

Values, Social Norms, And Sustainable Lifestyles: An Empirical Study In Vietnam

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Abstract

This paper examines the influence of personal values and social norms on sustainable lifestyles in the Vietnamese context, a transition country. We built an integrated research model by combining social norms with personal values to test their effect on two sustainable behaviors, including water and energy use and sustainable mobility. A self-administration online survey was conducted to collect data. After four months, 385 valid responses were received. Structural equation modeling analysis was employed to test the proposed hypotheses. Our findings reveal that water and energy use is positively influenced by biospheric values, egoistic values, and social norms. Moreover, sustainable mobility is positively affected by egoistic values and social norms. Notably, hedonic values have no impact on both water and energy use and sustainable mobility. As a result, this present study sheds light on the sustainable lifestyles of people in a transition economy and highlights the quest for more research on this topic in Vietnam. It is suggested that the government, policymakers, and other institutions should collaborate to implement social campaigns to promote sustainable lifestyles in Vietnam. Furthermore, the traditional cultural values should be notified to encourage young Vietnamese people to take action to protect the environment for our future generations.

Keywords: Personal Values, Sustainable Lifestyles, Social Norms, Vietnam.

1. INTRODUCTION

Sustainable lifestyles (SLS) have been considered mainstream for sustainable development worldwide. SLS has gained prominence in discussions about energy and climate change (Evans, 2010). Notably, the UK government's Department for Environment, Food, and Rural Affairs (DEFRA) released a framework for sustainable lifestyles in 2011 to discover best practices and influence individual behavior. In this regard, individuals are frequently exhorted to take part in various environmental actions to help the environment, ranging from recycling waste and reducing personal car use to saving energy or water at home (Barr et al., 2011b). However, most

studies on SLS have been conducted in developed countries. There has not been adequate research on SLS in transition countries.

In Vietnam, sustainable development has been attracted more and more attention from a variety of stakeholders in the society. Particularly, the government's concern for sustainable development has been raised in these recent years. Notably, the Vietnamese government issued Decision No. 1658 to approve the national green growth strategy for the 2021-2030 period with a vision by 2050. This strategy focuses on the role of enterprises and consumers as the main actors in achieving Millenium goals. However, few studies have

addressed the topic of sustainable lifestyles in Vietnam.

In such a context, this paper investigates the influence of personal values and social norms on individuals' sustainable lifestyles (SLS). We chose Vietnam as the research context for three reasons. Firstly, Vietnam is a transition country and has been facing sustainable development challenges. The rapid economic growth over three decades seems to bring more severe environmental problems in recent years. Secondly, in the search for sustainable development, individuals as consumers in the economy play a critical role. With a large population of more than 95 million people and an underdeveloped market, Vietnam is an attractive place to explore factors that influence SLS. Thirdly, the evolution of the socio-cultural context in Vietnam since its integration into the world market also hints at some changes in the way Vietnamese people behave and respond to the demand for sustainable development.

The rest of this paper is organized as follows. Section 2 briefly reviews the theoretical background of sustainable lifestyles and proposes research hypotheses. Section 3 presents the methodology of this study. Section 4 discusses the research findings. Finally, in Section 5, we propose the implications, explain the limitations of this study, and suggest future work.

2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1. Sustainable Lifestyles

Lifestyle can be interpreted as a material manifestation of an individual's identity (Wilska, 2002). A lifestyle can be described as somewhat of an integrated set of practices that an individual embraces not only to satisfy utilitarian needs but also to give material form to a particular narrative of self-identity (Hobson, 2001). In addition, lifestyles are patterned ways of investing certain aspects of everyday life with social or symbolic value (Hobson, 2002). In other words, lifestyles are sets of practices and attitudes that make sense in particular contexts (Barr et al., 2011a). Thus, all individuals develop their own specific style of life for overcoming inferiority and handling the problems of interpersonal interaction (Hobson, 2002). Based on a particular lifestyle, people make purchasing decisions, decisions

about using and disposal of products, and how and how much they will use the water and energy. All activities affect sustainability.

The concept of lifestyle is frequently used in some sustainable development discussions, including consumerism, greenhouse gases, and security and risk. Many authors use the term sustainable lifestyles (SLS) to refer to those actions intended to preserve the natural and social resources of our planet (Corral-Verdugo et al., 2012). The concept of SLS was created by integrating the definitions of "sustainability" and "lifestyles". Chaney (2002) defines lifestyles as patterns of action that distinguish people from other people to satisfy individual and social needs and desires. In turn, sustainability is defined as a way of life that meets the needs of today's people without jeopardizing the needs of future generations (WCED, 1987). Thus, SLS is defined as patterns of action used by people to affiliate and differentiate themselves from other individuals. Those patterns satisfy basic needs, provide a better quality of life, minimize both the use of natural resources and the emission of contaminants, and do not compromise the needs of the future generations (Bedford et al., 2011). In other words, SLS is constituted by sustainable behaviors that characterize an individual, enduring way of living.

The foundations of SLS are long-term patterns of people's activities, interests, and opinions that enable economic, social, and environmental sustainability (Rakic & Rakic, 2015). SLS consists of a variety of environmental related behaviors such as water and energy use, waste treatment, housing, nutrition (i.e.: buying organic food), transport, and leisure activities (Rakic & Rakic, 2015).

The most popular topic of discussion about lifestyle and sustainable development is consumption (e.g., Wilska, 2002; Hobson, 2002; Barr & Gilg, 2006). One intriguing part of this is that environmentally conscious people consume (a lot), but they make specific choices (Connolly & Prothero, 2003). However, SLS is based not only on consumption and production patterns but also on sustainable life patterns. Sustainable consumption is related to purchasing products and services, consuming, and disposing. Meanwhile, sustainable lifestyles (SLS) include a broader set of activities, such as interaction, leisure activities, sports, and education, including, but not limited to, material consumption (Mont, 2008). Thus,

SLS is not just about consuming differently but also involves different relationships to the environment, resources, and another (Hobson, 2001).

2.2 Personal Values and Sustainable Lifestyles

Schwartz (1992) defines values as preferable and trans-situational goals that serve as guiding principles in one's life. Values are abstract and general and maintain stability over time. Values reflect what people value in their lives. Thus, values influence how people want to see themselves (i.e., their ideal selves) and the sort of person they want to be, and how they actually see themselves.

As values resemble general guiding principles in people's lives (Maio, 2010; Schwartz et al., 2012), they are considered deep-rooted personal criteria on which thoughts and actions are often unconsciously based and evaluated (Schwartz et al., 2012). Although everyone supports the same values to some extent, people differ in how they prioritize specific values over others. Individuals' decisions are influenced by differences in value priorities, including valuing the environment (i.e., biospheric values) over gratification of personal desires (i.e., hedonic values). Consequently, individuals are more likely to think and behave in accordance with a specific value if they strongly support it.

Values are usually organized on a circular complex, with a self-transcendence to the self-enhancement dimension and an openness to change to the conservation dimension (Bilsky & Schwartz, 1994). Pro-environmental beliefs, attitudes, identities, and behaviors – such as energy conservation, recycling, and acceptance of environmental policies – were found to be particularly related to self-transcendence and self-enhancement values.

Values are typically organized on a circular complex, consisting of a 'self-transcendence' to 'self-enhancement' dimension and an 'openness to change' to 'conservation' dimension (Bilsky & Schwartz, 1994). Pro-environmental beliefs, attitudes, identities, and behaviors – such as energy-saving behaviors, recycling, and acceptability of environmental policies – proved to particularly relate to values belonging to the self-transcendence and self-enhancement dimension (De Groot & Steg, 2009; Nordlund

& Garvill, 2002; Steg et al., 2014). Self-transcendence values cause people to prioritize the interests of others and the environment, and they are typically associated with pro-environmental beliefs and behaviors (Schwartz et al., 2012). On the other hand, self-enhancement values cause people to prioritize their own interests and are generally associated with anti-environmental beliefs and behaviors (Schwartz et al., 2012; Steg et al., 2014). Notably, two types of self-transcendence and self-enhancement values are typically distinguished in environmental research (Steg et al., 2014).

Biospheric and altruistic values are examples of self-transcendence values (Steg et al., 2014). Biospheric values reflect a concern for the environment in and of themselves, with no obvious link to humans. As a result, acting pro-environmentally would directly support this value. Biospheric values are, in fact, the most strongly and consistently related to pro-environmental beliefs and behaviors when compared to other values. Altruistic values are characterized by a concern for the well-being and fair treatment of other people. Because pro-environmental beliefs and behaviors frequently relate to positive outcomes for humans (e.g., health benefits) or are viewed as necessary to preserve our planet for future generations, altruistic values are typically positively related to pro-environmental beliefs and behaviors when such behaviors also benefit other people (De Groot & Steg, 2009).

Although altruistic and biospheric values are related, they can sometimes clash, such as when deciding whether to donate to humanitarian or environmental organizations, in which case strong altruistic values inhibit pro-environmental decisions. As a result, biospheric and altruistic values are conceptually and empirically distinct, and both generally relate positively to pro-environmental beliefs and behaviors unless they contradict one another (De Groot & Steg, 2009).

Previous studies have investigated the relationship between self-transcendence values and prosocial or pro-environmental behaviors. Studies showed that particularly biospheric values are strongly and consistently related to environmental preferences, intentions, and behavior. People with strong biospheric values are more likely to have pro-environmental preferences and choices and act pro-environmentally (Steg et al., 2014). People who

strongly support biospheric values care about nature and the environment. They base their decisions to take specific actions on the consequences of their efforts on nature and the environment. Biospheric values have been linked to a variety of pro-environmental preferences and activities, including support for climate change policies (Nilsson et al., 2004; Steg et al., 2011), sustainable consumption (Thøgersen & Ölander, 2002), environmental activism (Steg et al., 2011), pro-environmental behavior (De Groot & Steg, 2009), preference for restaurants serving organic food (Steg et al., 2014), and donating money to an environmental rather than a humanitarian organization (De Groot & Steg, 2009).

Thus, we raised the following hypotheses in the present studies to test the relationship between biospheric values, altruistic values, and sustainable lifestyles.

H1a: Biospheric values (BIO) positively influence water and energy use (WE).

H1b: Biospheric values (BIO) positively influence mobility (MO).

H2a: Altruistic values (ALT) positively influence water and energy use (WE).

H2b: Altruistic values (ALT) positively influence mobility (MO).

In addition, self-enhancement values include egoistic and hedonic values (Schwartz et al., 2012). Egoistic values are characterized by a focus on the economic costs of a choice on someone's resources, including power or achievement. On the other hand, hedonic values are concerned with obtaining pleasure, positive feelings, and minimizing effort (Schwartz et al., 2012). Some environmental behaviors are associated with egoistic and hedonic costs because they are often considered – but do not have to be effortful (e.g., taking public transportation instead of driving), uncomfortable (e.g., turning down the heat), or costly (e.g., buying organic products). As a result, individuals who strongly support egoistic or hedonic values are less likely to act environmentally and hold less strong pro-environmental beliefs (Venhoeven et al., 2013). However, when pro-environmental behaviors have egoistic or hedonic benefits, such as saving energy also means saving money, and organic produce is more tasty, egoistic or hedonic values may positively relate to these

behaviors. For example, Miao and Wei (2013) found that hedonic values significantly motivate sustainable consumption in the hospitality industry. Meanwhile, Rezvani et al. (2018) confirmed that hedonic values also act as a strong predictor of electronic vehicle adoption in Sweden.

In the present study, we focus on two sustainable behaviors that might bring egoistic and hedonic benefits to consumers when they act accordingly. Therefore, from the above arguments, we formulated the following hypotheses.

H3a: Egoistic values (EGO) positively influence water and energy use (WE).

H3b: Egoistic values (EGO) positively influence mobility (MO).

H4a: Hedonic values (HED) positively influence water and energy use (WE).

H4b: Hedonic values (HED) positively influence mobility (MO).

2.3 Social Norms and Sustainable Lifestyles

Social norms are beliefs about how people should behave in specific situations enforced by the fear of being punished or the promise of benefits (Thøgersen, 2009). It is undeniable that people are significantly affected by the normative influences and the context of their daily lives. Moreover, social norms have been confirmed as a critical component of motivation and behavior essential to behavior influence and change (Reynolds et al., 2015).

However, the concept of social norms is still relatively underused within the environmental area (Schultz et al., 2016). Few studies have investigated the influence of social norms on pro-environmental behaviors. Nevertheless, in such an Asian context as Vietnam, social norms have been studied in studies of consumer behaviors such as green purchasing (Nguyen et al., 2018). In this study, we are concerned about sustainable behaviors when consumers interact with others in their daily life.

Thus, we proposed three hypotheses as follows.

H5a: Social norms (SN) positively influence water and energy use (WE).

H5b: Social norms (SN) positively influence mobility (MO).

3. METHODOLOGY

3.1 Research Model and Measurements

In the present study, we developed a research model to test the influence of personal values

and social norms on sustainable lifestyles (see Figure 1).

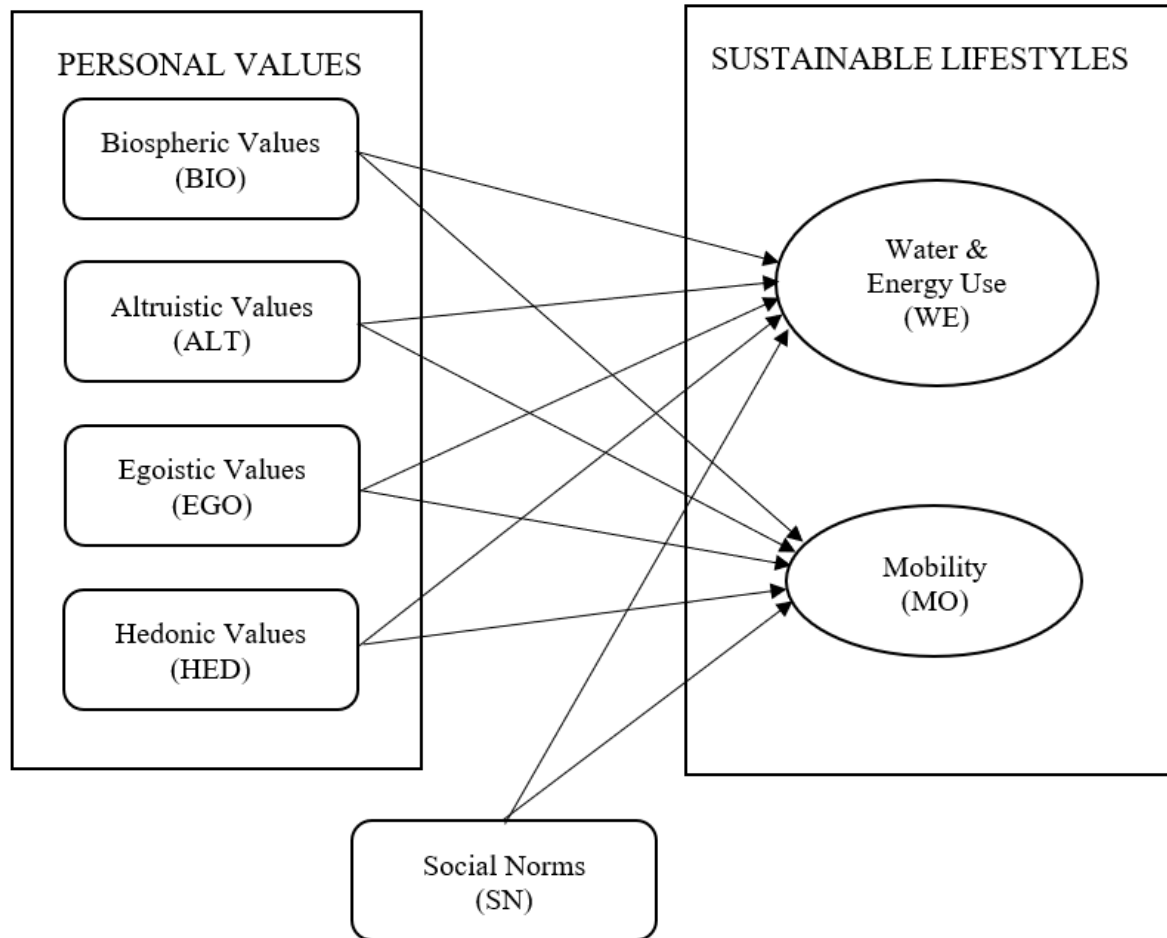


Figure 1: Research Model

As shown in Figure 1, five independent variables include biospheric values (BIO), altruistic values (ALT), egoistic values (EGO), hedonic values (HED), and social norms (SN). Meanwhile, two dependent variables representing sustainable lifestyles are water and energy use (WE), and mobility (MO).

Measurement of personal values was adopted from the Environmental Portrait Value Questionnaire (E-PVQ) developed by Schwartz et al. (2012) with 16 items measuring biospheric values (4 items), altruistic values (4 items), hedonic values (3 items), and egoistic values (5 items). We chose the E-PVQ because it employs a brief verbal portrait of another person, gender-matched to the participant, in which a value is described as important to this person. Respondents were asked to rate how much each person resembled the respondent themselves, ranging from 1 (not like me at all) to 6 (very much like me). This way of asking

encourages the respondents to answer questions with less time thinking and possibly yield more reliable indexes of basic personal values (Schwartz et al., 2012). Remarkably, the E-PVQ would be most suitable in an Asian cultural context like Vietnam. In this collectivistic country, people seem to show commitment to the “member” group, and people often hesitate to express their personal feeling and thoughts.

Social norms (3 items) were adapted from the study of Van der Werff & Steg (2015), Park and Ha (2014). For this scale, respondents were asked to show their agreement ranging from 1 (totally disagree) to 5 (totally agree).

Regarding sustainable lifestyles, we focus on two sustainable behaviors that individuals are engaged in every day, including water and energy use (5 items) and mobility (4 items). The measurements of sustainable lifestyles were adapted from the New

Ecological Paradigm (NEP) scale and some studies by Gilg et al. (2005) and Haq et al. (2008). In addition, respondents were asked to evaluate how often they practice sustainable behaviors, ranging from 1 (never) to 5 (always). Details of all measurement scales in the research model are presented in the Appendix.

3.2 Sampling and Data Collection

A self-administered online survey was conducted to gather data for the present study. We used the snowball and convenient sampling methods to widespread our survey via the online environment.

Firstly, we randomly picked up 20 potential respondents from our research team's social network as pioneers in our survey. Then, a Google Form questionnaire survey was distributed to these pioneers. Then, these advocates were encouraged to spread our survey to other people on their social networks. After 4 months, we received 385 valid responses. Our respondents came mainly from big cities of Vietnam, including Hanoi, Thanh Hoa, Ha Long, Hai Phong, Ho Chi Minh City, Da Nang, Hue, Can Tho. The characteristics of our sample are summarized in Table 1 below.

Table 1: Sample Characteristics (n = 385)

Characteristic	Frequency	Percent (%)
Age		
18 to 30 years old	284	73.8
31 to 45 years old	93	24.2
46 to 60 years old	6	1.6
Over 60 years old	2	0.5
Gender		
Male	88	22.9
Female	297	77.1
Monthly Income		
Below 5 million VND (\$225)	194	50.4
From 5 to 15 million VND (from \$225 to \$675)	95	24.7
From 15 to 25 million VND (from \$675 to \$1,125)	51	13.2
Over 25 million VND (over \$1,125)	45	11.7

Table 1 shows that the majority of our respondents were young people (over 70%) so their monthly income is mostly below 225 USD. Furthermore, we also have over 75% of female respondents who seem to care more about living sustainably than male.

3.3 Data Analysis

The reliability and validity of the measurements were examined in SmartPLS 3.0 software. The influence of personal values and social norms on sustainable lifestyles was assessed using the partial least squares structural equation path modeling (PLS-SEM) technique.

We chose PLS-SEM for analysis for several reasons. Firstly, PLS-SEM enables researchers to estimate complex models with many constructs, indicator variables, and structural paths without imposing distributional assumptions on the data. Secondly, PLS-SEM is a causal predictive approach to SEM that emphasizes prediction in estimating statistical models, whose structure is designed to provide

causal explanations. Third, PLS-SEM is suitable for a small sample size. In this study, our sample of 385 individuals is tiny compared to the country's population. Thus, PLS-SEM is most suitable for our research.

4. RESULTS AND DISCUSSIONS

4.1 Preliminary Analysis

The reliability of measurements was checked in SmartPLS using several criteria, including Cronbach's alpha, item outer loadings, and the composite reliability (CR). In addition, the validity of the measurements was evaluated based on variance inflation factor (VIF), average variance extracted (AVE), the Fornell-Larcker test, HTMT criterion test, and R-square. Table 2 shows the results.

Table 2 reveals that most item outer loadings are greater than 0.5. Some items with loadings less than 0.5, such as Ego1 and WE3, were eliminated from the measurement scale. Cronbach's alpha values for all measurement

scales in the research model ranged from 0.722 to 0.861, and all CR values were greater than 0.8, indicating good internal consistency reliability.

Furthermore, the VIF values of all items ranged between 1 and 3, well below the

recommended value of 5. As a result, the multicollinearity problem does not arise in any measurement scales. In addition, AVE values were greater than 0.5, indicating that convergent validity was achieved.

Table 2: Reliability, Validity, Convergence of the Measurements

Constructs	Items	Loadings	VIF	Cronbach's alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Biospheric Values (BIO)	Bio1	0.759	1.440	0.732	0.832	0.554
	Bio2	0.774	1.518			
	Bio3	0.723	1.420			
	Bio4	0.720	1.344			
Altruistic Values (ALT)	Alt1	0.568	1.235	0.769	0.850	0.593
	Alt2	0.744	1.526			
	Alt3	0.858	2.122			
	Alt4	0.871	1.964			
Egoistic Values (EGO)	Ego2	0.788	1.402	0.711	0.838	0.634
	Ego3	0.759	1.320			
	Ego4	0.840	1.498			
Hedonic Values (HED)	Hed1	0.813	1.530	0.805	0.885	0.720
	Hed2	0.838	1.902			
	Hed3	0.893	2.113			
Social Norms (SN)	SN1	0.817	1.604	0.722	0.843	0.643
	SN2	0.865	1.608			
	SN3	0.716	1.255			
Water & Energy (WE)	WE1	0.769	1.552	0.728	0.830	0.550
	WE2	0.736	1.530			
	WE4	0.783	1.529			
	WE5	0.675	1.403			
Mobility (MO)	MO1	0.819	2.317	0.843	0.894	0.678
	MO2	0.832	1.681			
	MO3	0.860	2.583			
	MO4	0.782	1.619			
Note: CR = Composite Reliability, AVE = Average Variance Extracted Recommended value: Cronbach's alpha ≥ 0.7; Outer loadings ≥ 0.5; VIF < 5; CR ≥ 0.7; AVE ≥ 0.5						

In addition, the discriminant validity was checked using the Fornell-Larcker test and HTMT criterion results. Table 3 shows the details of the Fornell-Larcker test.

Table 3: Fornell-Larcker criterion test

	ALT	BIO	EGO	HED	MO	SN	WE
ALT	0.770						
BIO	0.335	0.744					
EGO	0.493	0.505	0.796				
HED	0.417	0.386	0.655	0.849			
MO	0.254	0.188	0.325	0.228	0.824		
SN	0.286	0.43	0.448	0.375	0.238	0.802	
WE	0.278	0.343	0.468	0.317	0.603	0.331	0.742

According to Fornell and Larcker (1981) and Hair et al. (2010), discriminant validity is satisfactory when the square root of AVE for each endogenous variable is greater than the latent variable correlations. We determined the discriminant validity of each construct by comparing the square root of each AVE in the diagonal to the correlation coefficients (off-diagonal) in the relevant rows and columns. As shown in Table 3, the square root of the AVE ranges from 0.742 to 0.849 for all constructs (the values in bold), and it is greater than any of the correlation coefficients in the vertical and horizontal related cells. Overall, discriminant validity between the constructs tested in this study was supported.

In addition, the HTMT criterion test was also conducted in SmartPLS to check the

discriminant validity of the measurement scales. As presented in Table 4, the HTMT values of all constructs were below the threshold value of 0.85, so the discriminant validity of measurement scales is acceptable in this study (Henseler et al., 2015).

Another criterion taken in this study was R^2 . Table 4 shows that the R^2 value of WE and MO was 0.237 and 0.115, respectively, indicating that four personal values variables and social norms explained 24.6% the variance of WE and 12.6% of the variance of MO. This result means that the coefficient determination was confirmed as all R^2 values of endogenous variables were above 0 (Hair et al., 2010). The structural model achieved moderate fitness for further analysis (see Table 4).

Table 4: HTMT criterion test

	ALT	BIO	EGO	HED	MO	SN	WE	R^2 adjusted
ALT								
BIO	0.440							
EGO	0.642	0.697						
HED	0.541	0.501	0.850					
MO	0.287	0.233	0.409	0.260				0.126
SN	0.359	0.587	0.631	0.503	0.294			
WE	0.356	0.464	0.640	0.401	0.766	0.448		0.246

4.2 Hypothesis Testing

We ran the bootstrapping analysis to test the structural model. In SmartPLS software, we chose the subsamples of 5000 and ran basic bootstrapping with the parallel processing

option. The confidence interval method is Bias-Corrected and Accelerated (BCa) bootstrap with two-tailed test type at 0.05 significance level. Results are presented in Figure 2 and Table 5 below.

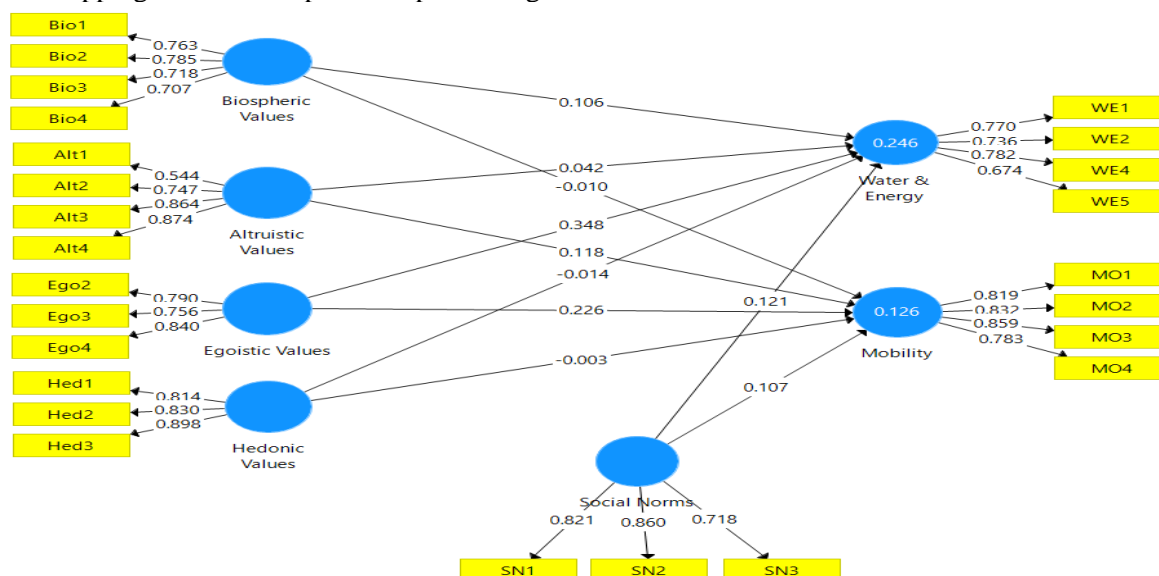


Figure 2: Structural model results

Table 5: Hypothesis – Path Coefficients

Hypothesis	Path	β	f^2	T value	P Value	Result
H1a	BIO \rightarrow WE	0.106	0.010	2.037	0.034	Accepted
H1b	BIO \rightarrow MO	-0.010	0.000	0.186	0.852	Rejected
H2a	ALT \rightarrow WE	0.042	0.002	0.684	0.494	Rejected
H2b	ALT \rightarrow MO	0.118	0.012	1.700	0.089	Rejected
H3a	EGO \rightarrow WE	0.348	0.071	4.391	0.000	Accepted
H3b	EGO \rightarrow MO	0.226	0.026	2.700	0.007	Accepted
H4a	HED \rightarrow WE	-0.014	0.000	0.224	0.823	Rejected
H4b	HED \rightarrow MO	-0.003	0.000	0.047	0.962	Rejected
H5a	SN \rightarrow WE	0.121	0.014	2.449	0.014	Accepted
H5b	SN \rightarrow MO	0.107	0.010	1.997	0.046	Accepted
Note: Significance level $p < 0.05$; Effect size: $0.02 \leq f^2 < 0.15$ (small); $0.15 \leq f^2 < 0.35$ (moderate/medium); $f^2 \geq 0.35$ (large)						

Table 5 revealed that 5 out of 10 proposed hypotheses were rejected because the p-values were higher than 0.5. The remaining 5 hypotheses were accepted including H1a, H3a, H3b, H5a, H5b.

4.3 Discussions

Firstly, regarding the sustainable behaviors in using water and energy (WE), we found in this study that biosphere values ($\beta = 0.106$, $p = 0.034 < 0.05$), egoistic values ($\beta = 0.348$, $p = 0.000 < 0.05$) and social norms ($\beta = 0.121$, $p = 0.014 < 0.05$) positively influence WE. It is noteworthy that EGO is the most influential factor on WE. Meanwhile, altruistic values and hedonic values do not have a significant influence on WE. It is shown in Table 5 that the effect size of BIO (0.010), EGO (0.071), and SN (0.014) on WE is very small. Only EGO has f^2 higher than 0.02 but smaller than 0.15. Thus, EGO was considered to have a small influence on WE. BIO and SN had f^2 small than 0.02, indicating that they had a rather small effect on WE. Our findings can be explained by the fact that Vietnam is a low-middle income country with people's insufficient knowledge of environmental pollution problems. Thus, people seem to save water and energy to save monthly spending rather than thinking about their broad responsibility to the environment and society. For such a reason, egoistic values play an important role over other values. Our findings are in line with the study of Steg et al.

(2014). However, our findings are contradictory to the results of Miao and Wei (2013).

Secondly, sustainable mobility (MO) was found to be positively affected by egoistic values ($\beta = 0.229$, $p = 0.007 < 0.05$) and social norms (SN). Other factors such as BIO, ALT, and HED do not influence MO. In terms of effect size, EGO (0.026) was found in this study to have more influence on MO than SN (0.010), but both have a small effect on MO as the f^2 was within the range from 0.02 to 0.15. Our findings are supported by Venhoeven et al. (2013) and Rezvani et al. (2018).

Thirdly, social norms (SN) in this study was found to have more effect on water and energy use ($\beta = 0.121$, $p = 0.014 < 0.05$) than mobility ($\beta = 0.107$, $p = 0.046 < 0.05$). This result is attributed to the fact that an individual's choice of sustainable mobility is affected by many factors such as the distance to travel, the availability of transportation system, and the access ability to public transportation instead of an individual one. Thus, the influence of other people would have very little on an individual to act sustainably in terms of mobility. Furthermore, in the Vietnamese

context, it is observed that the transportation infrastructure is still inferior and underdeveloped. The public transportation system cannot meet the demand of citizens. As a result, numerous people still prefer using personal vehicles to public ones. In addition, most of the respondents in this study are young people who have a high mobility demand and live independently from their parents. This sample characteristic helps to explain why SN only slightly influences MO in the Vietnamese context.

Fourthly, hedonic values (HED) are found in this study to have no impact on sustainable behaviors (i.e., waste and energy use, mobility). This finding reflects that Vietnamese people do not perceive the entertainment benefits when saving water and energy or choosing a sustainable mode of mobility. Thus, they are not motivated to perform these sustainable behaviors daily by the feeling of enjoyment or entertainment. Consequently, talking about sustainability is more pervasive in Vietnam than acting to achieve sustainability on a person's responsibility. Our finding is contrary to the study of Reznavi et al. (2018) in Sweden or Khan & Hameed (2019) in Pakistan, which insisted that consumers' intention to purchase sustainable products (i.e.: electronic or hybrid cars) is positively affected by hedonic motivations.

5. IMPLICATIONS, LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

5.1 Implications

Sustainable lifestyles (SLS) have not received adequate research interest in Vietnam. Thus, this study has some contributions both theoretically and practically.

In terms of theory, this study integrates social norms into the research model to test the simultaneous impact of these factors on sustainable lifestyles. Moreover, the effect of personal values has rarely been addressed in research on sustainable lifestyles in Vietnam. Thus, there is still a quest for more research on this topic. Nevertheless, our study has contributed to the existing literature by confirming the positive influence of biospheric and egoistic values on sustainable behaviors in a new transition economy context.

In terms of practices, this study implies that the sustainable behaviors of Vietnamese people, particularly the young ones, are motivated by self-enhancement and self-transcendence values. Thus, it is essential to innovate the campaigns to promote sustainable lifestyles in the society by focusing on the traditional cultural values of Vietnamese people. In addition, as Vietnam is affected by Confucianism, young people are still affected by social norms in making choices of sustainable behaviors to act. Thus, educational institutions and governmental bodies might get the involvement of families, key influencers, key opinion leaders in raising awareness of sustainable lifestyles and guiding young people to practice sustainable behaviors regularly.

5.2. Limitations and suggestions for future research

This study has some limitations. The representativeness of the survey sample remains questionable due to the small sample size and potential sources of respondents. This issue might limit the ability of this study to explain the sustainable behaviors of Vietnamese people. Convenient sampling method might lead to the bias in explaining the research results.

In addition, this study assumed the direct relationship between values and social norms and sustainable behaviors. This present study has not considered any mediating or controlling factors in the research model.

For the limitations as mentioned above of this study, we suggest future research should be expanded in terms of sample size and research model with mediating and controlling factors.

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APPENDIX: MEASUREMENTS

	Item		Item
Biospheric Values (BIO)	It is important to him/her...	Social Norms (SN)	
Bio1	To prevent environmental pollution	SN1	My parents think that I should practise sustainable lifestyles
Bio2	To protect the environment	SN2	People that I admire practise sustainable lifestyles
Bio3	To respect nature	SN3	People around me will be disappointed if I do not protect the environment

Bio4	To be in unity with nature	Water & Energy Use (WE)	
Altruistic Values (ALT)	It is important to him/her...	WE1	Save water in daily use
Alt1	That every person has equal opportunities	WE2	Do not exploit groundwater indiscriminately
Alt2	To take care of those who are worse off	WE3	Turn off light and electric devives when not using
Alt3	That every person is treated justly	WE4	Use air conditioner/heating device properly
Alt4	To be helpful to others	WE5	Buy electronic devices with “eco” label
Hedonic Values (HED)	It is important to him/her...	Mobility (MO)	
Hed1	To have fun	MO1	Use public transportation or bicycle instead of personal mobility vehicles
Hed2	To enjoy the life’s pleasures	MO2	Minimize travelling
Hed3	To do things he/she enjoys	MO3	Use shared car or taxi when travelling
Egoistic Values (EGO)	It is important to him/her...	MO4	Limit luggage weight while travelling to reduce air emission
Ego1	To have control over others’ actions		
Ego2	To have authority over others		
Ego3	To be influential		
Ego4	To have money and possessions		
Ego5	To work hard and be ambitious		