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How do different values affect pro-environmental behaviours and happiness?

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Abstract

Schwartz's Value Theory has brought about a rebirth of research on human values. However, the mediating role of pro-environmental behaviours and happiness on human values is inadequate. Thus, this study adopted the bipolar dimensions of human values organised by Schwartz, self-transcendence, and self-enhancement as the independent construct of values to explore the mediating role of pro-environmental behaviours and happiness. Data were taken from a random sample of Klang Valley residents (N = 700) in Malaysia. Partial least squares and structural equation modeling tools were used to achieve the aims. The study found that self-transcendence plays a vital role in affecting pro-environmental behaviours and happiness. Pro-environmental behaviours lead to happiness, and it is an important mediator between human value with happiness. Happiness leads to pro-environmental behaviours, and it is also an important mediator between human values and pro-environmental behaviours. The results confirm that psychological factors (happiness) regarding the environment play a prominent role in determining pro-environmental behaviours. Hence, cultivating self-transcendence values is crucial to foster pro-environmental behaviours and boosting happiness. Engaging with pro-environmental behaviours is important to generate positive feelings, which will eventually boost happiness. Nurturing a sense of happiness will motivate pro-environmental behaviours as well.

Keywords:
human values; self-enhancement; self-transcendence; pro-environmental behaviours; happiness.

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1. Introduction

One of the main objectives of environmental research is to know and forecast differences in environmental beliefs and behaviours to find the methods to motivate people to act more pro-environmentally. Based on the literature review, numerous research has found that personal values are the key determinant of pro-environmental behaviours (Stern et al., 1998); De Groot and Steg, 2008; Hornsey et al., 2016; Tolppanen and Kang, 2020). Human values and the priorities of these values are the key drivers that determine the future of the world. Values can be considered abstract concepts, but they shape a major part of an individual's identity. They determine human beliefs, standards, goals, attitudes, and actions in various conditions. They serve as a principle of human life. According to Voorn et al. (2021), human values guide our attitudes and actions. However, the diversity of the human system offers a multitude of educations, cultures, philosophies, religious beliefs, and social systems, which lead to various

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human values and priorities concerning these values across different individuals, races, religions, communities, and countries. Therefore, it is necessary to identify a set of globally agreed human values, and the priority for these values that are widely followed. Schwartz's Value Theory has brought about a rebirth of research on values. Broad research in many countries has established the validity of this model beyond cultures.

However, cultures may vary in terms of the different levels of value priorities. Schwartz's Value Theory defines ten broad values (benevolence, universalism, self-direction, stimulation, achievement, power, security, conformity, tradition, and hedonism) based on the reason that underlies each of them. These values are worldwide because they are grounded on one or more of three worldwide requirements of human presence (Schwartz, 2012). Schwartz found that benevolence, universalism, and self-direction are the highest three values in the hierarchical across societies. Surprisingly, power and stimulation are the least important values. Looking at these values, they often conflict with each other; for instance, hunting achievement usually is controversial with practicing benevolence. Hence, Schwartz organised these values along two bipolar aspects (self-transcendence and self-enhancement) to capture the conflict between selflessness (self-transcendence) and self-interest (self-enhancement). The self-transcendence values included in this study are correcting injustice, equal opportunity for all, being free of war and conflict, conserving natural resources, unity with nature, harmony with other species, preserving nature, safety for loved ones, and honouring parents and elders. The self-enhancement values are influence, wealth, authority, and social power. Thus, this study adopted Schwartz's values of self-transcendence and self-enhancement as the independent construct variables to investigate their relationships with pro-environmental behaviours and happiness. Psychological factors surrounding pro-environmental behaviour such as happiness should be taken into consideration in developing better policy interventions to facilitate such behaviour (Kaida & Kaida, 2016).

2. Literature Review

Previous studies suggested that personality traits, environmental-related values, beliefs, affection, and norms are antecedents of pro-environmental behaviour. However, protecting the environment is also rooted in motives for happiness and well-being (Choon et al., 2022). Hence, many researchers attempted to identify the emotional factors that affect pro-environmental behaviours. According to Fineman (1996), positive emotions such as happiness and spiritual well-being will sway pro-environmental behaviours. Pro-environmental behaviours will improve if a person has positive emotions concerning environmental involvement and sustainability. Environmental psychologists stress the role played by emotions as factors facilitating human adaptive behaviours. Relevant literature also showed sustainable behaviours are influenced by affective emotional factors (Corral-Verdugo, 2012). Inversely, plenty of literature also found that pro-environmental behaviours bring happiness to the actor. Referring to Hartig et al., (2001), some indications being pro-ecological can indirectly restore the psychological state that being exhausted due to stress. A society that practices sustainable behaviours should be happy or should be one on its way to achieving happiness (Guidi et al., 2008). From the literature, limited research is focused on the mediating role of pro-environmental behaviours and psychological factors such as happiness with human values. Does a happier person tend to sway to pro-environmental behaviours than an unhappier one? Does a pro-environmental behaviour person tend to be happier? How does a human value lead to pro-environmental behaviours and eventually lead to happiness? How does a human value lead to happiness and eventually lead to pro-environmental behaviours?

Happiness is one of the core positive emotions and neither a frivolity nor a luxury. It is an inherent desire shared by all living beings. Happiness can be an objective or a process or a manner

of thinking. If happiness is an objective, it can be explained from an economic perspective. Happiness is good, and unhappiness is bad. If happiness is a process, it is mainly an inter-relationship process between nature and the built environment with the self. If the relationship runs smoothly (based on the person's values, way of thinking, and interpretation), it will increase happiness and vice versa. The mind is the key to sustaining happiness. Unfortunately, our mind is very easily affected by nature and the built environment. Hales (2013) explained a psychologically healthy person as someone who demonstrates suppleness and adaptability to diverse conditions, a feeling of meaning and assertion in life, an awareness that oneself is not the centre of the universe, compassion, and the ability to be selfless, an increased depth and contentment on the close relationships and a sense of self-control over the mind and body. Hence, human values and the priority of these values will determine one's beliefs, standards, goals, attitudes, and actions in various conditions that directly affect a person's happiness. This study adopted Lyubomirsky and Lepper's (1999) General Happiness Scale measurement. This measurement has been widely used by many researchers (Soga et. al., 2021; Grouden & Jose, 2015; Diener et. al., 2010). Three questions that are included to form the construct are "In general, I consider myself happy"; "Compared to most of my peers, I consider myself happy" and "I enjoy life, regardless of what's going on".

Pro-environmental behaviour is a type of behaviour that intentionally pursues to reduce the negative effect of one's activities on the nature and built environment (Kollmuss and Agyeman, 2002). The success or failure to combat environmental problems nowadays is very much dependent on the cultivation of pro-environmental behaviours. Based on Dietz et al., (2009), pro-environmental behaviour is a vital element to mitigate climate change and other environmental issues (Dietz et al., 2009). Many environmental threats nowadays are rooted in human behaviour, such as excessive consumption. A change in human behaviour is the most convincing solution to lower the damaging impacts of environmental threats. Pro-environmental behaviour is pro-social, and it helps others through some open costs to the performer (Schmitt et al., 2018). In general, pro-environmental behaviour is a kind of behaviour that benefits the environment and minimises damage to the environment (Steg and Vlek, 2009). To measure pro-environmental behaviours, the study adopted and modified five items (buying local foods, using a washing machine while full load, and turning off energy devices while not in use, etc.) from Kaiser's (1998) General Ecological Behaviour Scale.

How does the difference in human values affect pro-environmental behaviours and happiness? Based on Schwartz's Value Theory, self-enhancement and self-transcendence are the two main dimensions of value. This study intends to examine the direct and indirect relationships between the two dimensions of value with pro-environmental behaviours and happiness. The two dimensions of value are the independent variables. Pro-environmental behaviours and happiness are the mediators or dependent variables in two different models.

2.1 How does a human value mediated by pro-environmental behaviours lead to happiness?

Model 1: Self-enhancement value – Pro-environmental behaviour – Happiness
Self-transcendence value – Pro-environmental behaviour – Happiness

One of the critical social dilemmas facing the world today is how to achieve a balance between environmental conservation and economic development. Based on the literature review, people who intensely support self-transcendence values act more pro-environmentally with stronger pro-environmental beliefs and norms. Inversely, people who intensely support self-enhancement values have weaker pro-environmental beliefs, and norms and act less pro-environmentally (Schultz, et al., 2005; Wall, et al., 2007; De Groot and Steg, 2008; Steg and Vlek, 2009; Liobikienė and Juknys, 2016; Cavagnaro et al., 2021). According to Muralidharan and Sheehan (2017), people

who posed higher self-transcendence values tend to be more environmentally conscious. Hence, an environmental tax penalty seems more effective for these people. A study by Goldsmith et al. (2016) also found that self-transcendence personalities are more likely to stimulate recycling behaviours than self-enhancement personalities. When personal identity is salient, self-transcendence intentions affect green consumption greater than self-enhancement intentions (Costa et al., 2016). In another study conducted by Stringer et al. (2021), self-transcendence values have a positive impact on consumers' levels of ethical concern towards animal welfare, the environment, and worker welfare concerns within the fashion industry as well. Therefore, past literature has shown that different human values are affecting pro-environmental behaviours differently. Rationally, everyone will be better off if we conserve the environment. However, self-interest always stimulate environmental exploitation. How human values affect pro-environmental behaviours always draws greater attention in the literature. Hence, different human value is an important variable that needs to be studied to improve human-environmental behaviours (De Groot et al., 2012). The following hypotheses were developed:
H1: Self-enhancement positively influences pro-environmental behaviour.
H2: Self-transcendence positively influences pro-environmental behaviour.

People mostly act the way they do because of the optimistic consequences of their actions (Lehman and Geller, 2004; McAfee et al., 2019). Many previous studies on conservation psychology found that individuals who always care for their physical and social surroundings are happier. In addition, people who are frequently involved in pro-environmental behaviours see themselves as happier than those who are not. According to Mackerron and Mourato (2013), pressure reduction and renewal of attention, lower environmental 'bad', and encouraging physical and mental activities such as physical exercise, leisure, and community interaction are among the three main factors that are positively linked to well-being and health through the engagement with the natural environments. Many individuals are involved in environmental protection activities to experience pleasure and well-being (Corral-Verdugo, 2012). Based on White et al. (2019), a rise in epidemiological evidence indicates that contact with natural environments is associated with better health and well-being. Thus, subjective nature connectedness is a robust predictor of pro-environmental behaviour that is positively associated with subjective well-being (Capaldi et al., 2014). Referring to a study by Tiwari (2016), sustainable behaviours are positively related to happiness. Similarly, another study conducted by Aldieri et al. (2019) also revealed a positive relationship between eco-efficiency and happiness. Based on Slimak and Dietz (2006), self-transcendence values would lead to inherent motives to protect the environment while defeating values that support self-enhancement. Thus, happiness is one of the expected outcomes of pro-environmental behaviours. Sustainable behaviours such as waste reduction is contributing to happiness (Landes et al, 2015). The third hypothesis is stated as follows:
H3: Pro-environmental behaviour positively influences happiness.

Most of the past literature showed a direct relationship between self-transcendence and happiness. According to Dambrun (2017), self-transcendence is positively related to authentic–durable happiness, while self-enhancement was positively linked to the fluctuation in happiness. Besides that, self-transcendence foresees happiness positively and significantly (Joshanloo et al., 2016). Lee and Kawachi (2019) discovered any individuals who pursue self-enhancement values are less happy as compared to those who pursue self-transcendence values. A study by Garland and Fredrickson (2019) found that self-transcendence values will generate healing effects on addictive behaviours. Referring to Liu et al. (2021), self-enhancement values are positively correlated with depression and loneliness, while both self-transcendence values are negatively correlated with depression and loneliness. For this reason, human values positively influence happiness and may be mediated by changing human habits and cultivating new habits of pro-environmental behaviours. Therefore, pro-environmental behaviour is a potential mediator between human values and happiness. H4 and H5 are formulated as follows:

H4: Self-enhancement positively influences happiness, and this is mediated by pro-environmental behaviour.
H5: Self-transcendence positively influences happiness, and this is mediated by pro-environmental behaviour.

2.2 How does a human value mediated by happiness lead to pro-environmental behaviour?

Model 2: Self-enhancement value – Happiness – Pro-environmental behaviour
Self-transcendence value – Happiness – Pro-environmental behaviour

As mentioned earlier, numerous studies have found people's happiness enriches as they place rather less importance on material objectives and values (Kasser et al., 2014). Based on a study by Kao et al. (2017), individuals who are self-transcendence orientated are more capable of conquering negative emotions as compared to individuals who are self-enhancement orientated. The pursuit of self-enhancement values will increase anxiety due to uncertainty. In contrast, the pursuit of self-transcendence values expresses anxiety-free motivations (Schwartz, 2012). The feeling of anxiety versus anxiety-free may be the reason for self-transcendence, which is associated with a higher level of happiness as compared to self-enhancement. In addition, individuals who are self-transcendence orientated demonstrate greater positive emotion and the least negative emotion, whereas individuals who are self-enhancement orientation exhibit more negative emotion and least positive emotion (Nilsson et al., 2014). Referring to Wong (2016), self-transcendence expresses people's spiritual nature, which is fundamental to healing and well-being. Self-transcendence values can alter a self-focus, inflexible, and defensive person to become an open and flexible person. Self-transcendence values can inspire other focus by incorporating repay in the brain (Kang, 2019). Hence, the following is expected:
H6: Self-enhancement positively influences happiness.
H7: Self-transcendence positively influences happiness.

World Happiness Report (Helliwell et al., 2012) has called for more studies to investigate the relationship between happiness and environmental sustainability. A happier person may be more pro-environment as compared to a less happy person. Based on Corral-Verdugo (2012), positive emotions are one of the precursors that stimulate sustainable behaviour. Happiness is one of the greatest positive emotions (Van de Vliert and Janssen, 2002). Conservation psychology also tried to find a relationship between happiness and pro-environmental behaviours (Bechtel and Verdugo, 2010). Happiness should be considered when environmental theories are constructed. Referring to a study by Abdollahi et al. (2015), individuals who have high emotional intelligence show better waste prevention behaviours. Individuals with higher emotional intelligence show greater respect for the self, others, and the environment (Cote et al., 2010). Hence, a happier person is more prone to involve in waste management and sustainable behaviours. Positive emotion could guide them to love their surroundings and act accordingly (Landes et al, 2015). Therefore, happiness positively affects pro-environmental behaviours. H8 is developed as follows:
H8: Happiness positively influences pro-environmental behaviour.

The mediating role of happiness is worth exploring too with the limited current research. How does happiness mediate the relationship between human values and pro-environmental behaviours? Emotional connection with nature will lead to an enlarged self and better respect for non-human species, and encourage pro-environment behaviours (Gosling and Williams, 2010). Based on a study conducted by Corral-Verdugo (2012), sustainable behaviour is significantly influenced by a "happiness" factor. Hence, happiness is a potential mediator between human values and pro-environmental behaviours. A happier person may be more actively engaged with pro-environmental behaviours and vice versa. A feeling of amazed is deemed to be one typical

self-transcendence experience (Stellar et al., 2017). Thus, happiness is a potential mediator between human values and pro-environmental behaviours. The relevant hypotheses are:
H9: Self-enhancement positively influences pro-environmental behaviour, and this is mediated by happiness.
H10: Self-transcendence positively influences pro-environmental behaviour, and this is mediated by happiness.

3. Research Methods

The study employed F-tests to compute the statistical power and estimate the lowest sample size needed. Since the model had most of two predictors, the effect size, the power needed, and the sample size required were fixed as small 0.02, 0.90, and 636, respectively. A total of 710 questionnaires were distributed within the Klang Valley, Malaysia based on the stratified sampling method. The population was separated into different "strata" based on age and area. Each stratum was tested as a separate sub-population, with individual elements randomly chosen. The age ranges were from 13–21, 22–30, 31–45, 46–60, and 61 and above. The research area covered all the ten city councils in the Klang Valley: Kuala Lumpur City Hall (66 respondents), Putrajaya City Council (50 respondents), Petaling Jaya City Council (70 respondents), Shah Alam City Council (70 respondents), Subang Jaya City Council (98 respondents), Ampang Jaya City Council (70 respondents), Sepang City Council (59 respondents), Klang City Council (72 respondents), Selayang City Council (65 respondents) and Kajang City Council (80 respondents). A sum of 700 completed surveys was received with a 98.60% of response rate. A research questionnaire was created with four parts: namely, demographics, values of life, happiness level, and pro-environmental behaviour. The respondents living in the Klang Valley were asked about the human values that guide their principles of life, their current happiness level, and whether they act pro-environmentally. Except for the demographic and happiness sections, a 7-point Likert scale questionnaire was created for each item varying from 1 (strongly disagree) to 7 (strongly agree). The subjective happiness scale (SHS) developed by Lyubomirsky, S. & Lepper, H. (1999) was adopted to measure happiness. A 10-point Likert scale questionnaire was planned for each item. The questionnaires were circulated head-on from December 2018 to January 2019. A pilot test was performed with 70 respondents taken out from the sample. The responses from the pilot testing were reassessed, and slight improvements were made.

4. Empirical Results

4.1 Respondents' profile

The respondents comprised of 53.30% males and 46.70% females out of 700 completed questionnaires. Each age group consisted of 18% to 23% of the entire respondents. About 48.90% of the respondents hold a bachelor's degree or higher. More than 70% of the respondents had attended religious education, with 56.30% having attended religious education for more than one year. Most of the respondents make below RM 6,000 per month (79.40%) and live in an urban area or urban centre (59.50%). Approximately 65.60% of the respondents have never volunteered in any environmental-related social activity. The details are presented in Table 1.

Table 1: Demographics of the respondents

Characteristics	Frequency	%	Characteristics	Frequency	%
Gender			***Age***		
Male	373	53.30	13 to 21	146	20.90
Female	327	46.70	22 to 30	161	23.00
			31 to 45	135	19.30
			46 to 60	132	18.90
			61 and above	126	18.00
Formal Education			***Religion Education***		
Primary School & below	51	7.30	Yes	493	70.40
SPM/High School	165	23.60	No	207	29.60
Certificate	33	4.70			
Diploma	109	15.60			
Bachelor's degree	284	40.60			
Master's degree	44	6.30			
PhD	14	2.00			
Period of Religion Education			***Monthly Income***		
Never	206	29.40	Less than RM1,001	243	34.70
Less than 1 year	100	14.30	RM1,001 to RM3,000	162	23.10
1 – 3 years	102	14.60	RM3,001 to RM6,000	151	21.60
4 – 6 years	115	16.40	RM6,001 to RM8,000	63	9.00
7 – 10 years	60	8.60	RM8,001 to RM10,000	40	5.70
More than 10 years	117	16.70	More than RM10,000	41	5.90
Area			***Volunteer Experience***		
Rural	71	10.10	Yes	248	35.40
Sub-urban	213	30.40	No	452	65.60
Urban	361	51.60			
Urban Centre	55	7.90			

4.2 Data Analysis

To verify the measurement tool, a reliability test was implemented. The results showed high-pitched reliability, with $\alpha \geq 0.90$. Partial least squares and structural equation modelling instruments were used. Convergent validity and discriminant validity were assessed. Subsequently, the structural model was analysed by examining the hypothesised connection. The bootstrapping method (5000 resamples) was employed to examine the magnitude of the path coefficients (Hair et al., 2014).

4.2.1 Measurement and Structural Model Assessment for Model 1

To measure the construct validity of the construct it claims to be measuring, two major elements of measuring, specifically, convergent validity and discriminant validity were used. SEM is capable of evaluating the build validity of a proposed measurement theory. Based on Gholami et al. (2013), the loadings, average variance extracted (AVE), and composite reliability (CR) are the three measurements that need to be established for convergent validity. The loadings and AVE should be above 0.50 as recommended by the literature Besides that, the CR requirement also should be above 0.70 as recommended. Table 2 indicates the particulars of the full convergent validity for Model 1.

Table 2: Measurement model assessment for Model 1 (Mediator: Pro-environmental behaviours)

Construct	Item	Loading	AVE	CR
Self-enhancement	P1	0.82	0.74	0.92
	P2	0.83		
	P3	0.91		
	P4	0.88		
Self-transcendence	J1	0.79	0.66	0.93
	J2	0.75		
	J3	0.77		
	N1	0.84		
	N2	0.85		
	N3	0.83		
	N4	0.84		
Pro-Environment Behaviours	B1	0.66	0.53	0.82
	B3	0.74		
	B4	0.73		
	B5	0.78		
Happiness	H1	0.91	0.82	0.93
	H2	0.93		
	H3	0.89		

Note: B2 was removed due to low loadings

To test whether concepts or measurements are not supposed to be related, discriminant validity is required. The respondents should be able to differentiate the questions among the constructs. For example, the value of life and happiness cannot be greatly correlated. The discriminant validity was researched based on the criterion of Fornell and Larcker (1981) by contrasting the correlations among the constructs and the square root of AVE for the construct. According to Chin (2010), the AVE of a latent variable should be more than the squared correlations among the latent variable and entirely other variables. Table 3 shows the particulars of the discriminant validity for Model 1. The results showed all the values taking place at the diagonals were bigger than the corresponding row and column values. Therefore, the measurements were discriminant.

Table 3: Discriminant validity for Model 1 (Mediator: Pro-environmental behaviours)

	Self-enhancement	Self-transcendence	Pro-Environment Behaviours	Happiness
Self-enhancement	**0.86**			
Self-transcendence	0.52	**0.81**		
Pro-Environment Behaviours	0.26	0.37	**0.73**	
Happiness	0.19	0.33	0.23	**0.91**

Note: Emphasised (diagonal) values represent the square root of the AVE and other values (off-diagonal) represent the correlations.

After completing the construct validity checking, we proceeded with the path analysis for hypothesis testing. Figure 1 and Table 4 present the results. Figure 1 shows that self-enhancement and self-transcendence explained 14.10% of pro-environmental behaviour, whereas pro-environmental behaviour explained 5.20% of happiness. To determine whether the data were normally distributed, this study implemented Kolmogorov–Smirnov (K-S) test and the result implied normal distribution. As the data were expected to be nonparametric, bootstrapping was carried out to get the accurate P-value by altering the standard errors.

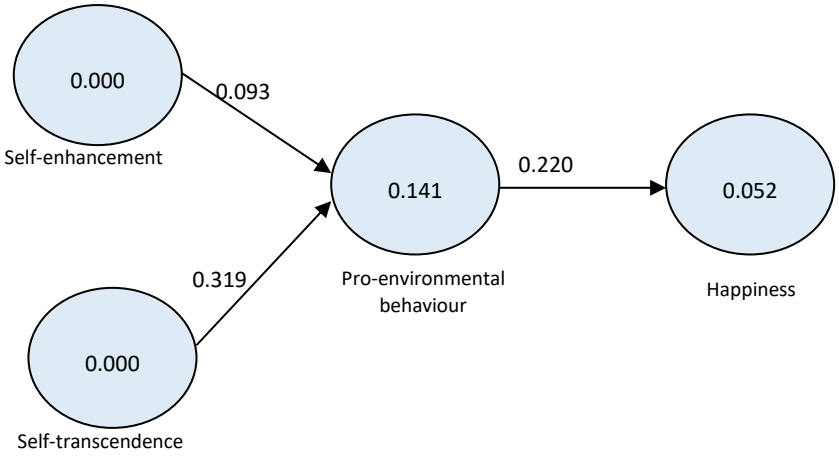

Figure 1: Hypotheses testing for Model 1 (Mediator: Pro-environmental behaviours)

Table 4: Path coefficients and hypothesis testing for Model 1 (Mediator: Pro-environmental behaviours)

Hypothesis	Relationship	Coefficient	Standard Error	t-value	Decision
H1	Self-enhancement -> Pro-Environment Behaviours	0.09	0.05	1.97	Not supported
H2	Self-transcendence -> Pro-Environment Behaviours	0.32	0.05	6.40***	Supported
H3	Pro-Environment Behaviours -> Happiness	0.23	0.04	5.89***	Supported
H4	Self-enhancement -> Pro-Environment Behaviours -> Happiness	0.02	0.01	1.78	Not supported
H5	Self-transcendence -> Pro-Environment Behaviours -> Happiness	0.07	0.02	3.48***	Supported

The results showed that self-transcendence was significantly positively connected ($\beta = 0.32$, $p < 0.01$) to pro-environmental behaviour, likewise, the pro-environmental behaviour was also significantly positively linked ($\beta = 0.23$, $p < 0.01$) to happiness. However, self-enhancement was not a significant predictor of pro-environmental behaviour. Hence, H2 and H3 were supported, while H1 was not. The bootstrapping analysis presented that the indirect effect for H5 ($\beta = 0.07$) was significant with a t-value of 3.48. However, H4 ($\beta = 0.02$) was not significant with a t-value of 1.78. Referring to Preacher and Hayes (2008), the indirect effect directed H5 = 0.07, 95% Boot Cl: [LL = 0.03, UL = 0.11] did not straddle a 0 showing that mediation occurred. However, the indirect effect for H4 = 0.02, 95% Boot Cl: [LL = -0.00, UL = 0.05] straddled a 0, thereby showing that no mediation occurred. So, we can conclude that self-transcendence values on the perceived extent of happiness were mediated by pro-environmental behaviour. Whereas self-enhancement values on the perceived extent of happiness were not mediated by pro-environmental behaviour.

4.2.2 Measurement and Structural Model Assessment for Model 2

Referring to Gholami et al. (2013), convergent validity is established by examining the loadings, average variance extracted (AVE), and composite reliability (CR). The loadings and AVE should be above 0.50 and the CR must be above 0.70 as recommended in the literature. Table 5 displays the particulars of full convergent validity for Model 2.

Table 5: Measurement model assessment for Model 2 (Mediator: Happiness)

Construct	Item	Loading	AVE	CR
Self-enhancement	P1	0.80	0.74	0.92
	P2	0.90		
	P3	0.91		
	P4	0.87		
Self-transcendence	J1	0.79	0.66	0.93
	J2	0.75		
	J3	0.78		
	N1	0.85		
	N2	0.84		
	N3	0.83		
	N4	0.85		
Happiness	H1	0.91	0.82	0.93
	H2	0.93		
	H3	0.88		
Pro-Environment Behaviours	B1	0.63	0.53	0.82
	B3	0.76		
	B4	0.68		
	B5	0.82		

Note: B2 was removed due to low loadings.

Based on Fornell and Larcker (1981), the discriminant validity was tested by assessing the correlations among the constructs and the square root of AVE for the construct. The AVE of a latent variable ought to be above the squared correlations amid the latent variable and other variables. Table 6 shows the particulars of the discriminant validity for Model 2. The results showed all the bolded (diagonal) values were bigger than the corresponding row and column values. Therefore, the measures were discriminant.

Table 6: Discriminant validity for Model 2 (Mediator: Happiness)

	Self-enhancement	Self-transcendence	Happiness	Pro-Environment Behaviours
Self-enhancement	**0.86**			
Self-transcendence	0.52	**0.81**		
Happiness	0.19	0.33	**0.91**	
Pro-Environment Behaviours	0.26	0.36	0.24	**0.73**

Note: Emphasised (diagonal) values represent the square root of the AVE and other values (off-diagonal) represent the correlations

Figure 2 and Table 7 showed the path analysis results. Figure 2 revealed that self-enhancement and self-transcendence explained 10.80% of happiness, whereas happiness explained 5.50% of pro-environmental behaviour. The Kolmogorov–Smirnov (K-S) test showed that the data were normally distributed. As the data were expected to be nonparametric, bootstrapping was carried out to get the accurate P-value by altering the standard errors.

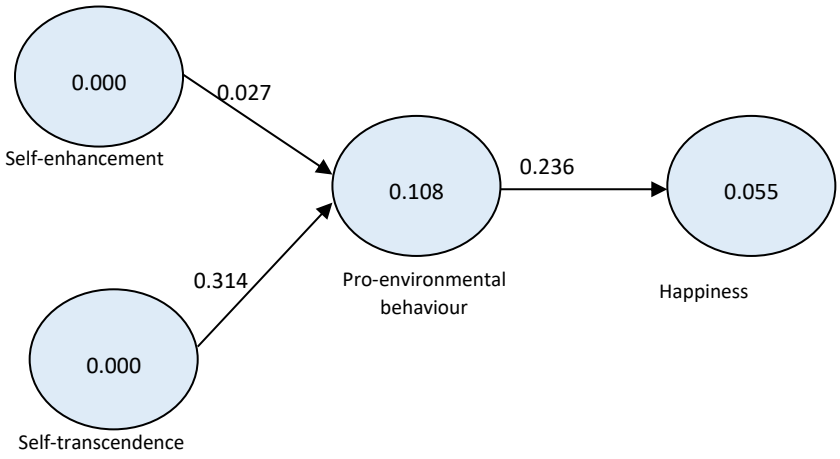

Figure 2: Hypotheses testing for Model 2 (Mediator: Happiness)

Table 7: Path coefficients and hypothesis testing for Model 2 (Mediator: Happiness)

Hypothesis	Relationship	Coefficient	Standard Error	t-value	Decision
H6	Self-enhancement -> Happiness	0.03	0.05	0.56	Not supported
H7	Self-transcendence -> Happiness	0.31	0.06	5.69***	Supported
H8	Happiness -> Pro-Environment Behaviours	0.24	0.04	6.23***	Supported
H9	Self-enhancement -> Happiness -> Pro-Environment Behaviours	0.01	0.01	0.53	Not supported
H10	Self-transcendence -> Happiness-> Pro-Environment Behaviours	0.07	0.02	3.69***	Supported

The results showed that self-transcendence was significantly positively linked ($\beta = 0.31$, $p < 0.01$) to happiness, likewise, happiness was also significantly positively connected ($\beta = 0.24$, $p < 0.01$) to pro-environmental behaviour. However, self-enhancement was not a significant determinant of happiness. Hence, H7 and H8 were supported, while H6 was not. The bootstrapping analysis indicated the indirect effect for H10 ($\beta = 0.07$) was significant with a t-value of 3.69. However, H9 ($\beta = 0.01$) was not significant with a t-value of 0.53. Moreover, the indirect effect for H10 = 0.07, 95% Boot Cl: [LL = 0.04, UL = 0.11] did not straddle a 0 displaying the mediation existed. However, the indirect effect for H9 = 0.01, 95% Boot Cl: [LL = -0.02, UL = 0.03] straddled a 0, thereby exposing no mediation existed (Preacher and Hayes, 2008). Hence, we can conclude that the value of self-transcendence in pro-environmental behaviour was mediated by the perceived extent of happiness, whereas the value of self-enhancement on pro-environmental behaviour was not mediated by the perceived extent of happiness.

5. Discussion

The present study provides three important insights for designing strategies to encourage pro-environmental behaviours. First, self-transcendence value is the facilitating factor of pro-environmental behaviours. Second, pro-environmental behaviours lead to happiness, and it is an important mediator between human value with happiness. Third, happiness leads to pro-environmental behaviours, and it is an important mediator between human values and pro-environmental behaviours. The results confirm that psychological factors (happiness) regarding the environment play a prominent role in determining pro-environmental behaviours.

This study found the important role of self-transcendence, which shed light on boosting pro-environmental behaviours and happiness. More specifically, it emerged the influence of self-transcendence on happiness is higher when individuals actively engaged in pro-environmental behaviours. Similarly, the influence of self-transcendence on pro-environmental behaviours is greater when individuals acknowledge their current condition as a context in which they feel happy. Based on Lyubomirsky (2012), individuals tend to feel happy when they experience more and a variety of positive events in their life. Thus, our findings of this study could be explained by Lyubomirsky's theory on the necessity to reside in a social setting that is perceived as various and stimulating. Specifically, individuals with self-transcendence orientation are more actively engaged with pro-environmental behaviours. Thus, they tend to stimulate greater happiness. Besides that, individuals with self-transcendence orientation are happier. Hence, they tend to engage in pro-environmental behaviours. Based on Lazarus and Folkman (1984), looking at ourselves positively is an essential psychological resource for coping especially when we are facing the most adverse condition. Therefore, self-transcendence is an essential human value that needs to be cultivated. Pro-environmental behaviours and happiness are interrelated amid the self-transcendence orientation of individuals. However, self-enhancement does not play any significant role in affecting pro-environmental behaviours and happiness.

In summary, self-transcendence plays a fundamental role to influence pro-environmental behaviours ($\beta = 0.32$) and happiness ($\beta = 0.31$). However, self-enhancement does not significantly influence pro-environmental behaviours and happiness. In terms of the mediation effect, the degree of self-transcendence on happiness is mediated by the pro-environmental behaviours ($\beta = 0.07$) as shown in Model 1. However, pro-environmental behaviours are not mediated the degree of self-enhancement in happiness. Hence, self-transcendence is a key value that needs to be developed to nurture pro-environmental behaviours. This result is similar to many previous studies such as Waqas et al. (2018), and Muralidharan and Sheehan (2017). Waqas et al. (2018) found that self-transcendence and self-enhancement have positive and negative moderating effects consecutively on the acceptability of sustainable transportation in China. Muralidharan and Sheehan (2017) also found high self-transcendence consumers were more environmentally conscious. Human values are highly correlated with responsibility and eventually encourage energy saving (Boto and Bucciol, 2020). Therefore, it is important to cultivate self-transcendence values in school to ensure the success of fostering pro-environmental behaviours.

Since pro-environmental behaviour is an important mediator that will eventually boost happiness, more pro-environmental activities should be implemented at the school level and expanded to society to reduce depression and mental illnesses. Referring to Malaysian National Health and Morbidity Survey conducted by the Institute for Public Health in 2015, it is estimated that 29.9% of adults in Malaysia are experiencing mental health problems such as depression and anxiety. This number represents an alarming increase from the prevalence of 10.7% estimated by the NHMS in 1996. A study conducted by Rosa et al. (2018) in Brazil found that individuals with excessive interaction with nature throughout childhood tend to accompany by a greater connection with nature when they become adults. These people will eventually positively be linked to pro-environmental behaviours. The stimulation of happiness feels while interacting with nature during childhood seems like activating the relationships with nature during adulthood and subsequently embracing pro-environmental actions. Similarly, engaging in pro-environmental behaviours tends to generate positive feelings or happiness experiences that will eventually boost happiness.

As shown in Model 2, the degree of self-transcendence in pro-environmental behaviours is mediated by happiness ($\beta = 0.07$). However, happiness is not mediated by the degree of self-enhancement in pro-environmental behaviours. Hence, nurturing a sense of happiness is important as it will mediate the relationship between self-transcendence and pro-environmental behaviours. Happiness is a crucial dimension in individual lives, it is vital when inventing public policies to enhance people's quality of life (Landes et al, 2015). According to Benevene et al. (2019), a teacher's level of happiness at work is mediating the relationship between self-esteem

and a teacher's health. Feeling positive emotions tends to increase the range of the choices to be considered (Fredrickson and Branigan, 2005). Hence, negative emotions will narrow down the choices available in the mind. Thus, cultivating a sense of happiness is important that will eventually boost pro-environmental behaviours.

6. Limitations

Although this research found some interesting findings and implications, it is also important to highlight the limitations. One of the drawbacks of this research is that the subjective pro-environmental behaviours may not be the actual behaviours. Further studies can be performed to investigate the actual pro-environment behaviours of the respondents by using longitudinal modelling or direct observation methods. In addition, data were collected by using self-report measures in the present survey, which might have limited the reliability of data on pro-environmental behaviours and happiness that were used in the analysis. Besides that, the research can be expanded to other areas in Malaysia. Cross-cities research may enrich the findings. Although the present study was carried out with Malaysian residents, the results are consistent with previous studies. This study also suggests that no significant cultural difference exists regarding the conceptual structure between pro-environmental behaviour and happiness. However, pro-environmental behaviours enhance happiness and can be further perceived as present happiness or future happiness. These findings can be further investigated from cultural and socio-economic perspectives in a future study. Furthermore, happiness lexicons such as eudemonia and hedonic could be further addressed. Happiness research is potentially altering the study of sustainable development in the future.

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