eISBN: 978-967-14569-4-1 (Publication Date: 27 October 2021) UiTM Cawangan N. Sembilan, Kampus Seremban

THE ASSOCIATION BETWEEN SDGs KNOWLEDGE AND SUSTAINABILITY BEHAVIOUR OF HIGHER INSTITUTION STUDENTS

Nur Fadhlina Zainal Abedin[1*], Hafisah Yaakob[2], Siti Sara Ibrahim[3,] & Sharfizie Mohd Shariff[4]

[1,2,3,4]Faculty of Business Management, Universiti Teknologi MARA (UiTM), Seremban, Negeri Sembilan, Malaysia

*E-mail: nurfadhlina@uitm.edu.my

1. INTRODUCTION

The Sustainable Development Goals (SDGs) established in 2015 includes 17 goals with 169 targets and 232 specific indicators that have previously called for a deep transformation of human, social, and environmental development objectives (Moyer & Hedden, 2020; Griggs et al., 2013, UNGA, 2015). These goals represent an ambitious global action plan to respond to major global challenges such as poverty, social exclusion, and environmental degradation, and to achieve sustainable development for all by 2030 (Pineda-Escobar, 2019). Therefore, complementary actions by governments especially Higher Education Institutions (HEIs), are required to ensure the achievement of SDG objectives towards its 2030 Agenda for Sustainable Development. Responding to this issue, this study is empirically done to examine the association between SDGs Knowledge and Sustainability Behaviour among students in the Higher education setting. It is hoped that this study would be able to indicate the level of knowledge towards SDGs agenda in higher education institutions that may influence the behaviour towards sustainability practices. This study is critically important to assist the university's strategic plan in line with the sustainability agenda to support the national inspiration towards the achievement of the 2030 Agenda for Sustainable Development.

2. LITERATURE REVIEW

According to a prior study, higher education institutions have a relationship between a strong knowledge foundation and a favourable attitude. This relationship can be divided into two groups: students with a high educational understanding who have a good attitude but are less knowledgeable of the SDGs. Nusrat Afroz and Zul Ilham, (2020) proved that students with good knowledge and attitudes had underperformed in SDGs implementation. Meanwhile, Omisore et al., (2017) found that the awareness and attitudes toward SDGs were merely fair and were also incorporated. However, the lack of understanding of SDGs itself has severe consequences for achieving the goals. In the second group, well-versed students in learning education who are well-versed in SDGs knowledge would result in a good attitude towards their lifestyle (Mohd Nizar et al., 2019). According to Ghazi et al., (2020), medical students at one of Malaysia's private universities have a good understanding of SDGs. Moreover, in their study, Al-Naqbi and Alshannag (2018) found that the students demonstrated a high degree of knowledge, highly favourable attitudes, and somewhat good knowledge to conduct toward SDGs and the environment.

3. METHODOLOGY

The sustainability consciousness questionnaire (SCQ) was used in this study to assess SDGs' knowledge of sustainable development based on the UNESCO framework and sustainability behaviour. Michalos et al. (2012) provided the foundation for the SCQ instrument, which was then developed and expanded by others. This paper employs two constructs only which are SDGs knowledge and sustainable behaviour. The SDGs Knowledge construct is made up of eight questions derived from Zamora-Polo et al. (2019), while the Sustainability Behaviour construct is made up of 16 items adapted from Gericke et al. (2019). All items were assessed on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The questionnaire was distributed randomly to the students in Universiti Teknologi MARA, Negeri Sembilan branch at three different campuses: Kuala Pilah, Seremban, and Rembau. The total number of respondents was 345 where 91 samples (26.38 percent) were from the Kuala Pilah campus, 137 samples (39.71 percent) were from Seremban and 117 (33.91) were students on the Rembau campus. To access the reliability or consistency of the questionnaire, the Cronbach's alpha test was calculated for each construct. The Cronbach's alpha for the SDGs Knowledge and sustainability behaviour were 0.925 and 0.733 respectively. The association between SDGs Knowledge and Sustainability Behaviour was calculated by correlation tests. The correlation data was the average score (mean) of the items. However, four items under SGDs Knowledge were not considered in getting the mean score. The four items were SDGs Knowledge sources (1-email and/or Social Networks, 2- traditional media, 3- formal education, and 4- informal training). As ordinal data was commonly not normally distributed, non-parametric correlation methods such as Spearman's rank-order coefficient and Kendall Tau-b were acceptable.

4. RESULTS

Table 1 shows the percentage and means of SDGs Knowledge and Sustainability Behaviour. In general, the students have low to moderate SDGs Knowledge by looking at the low percentage in higher scale and mean score. On the other hand, the mean scores of the items in Sustainability Behaviour were larger than the mean scores obtained in SDGs Knowledge.

Table 1: Percentage Value and Mean Score of the Items in Constructs

Items	Percentage					Mean
	1	2	3	4	5	
SDGs Knowledge						
I know what the Sustainable Development Goals are.	7.2	13.6	34.5	37.1	7.5	3.24
I know the countries to which the Sustainable Development Goals are addressed.	9.3	20.0	41.4	25.2	4.1	2.95
I know the time horizon for which the Sustainable Development Goals a designed.	8.4	26.4	42.0	21.2	2.0	2.82
I know the number of Sustainable Development Goals and could indicate one of their goals.	9.6	19.4	36.2	29.6	5.2	3.01
Sustainability Behaviour						
Where possible, I choose to cycle or walk when I'm going somewhere, instead of traveling by motor vehicle.	6.1	25.5	28.1	31.0	9.3	3.12
I never waste water.	3.5	15.1	34.8	35.4	11.3	3.36
I recycle as much as I can.	1.4	13.0	33.6	42.6	9.3	3.45
I pick up rubbish when I see it out in the countryside or public places.	3.8	25.2	49.3	21.7	3.8	3.89
I always separate food waste before putting out the rubbish when I have the chance.	1.7	17.4	23.8	39.4	17.7	3.54

eISBN: 978-967-14569-4-1 (Publication Date: 27 October 2021) UiTM Cawangan N. Sembilan, Kampus Seremban

I have changed my lifestyle to reduce waste (e.g., throwing away less food or not wasting materials).	.6	6.7	23.8	53.6	15.4	3.77
When I use a computer or mobile to chat, text, play games, and so on, I always treat others as respectfully as I would in real life.	.9	1.7	10.4	53.9	33.0	4.17
I often make lifestyle choices that are not good for my health.	7.0	21.2	36.2	29.9	5.8	3.06
I work on committees (e.g., the student council, my class committee, the cafeteria committee) at my school.	8.1	27.0	23.5	34.5	7.0	3.05
I treat everyone with the same respect, even if they have another cultural background than mine.	.6	1.4	8.1	45.8	44.1	4.31
I support an aid organization or environmental group	.6	1.4	15.1	49.3	33.6	4.14
I show the same respect to men and women, boys and girls.	.6	.9	8.1	47.8	42.6	4.31
I do things that help poor people.	.6	14.8	51.6	33.0	.6	4.17
I often purchase second-hand goods over the internet or in a shop.	3.8	15.4	32.5	34.8	13.6	3.39
I avoid buying goods from companies with a bad reputation for looking after their employees and the environment.	.6	2.3	23.8	42.9	30.4	4.00
I watch news programs or read newspaper articles to do with the economy.	2.6	10.7	42.0	35.7	9.0	3.38

Note: 1- Strongly Disagree, 2- Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree

This paper examines the relationship between SDGs Knowledge and Sustainability Behaviour for individual campuses, as well as the combination of both (overall). The results in Table 2, indicate that Spearman's rho (ρ) and Kendall's tau_b (τ_b) coefficients of all associations were significant at the $p < .05$ level. The results were robust when both tests were consistent and not too far from one another. The association between SDGs Knowledge and Sustainability Behaviour in Kuala Pilah (ρ=-0.226, τ_b=-0.300, $p<0.05$), Seremban (ρ=-0.231, τ_b=-0.314, $p<0.05$) and Rembau (ρ=-0.228, τ_b=-0.310, $p<0.05$) were positively correlated to each other. However, the magnitudes of the correlation for all associations were weakly correlated based on the cut-off point by Saha and Paul (2020). A weakly positive significant correlation between SDGs Knowledge and Sustainability Behaviour could also be observed when all campuses were considered (ρ=-0.229, τ_b=-0.345, $p<0.05$).

Table 2: Association between SDGs Knowledge and Sustainability Behaviour

Campus	Test Statistics	r	p-value
Kuala Pilah	Kendall's tau_b	.226	.003
	Spearman's rho	.300	.004
Seremban	Kendall's tau_b	.231*	.000
	Spearman's rho	.314	.000
Rembau	Kendall's tau_b	.228	.001
	Spearman's rho	.310	.001
Overall	Kendall's tau_b	.229	.000
	Spearman's rho	.345	.000

The results reveal that SDGs knowledge has converted actions into sustainability behaviour positively and significantly. The findings are consistent with research carried out by Barloa et al. (2016) on solid waste management, where they disclosed respondents with higher knowledge scores were more likely to exhibit good practice. However, the students tend to practice sustainability behaviour weakly in relationship with SDGs Knowledge. It might be due to low SDGs Knowledge levels among students. The mean score for four SDGs Knowledge was only 3.00. While the mean scores for the sources of SDGs Knowledge which are email and/or Social Networks, traditional media, formal education, and informal training were only 2.74. 2.94, 3.25, and 2.81 respectively.

5. CONCLUSION & RECOMMENDATION

One of the issues that must be addressed to achieve sustainable development is the lack of information and awareness about SDGs. The findings of this study reveal that students at higher education institutions have a low to moderate degree of SDGs knowledge. For example, just 35 percent of students agreed with the statement *'I know the number of Sustainable Development Goals and could indicate one of their goals'*. This suggests that the students had not been well exposed to SDGs. Even though the positive association between SDGs Knowledge and sustainability behaviour was weak, it is to be expected that the association would be strengthened when students are better informed about SDGs. Higher education institutions are one of the most important platforms for promoting SDGs. For instance, by incorporating faculty members as experts on each SDGs, they are then able to incorporate SDGs into their teaching. Other than that, the institutions can promote and support all student clubs and organisations to participate in SDG-related events, activities, and collaborations. Future research might look at the efficacy of various implementations as well as study the comparison between institutions and regions. This could give a better insight into SDG's implementation in higher institutions.

6. REFERENCES

Al-Naqbi, A. K., & Alshannag, Q. (2018). The status of education for sustainable development and sustainability knowledge, attitudes, and behaviours of UAE university students. *International Journal of Sustainability in Higher Education, 19*(3), 566–588.

Barloa, E. P., Lapie, L. P., & de la Cruz, C. P. P. (2016). Knowledge, attitudes, and practices on solid waste management among undergraduate students in a Philippine State University. *Journal of Environment and Earth Science, 6*(6), 146-153.

Gericke, N., Boeve-de Pauw, J., Berglund, T., & Olsson, D. (2019). The Sustainability Consciousness Questionnaire: The theoretical development and empirical validation of an evaluation instrument for stakeholders working with sustainable development. *Sustainable Development*, *27*(1), 35-49.

Ghazi, H. F., Abdalqader, M. A., Baobaid, M. F., Hasan, N., Mohammed, M. F., Shebl, H. A., Chen, H., Jun, W., Abdalrazak, H. A., & Ads, H. O. (2020). Knowledge Regarding Sustainable Development Goals (SDG) Among Medical Students at a Private University in Shah Alam, Malaysia. *Global Journal of Public Health Medicine, 2*(SP1), 196–202.

Griggs, D., Stafford-Smith, M., Gaffney, O., Rockström, J., Öhman, M. C., Shyamsundar, P., et al. (2013). Policy: Sustainable development goals for people and the planet. *Nature, 495*(7441), 305–307.

Michalos, A. C., Creech, H., Swayze, N., Kahlke, M., Buckler, C., & Rempel, K. (2012). Measuring knowledge, attitudes, and behaviours concerning sustainable development among tenth-grade students in Manitoba. *Social Indicators Research, 106*(2), 2013–2038.

Mohd Nizar, N., Ab Mutalib, N. H., & Taha, H. (2019). The status of knowledge, attitude, and behaviour of postgraduate students towards Education for Sustainable Development (ESD). *Jurnal Pendidikan Sains dan Matematik Malaysia, 9*(2), 35–41.

Moyer, J. D., & Hedden, S. (2020). Are we on the right path to achieve sustainable development goals? *World Development, 127*, 104749.

Nusrat Afroz, & Zul Ilham. (2020). Assessment of knowledge, attitude, and practice of university students towards sustainable development goals (SDGs). *The Journal of Indonesia Sustainable Development Planning, 1*(1), 31–44.

eISBN: 978-967-14569-4-1 (Publication Date: 27 October 2021) UiTM Cawangan N. Sembilan, Kampus Seremban

Omisore, A. G., Babarinde, G. M., Bakare, D. P., & Asekun-Olarinmoye, E. O. (2017). Awareness and knowledge of the sustainable development goals in a university community in Southwestern Nigeria. *Ethiopian Journal of Health Sciences, 27*(6), 669–676.

Pineda-Escobar, M. A. (2019). Moving the 2030 agenda forward: SDG implementation in Colombia. *Corporate Governance: The International Journal of Business in Society*.

Saha, I., & Paul, B. (2020). *Essentials of Biostatistics & Research Methodology*. Academic Publishers.

UNGA. (2015). *A/RES/70/1: Transforming our world: The 2030 agenda for sustainable development*. United Nations General Assembly.12J.D. Moyer, S. Hedden/World Development 127 (2020) 104749.

Zamora-Polo, F., Sanchez_martin, J., Corrales-Serrano, M., & Espejo-Antunez, L. (2019). What do university students know about sustainable development goals? A realistic approach to the reception of this UN program amongst the youth population. *Sustainability, 11,* 3533-3552.