/035

Swaim, J. A., Maloni, M. J., Napshin, S., & Henley, A. (2020). Influences on student intention and behavior toward environmental sustainability. *Journal of Business Ethics*, *161*(2), 431–452.

Veidemane, Anete., Daniela, Crăciun., Barend, van, der, Meulen. (2024). Critical sustainability events and perceived roles of academic leaders at a leading university in sustainability: CIT case study. doi: 10.21203/rs.3.rs-4977416/v1

Wamsler, Christine., Gustav, Osberg., Jeroen, Janss., Liane, Stephan. (2023). Revolutionising sustainability leadership and education: addressing the human dimension to support flourishing, culture and system transformation. Climatic Change, doi: 10.1007/s10584-023-03636-8

Wood. Matthew, (2019). Resilience research and social marketing: the route to sustainable behaviour change. Journal of Social Marketing, 9(1):77-93. doi: 10.1108/JSOCM-01-2018-0006

Xiao., Chong, Xiaoxin, Du. (2024). Education for sustainability as a way-out to nurture citizens: a reframing in policy practices of Chinese higher education. International journal of comparative education and development, doi: 10.1108/ijced-06-2023-0061

Yang, M., Wang, J., Li, G. (2022). Higher Education for Sustainable Development in China: Policies, Curriculum, Research, and Outreach Activities, and Campus Practices. In: Öztürk, M. (eds) Engagement with Sustainable Development in Higher Education. Sustainable Development Goals Series. Springer, Cham. https://doi.org/10.1007/978-3-031-07191-1_8

Yao., Ling, Goshu, Desalegn. (2023). Sustainable Practices in Global Supply Chains of Chinese Enterprises: Biblometeric Approach. doi: 10.18531/sme.vol.10.no.4.pp.5-19

Yu, Jiayuan, Tao., Li., Lidong, He., Xiaofu, Pan. (2022). How Work Stress Impacts Emotional Outcomes of Chinese College Teachers: The Moderated Mediating Effect of Stress Mindset and Resilience. International Journal of Environmental Research and Public Health, 19(17):10932-10932. doi: 10.3390/ijerph191710932

Zhang, X., & Zhao, R. (2021). Exploring cultural influences on sustainability behaviors: The case of Chinese academic staff. Sustainability, 13(14), 7881.

Zhang, Z., Zhang, Z., & Lee, C. H. (2021). The effect of transformational leadership on employees' sustainable behavior: The role of self-efficacy. Sustainability, 13(6), 3191. https://doi.org/10.3390/su13063191.

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