



GREEN CITY: THE LIFESTYLE OF MELAKA RESIDENTS

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Abstract

Personality and Lifestyles [PL] of those practicing environmentally-aware way of life manifest in collectivistic cultures, modesty and moderation in material pursuits, and environmental mindfulness. **Issue:** 10 years has passed since the vision of green city was introduced. The collective ecological PL of Melaka public is called to be evaluated to determine how far have the citizen accepted and owed allegiance in the green initiative efforts. **Purpose:** This paper aims to compare the environmentally-aware collective PL of Melaka residents to residents of other states in Malaysia. **Approach:** One-Way MANOVA was generated to determine the mean distribution of 10 PL items, across Malaysia States. **Findings:** There were significant differences within subjects of the 10 PL items between-subjects of Malaysia States. The Post-Hoc Test indicated majority of the means of PL items for Melaka were significantly higher than other states. However, in relation to other states, Melaka fell short on the component of Voluntary Modesty, which indicators were (i) PL5, *practicing moderation in purchasing and using resources*, (ii) PL6, *feeling unconcerned if not able to afford things*, and (ii) PL7, *believing that having many assets does not lead to happiness*.

Keywords: Melaka Green City, personality and lifestyle, voluntary modesty

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INTRODUCTION

In 2010, Melaka established a vision to become a Green Technology State by 2020. The Melaka Green Technology Corporation (MGTC) oversees the ongoing efforts to achieve the vision and to adopt the United Nations Urban Environmental Accords (UN-UEA) ratings method to assess their green city performance. On August 10th, 2020, Melaka state government and MGTC signed an MoU with Micro-E Holdings, to continue the Melaka Green City Action Plan (MGCAP). The MGCAP provides a clear path for Melaka towards becoming a sustainable community as well as reflecting a holistic approach that brings together individual actions that have already started. Almost all action plans addressed in the MGCAP directly and indirectly require local communities, civil societies and public acceptance and engagement to Melaka Green City vision. 10 years has passed since the green city vision was introduced. The collective environmental personality of Melaka public is called to be evaluated to determine how far have the citizen accepted and owed allegiance in the green initiative efforts. Collective personality relates to a group's consistent behaviours across time and contexts.

In this paper, the personality of the Melaka citizen in embracing the green initiative efforts is assessed in opposition to other states in Malaysia. The first dimension of the 'Human Interdependence with the Environment' model by Abu Bakar, et al., (2017) is adopted to examine the personality and lifestyle of Melaka respondents in comparison to respondents from other Malaysia states.

LITERATURE REVIEW

Human Interdependence [HI] measures the contributions and functionality of individuals in their social and environmental contexts that in turn influence the well-being of the individuals (Abu Bakar et al., 2019a; 2019b; 2019c; Abu Bakar et al., 2020a; 2020b; 2020c). Thorough studies on HI discovered that HI contributes to 70% of Subjective Well-Being, suggesting that that imparting well-being to social and environmental surroundings is a huge source of individual well-being (Abu Bakar et al., 2015; 2016a; 2016b; 2017a; 2017b; 2017c; 2017d; 2017e; 2017f; 2018). This paper focuses on Human Interdependence with the Environment [HIE].

The dimensions of HI are identified from a review of The World Book of Happiness (Bormans, 2010) which covers ground-breaking findings of well-being research all over the world. In the attempt to focus on HIE manifestation applicable for Malaysia, summaries of recent case studies from a number selected Asian articles are presented. The potential determinants of HI along with their conditional factors are extracted from the main conclusions of the articles. There are four interconnected dimensions of HIE. This paper focuses on the first dimension of HIE which is Personality and Lifestyle.

Personality and Lifestyle is derived from the internal condition of a person which accommodates a range of personal attributes that represent lifestyles, inner-strength, willpower, wisdom, awareness, life prospects and other related attributes. In the environmental context, examples of human interdependence manifestations are collectivistic cultures, modesty and moderation in material pursuits, and environmental mindfulness. The manifestations are observed in Personality and Lifestyles [PL] of individuals. Studies on collectivism and biosphere values are concerned on individuals' way of life and worldview, relating to the environment. Case studies selected from Asian Journals dated from the year 2011 onwards highlighted potential determinants and qualities of PL (refers to Table 1).

Table 1: Conditional Factors of Personality and Lifestyle

Conditional Factors	Potential Determinants	References
Cultural orientations: horizontal individualism (non-competitive self-reliant) and vertical individualism (competitive self-reliant); horizontal collectivism (communally dependent with equality emphasised) and vertical collectivism (communally dependent with hierarchy emphasised).	Environmental attitude, consumer effectiveness (the likelihood of buying green products), environmental commitment (the will of buying green products)	(Jackson, 2017)
Collectivistic society (prioritising family and group welfare before personal contentment)	Family needs and intrapersonal relationships	(Jaafar et al., 2012)
Gender (female), and transformational leadership (leadership approach attempting to transform individuals and social system)	Collectivistic values (prioritising others over personal welfare)	(Caesar, 2016)
Gender, age, ethnic composition (the greater the composition, the higher sense of belongingness)	Personal relationships and community belongingness	(Clark et al., 2014)
Awareness and knowledge of rights (practical conscience towards action-oriented behaviours)	Consumer effective actions (conscious reaction)	(Ishak & Zabil, 2012)
Ecopychology elements (the belief on nature as self, home, and family. separation of human and nature leads to suffering, and connection of human and nature is healing for both).	Awareness and response to environmental conditions, and collective environmental initiatives and behaviours	(Kamidin et al., 2011)
Community leadership and empowerment in negotiating with government on environmental conditions and communal recycling behaviours	Collectivistic actions (prioritising others' needs over personal interests)	(Laurens, 2012)
Awareness (consciousness and concern), knowledge (familiarity with issues and acquired information), and risk perception (perceived exposure to danger)	Altruism (selfless concern for well-being of others), and responsive behaviours	(Masud et al., 2013)
Environmental concern (individuals' stance towards the environment or the arrays of attitude determining intentions), or attitudes that influence environmental intentions) and perceived consumer effectiveness (consumers' awareness on the existing issue, and consumer's trust that their efforts would contribute to a viable solution to resolve the issue)	Willingness to invest environmentally (decision on environmental investment influenced by emotional and predictable cognitive biases that swerve from behaving rationally)	(Ming et al., 2015)
Materialistic personality, consumption behaviours (actions taken in expanding and using up resources) and sense of inferiority over personal possession (feeling insecure due to possessing less when being compared)	Moderation in consumption, modesty and voluntary modesty (personal choice to live modestly)	(Khare, 2015)
Adjustment and adaptations to individual settings (lifestyle and conditions of living space) and cultural factors of the surroundings (societal behaviours)	Collective responsible behaviour (taking cooperative environmental actions)	(Horayangkura, 2012)

PL manifests in the personal outlook and approach to life in relation to environmental consciousness. Qualities adhere to PL include (i) moral stance in collectivistic values, (ii) commitment to modest and environmental choices and (iii) environmental concerns through knowledge and awareness (Abu Bakar et al., 2020a; 2020b; 2020c) (refer to Table 2 and Table 3)

Table 2: Manifestation and Determinants of Personality and Lifestyle

Determinants	Qualities inferred through Indicators
moral stance in collectivistic values	prioritising others over personal welfare (family needs intra-personal /personal relationships, and community needs), altruistic perspective
environmental and modest choices	moderation in consumption, modesty, consumer effectiveness, willingness to invest environmentally, voluntary modesty
environmental concerns through knowledge and awareness	environmental attitude, initiatives and behaviours, environmental commitment, awareness and response to environmental conditions, collective responsible behaviour

Table 3: Indicators of Personality and Lifestyle

Definition of PL	Components	Indicators	Code
The personal orientation that portrays collectivistic worldviews, modesty and humility towards others as well as consciousness of environmental issues	Collectivistic	favouring relationships with others over personal success	PL1
		choosing to disappointing self over disappointing family	PL2
	Culture	taking account others' opinions in making life decisions	PL3
		taking the pleasure of working with others	PL4
	Voluntary	practising moderation in purchasing and using resources	PL5
		feeling unconcerned if not able to afford things	PL6
	Modesty	believing that having many assets does not lead to happiness	PL7
		being mindful about environmental destruction	PL8
	Environmental Consciousness	feeling affected by the environmental loss of other countries	PL9
		urging media to raise environmental awareness	PL10

The indicators were developed into statements in questionnaires to be answered by respondents across states in Malaysia.

METHOD

A sample of 4315 was pooled after the data screening process. The Malaysian respondents were given an 11-point Likert scale to respond to questionnaire items which consist of statements relating to the ten (10) PL items. One-Way Multivariate Analysis of Variance [MANOVA] was generated to determine the multivariate effect of Malaysia States on PL items. That is the difference in mean values of the 10 PL items combined between states. It is hypothesized that different states respond differently towards each of the 10 PL items. The following sections provide empirical evidence on the statistical interaction between Malaysia States and the PL items. The report of the statistical outputs in the following section pay attention to Melaka in opposition to other states.

RESULTS

One-Way MANOVA using Statistical Package for the Social Sciences [SPSS] was generated to determine the mean distribution of the dependent variables which were the 10 PL items, across the subjects of the independent variable, which was Malaysia States.

Prior to the One-Way MANOVA test, the data was screened for (i) missing cases, (ii) unengaged responses ($SD \neq 0$), (iii) univariate and extreme outliers (boxplot and $SD < 3.0$), (iv) normality (skewness < 1.5 , kurtosis < 3.0) and (v) linearity ($r > 0.30$). The data was also screened for (vi) multicollinearity ($VIF < 3.0$) and (vii) multivariate normality and influential outliers (Cook's Distance < 1.0). Since each state consists of more than 30 cases (>200 respondents), the MANOVA test was robust against violations of homogeneity of variance-covariance matrices assumption. It is also to note that the multivariate homogeneity of variance between group assumption using Levene's Test was violated ($p < .001$). Therefore, a stricter alpha level was used ($\alpha = 99.9\%$, $p = .001$) to interpret the univariate ANOVAs (Allen & Bennett, 2008). One-Way MANOVA was conducted to determine significant differences within-subjects of PL items combined, between-subjects of Malaysia States. The deduced statistical hypothesis was:

H₀: There were no significant differences within subjects of the 10 PL items between-subjects of Malaysia States. That is, Malaysia States have no multivariate effects on the 10 PL items.

The statistical output revealed that **at 99% confidence level there was a statistically significant mean differences within-subjects of PL items between-subjects of states, $F(140, 43000) = 5.044$, $p < .00001$; Pillai's Trace $V = .162$, partial $\eta^2 = 016$. The null hypothesis was rejected.** There were significant differences within-subjects of the 10 PL items between-subjects of Malaysia States. That is, Malaysia States had statistically significant multivariate effects on the 10 PL items, and the effect size was medium.

The One-Way MANOVA outputs, in essence, suggested that residents across the states reacted differently to each of the PL items. That is, the outcome, i.e. the mean values of each of the PL items were distinct from each other due to the different state they were coming from.

Table 4 shows the mean values of PL items across states. A radar chart was generated to demonstrate the difference in means of PL items across states. The chart shows that Melaka had high mean values for PL1, PL2, PL3, PL4, PL8, PL9 and PL 9 in relation to other states. On the contrary, Melaka had moderate to low mean values for PL5, PL6 and PL7 in relation to other states. Table 4 tabulates the Tests Between-Subject Effects and Post-Hoc Comparison of Melaka Mean Values for PL items against other states.

Table 4: Descriptive Statistics: Mean Values of PL items

PL	MEL	PUT	KL	SEL	N9	JOH	PAH	TER	KEL	PER	PEN	KED	PERL	SAB	SAR
PL1	9.00	8.41	8.26	8.21	8.83	8.43	8.37	8.73	8.81	8.10	8.25	8.78	8.79	7.96	7.91
PL2	8.94	8.34	8.05	8.11	8.56	8.22	8.28	8.64	8.53	7.98	8.29	8.60	8.87	7.89	7.79
PL3	8.68	8.24	7.96	8.07	8.52	8.39	8.33	8.62	8.50	7.90	8.26	8.50	8.83	7.89	7.79
PL4	8.86	8.68	8.18	8.28	8.88	8.58	8.48	8.89	8.75	8.17	8.31	8.73	9.20	8.02	7.80
PL5	8.60	8.56	7.84	8.17	8.75	8.39	8.28	8.71	8.47	8.17	8.07	8.69	8.90	7.90	7.74
PL6	8.36	8.15	7.77	8.04	8.57	8.20	7.81	8.70	8.16	7.92	8.00	8.43	8.49	7.84	7.56
PL7	8.23	8.20	7.75	7.95	8.66	8.23	7.93	8.64	8.28	7.93	8.03	8.13	8.59	7.95	7.60
PL8	8.69	8.44	7.85	7.97	8.54	8.23	8.33	8.72	8.42	7.80	8.25	8.07	8.43	7.66	7.62
PL9	8.79	8.56	7.94	8.08	8.57	8.21	8.52	8.69	8.53	7.65	8.03	7.75	8.05	7.56	7.59
PL10	9.13	8.46	8.34	8.42	9.04	8.52	8.68	8.79	8.91	8.19	8.11	8.52	9.28	7.93	7.74

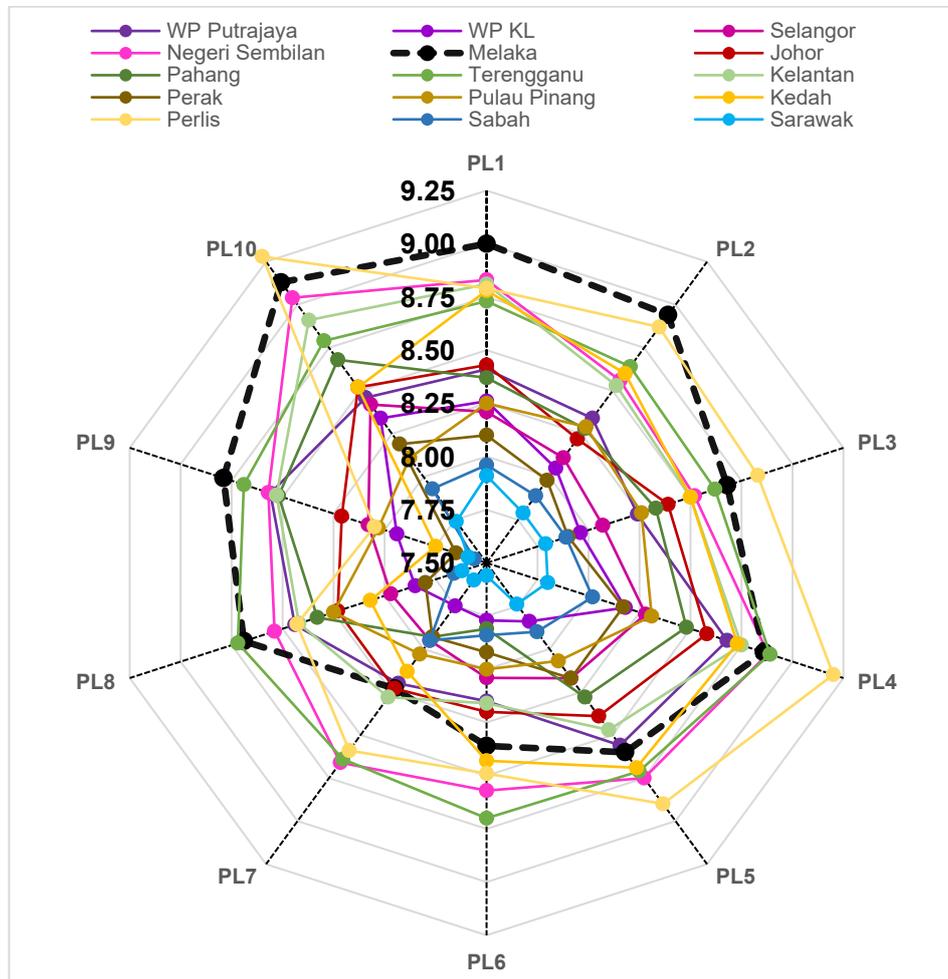


Figure 1: Radar Chart of PL Items Mean Values Across States

Table 5: Univariate ANOVAs and Post-Hoc Comparison of Melaka Mean Values

UNIVARIATE ANOVAs															
DV	Type III Sum of Squares	df	Mean Square	F	Sig.	η ²									
PL1	475.869	14,4300	33.991	11.821	.000	.037									
PL2	455.646	14,4300	32.546	11.788	.000	.037									
PL3	406.177	14,4300	29.013	12.138	.000	.038									
PL4	566.518	14,4300	40.466	15.754	.000	.049									
PL5	475.847	14,4300	33.989	12.667	.000	.040									
PL6	395.029	14,4300	28.216	9.664	.000	.031									
PL7	347.541	14,4300	24.824	9.690	.000	.031									
PL8	493.558	14,4300	35.254	14.009	.000	.044									
PL9	652.664	14,4300	46.619	14.978	.000	.046									
PL10	731.459	14,4300	52.247	16.996	.000	.052									
POST-HOC TESTS: MEAN DIFFERENCE OF MELAKA AGAINST OTHER STATES															
PL	PUT	KL	SEL	N9	JOH	PAH	TER	KEL	PER	PEN	KED	PERL	SAB	SAR	
PL1	MD	.590	.745	.795	.179	.573	.634	.276	.197	.908	.757	.222	.215	1.041	1.090
	p	.777	.001	.001	.999	.007	.004	.938	.997	.001	.001	.982	.995	.001	.001
PL2	MD	.596	.884	.828	.382	.712	.661	.299	.407	.954	.648	.335	.067	1.047	1.149
	p	.737	.001	.001	.563	.001	.001	.872	.391	.001	.004	.631	.999	.001	.001
PL3	MD	.432	.721	.602	.155	.287	.342	.052	.172	.781	.416	.178	-.154	.788	.891
	p	.951	.001	.001	.999	.688	.513	.999	.998	.001	.225	.995	.999	.001	.001
PL4	MD	.177	.681	.582	-.024	.284	.384	-.027	.108	.694	.546	.132	-.340	.837	1.062
	p	.999	.001	.001	.999	.757	.369	.999	.999	.001	.025	.999	.708	.001	.001
PL5	MD	.043	.762	.435	-.145	.215	.324	-.102	.134	.435	.529	-.089	-.291	.704	.859
	p	.999	.001	.066	.999	.972	.702	.999	.999	.135	.047	.999	.902	.001	.001
PL6	MD	.211	.589	.319	-.213	.161	.547	-.339	.195	.440	.362	-.076	-.133	.520	.793
	p	.999	.021	.572	.995	.999	.038	.766	.997	.171	.639	.999	.999	.025	.001
PL7	MD	.032	.475	.277	-.435	-.008	.300	-.411	-.055	.293	.198	.098	-.363	.282	.625
	p	.999	.104	.696	.267	.999	.777	.334	.999	.733	.994	.999	.600	.743	.001
PL8	MD	.252	.841	.725	.150	.458	.364	-.029	.272	.895	.443	.620	.266	1.033	1.076
	p	.999	.001	.001	.999	.054	.447	.999	.900	.001	.175	.001	.936	.001	.001
PL9	MD	.226	.844	.705	.217	.578	.264	.100	.262	1.133	.759	1.040	.742	1.230	1.198
	p	.999	.001	.001	.996	.011	.953	.999	.968	.001	.001	.001	.002	.001	.001
PL10	MD	.667	.789	.708	.087	.615	.447	.343	.224	.945	1.023	.613	-.145	1.201	1.389
	p	.646	.001	.001	.999	.004	.264	.785	.992	.001	.001	.009	.999	.001	.001

Note. MD= Mean Difference; p = p/significant value at 99% confidence level

MATRIX COMPARISON: MEAN VALUES OF MELAKA AGAINST OTHER STATES														
PL	Putra- jaya	K.Lum- pur	Sela- ngor	N.Sem- bilan	Johor	Pa- hang	Tereng- ganu	Kelan- tan	Perak	P.Pi- nang	Kedah	Perlis	Sabah	Sara- wak
PL1	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PL2	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PL3	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PL4	+	+	+	—	+	+	—	+	+	+	+	—	+	+
PL5	+	+	+	—	+	+	—	+	+	+	—	—	+	+
PL6	+	+	+	—	+	+	—	+	+	+	—	—	+	+
PL7	+	+	+	—	—	+	—	—	+	+	+	—	+	+
PL8	+	+	+	+	+	+	—	+	+	+	+	+	+	+
PL9	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PL10	+	+	+	+	+	+	+	+	+	+	+	—	+	+

Note. +* = Melaka has significantly higher mean; + = Melaka has higher mean; — = Melaka has lower mean.

Table 5 shows that at 99% confidence interval there were statistically significant difference in all of the PL items between states and the effect sizes were all medium ($\eta^2 = .010 < .031$ to $.052 < .138$). The Post-Hoc Test exhibits the mean difference in PL items of Melaka in opposition to other states. The Post-Hoc Test on Melaka shows that majority of the mean difference of Melaka compared to other states were positive.

The Comparison Matrix indicates that majority of PL items' means for Melaka were higher than PL items' means for other states. Out of the 140 cells, 121 cells revealed that Melaka had statistically higher means of PL items than other states and 59 out of the 121 cells were statistically significant. Table 6 shows the interpretation of the results:

Table 6: Result Interpretation

Items	Statements	Interpretation
PL1	<i>favoring relationships with others over personal success</i>	Melaka had significantly higher means of PL1 than (i) Kuala Lumpur, (ii) Selangor, (iii) Johor, (iv) Pahang, (v) Perak (vi) Pulau Pinang, (vii) Sabah and (viii) Sarawak.
PL2	<i>choosing to disappointing self over disappointing family</i>	Melaka had significantly higher means of PL2 than (i) Kuala Lumpur, (ii) Selangor, (iii) Johor, (iv) Pahang, (v) Perak (vi) Pulau Pinang, (vii) Sabah and (viii) Sarawak.
PL3	<i>taking account others' opinions in making life decisions</i>	Melaka had significantly higher means of PL3 than (i) Kuala Lumpur, (ii) Selangor, (iii) Perak, (iv) Pulau Pinang, (v) Sabah and (vi) Sarawak.
PL4	<i>taking the pleasure of working with others</i>	Melaka had significantly higher means of PL4 than (i) Kuala Lumpur, (ii) Selangor, (iii) Perak, (iv) Pulau Pinang, (v) Sabah and (vi) Sarawak.
PL5	<i>practising moderation in purchasing and using resources</i>	Melaka had significantly higher means of PL5 than (i) Kuala Lumpur, (ii) Pulau Pinang, (iii) Sabah and (iv) Sarawak.
PL6	<i>feeling unconcerned if not able to afford things</i>	Melaka had significantly higher means of PL6 than (i) Kuala Lumpur, (ii) Pahang, (iii) Sabah and (iv) Sarawak.
PL7	<i>believing that having many assets does not lead to happiness</i>	Melaka had significantly higher means of PL7 than Sarawak.
PL8	<i>being mindful about environmental destruction</i>	Melaka had significantly higher means of PL8 than (i) Kuala Lumpur (ii) Selangor, (iii) Perak, (iv) Kedah and (v) Sarawak.
PL9	<i>feeling affected by the environmental loss of other countries</i>	Melaka had significantly higher means of PL9 than (i) Kuala Lumpur, (ii) Selangor, (iii) Johor, (iv) Perak, (v) Pulau Pinang, (vi) Kedah, (vii) Perlis, (viii) Sabah and (ix) Sarawak.
PL10	<i>urging media to raise environmental awareness</i>	Melaka had significantly higher means of PL10 than (i) Kuala Lumpur, (ii) Selangor, (iii) Johor, (iv) Perak, (v) Pulau Pinang, (vi) Kedah, (vii) Sabah and (viii) Sarawak.

The positive and significant higher means of most of PL items suggests that Melaka residents are agreeable on the PL items. However, in relation to other states, Melaka falls short on the component of Voluntary Modesty, which indicators were (i) PL5, *practicing moderation in purchasing and using resources*, (ii) PL6, *feeling unconcerned if not able to afford things*, and (ii) PL7, *believing that having many assets does not lead to happiness*.

DISCUSSION

The effective solution of environmental problems calls for changes in level of consumption. Voluntary modesty refers to preference to be moderate in lifestyle and consumption. In response to the growing number of subjects like 'Sustainable Living', 'Sustainable Lifestyles', and 'Sustainable Consumption' featured in environmentally-oriented research, researchers believed that voluntary modesty is a consistent solution which can be drawn from the public to solve environmental problems. However, in leading studies, Librová (1999), stresses that voluntary modesty has a wide spere of communication and by no means suggest that the public needs to live like 'hermits' to help solve environmental issues. Communities practicing voluntary modesty have shown altruistic interest and have their basis at transcendence level. The individuals in the communities have expanded from their personal boundaries and have potentially considered themselves as essential part of the universe. In other words, they are able to put their needs aside to serve something greater than themselves.

Empirical findings on community practicing voluntary modesty described them as immune to fashion influences, supports reusing other household items, second-hand shops customers, disfavor typical commodities like dishwashers, fryers and television, and constantly learning basic skills to increase self-reliance and self-sufficiency such growing their own food from scratch. It is also stressed that these communities are either have high economic status or have low earnings; some nearly in the boundary of poverty level. While the former chose to differ themselves from the consuming majority in the form of an intentional, environmentally aware and elegant lifestyle, the latter derived to modest solutions under social conditions of a rapidly changing society. While the former considered moderation as liberation from all the consumer climate and commercial pressures, the latter has stronger transcendental anchoring, social altruism and tendency to embrace older traditional lifestyle (Biswas-Diener, 2006; Elgin & Mitchell, 1977; Librová, 1999). Either way, the path to voluntary modesty is a slow process and it cannot be achieved through the form of determination or resolution.

Based on these findings, Melaka, of which respondents were mostly in the Middle 40 group (51% earning between RM 4,361 to RM 9,619) have a long way to embrace voluntary modesty in their lifestyle and consumption. Perhaps the more realistic approach for a steady rise in voluntary modesty of Melaka residents is the greater happiness experienced through pursuing non-material riches than getting and spending money. The common motivation traces from environmental concerns, but (i) sensitivity towards inequality across the world, (ii) frequent involvement in campaigning and volunteer works, (iii) meditations and (iv) fulfilling familial relationships; could also inculcate voluntary modesty in the personality and lifestyle of Melaka residents.

CONCLUSION

This paper compares the Personality and Lifestyle, the first dimension of Human Interdependence with the Environment, of Melaka residents to other states. It was found that Melaka respondents were significantly agreeable to most of the statement implying ecological lifestyle in comparison to other states. However, in relation to other states, Melaka was relatively behind in the environmentally modest lifestyle and consumption. Future studies exploring the constructs elaborated in this paper via structural causal modelling and expand the findings through moderation effects of Malaysia States in relation to local environmental policies would be fruitful.

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