Malaysian Undergraduates' Motivational Profiles: The Ideal L2 Learners and Motivated Learning Behaviour

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Abstract

Drawing on cluster analysis to define and describe L2 adult learners' motivational profiles, this study uses an L2 motivational construct to analyse and interpret L2 learners' identities in the language classroom. The study explored seven broad motivational and attitudinal dispositions for learning English. A 60-item survey was used to collect responses from 673 Malaysian undergraduates. Statistical calculations revealed 5 distinct motivational profiles and the ideal L2 learner self as the primary component effecting motivated learning behaviour. Only the highly extrinsic and the intrinsically motivated learner profiles obtained high positive mean scores for the target outcome. Subsequent learner profiles revealed both highly extrinsically and intrinsically motivated learner profiles which are indicative of learners willing to take additional English classes. The combined findings for externally regulated variables revealed that most students took the course to improve their grades, but the highly intrinsic profile group did not see grades and social groups as important. The combined findings for the internally regulated motives revealed that both extrinsically motivated groups, and amotivation profiles did not have a positive learning experience compared to the intrinsic profiles. While the Ideal L2 Self, and Ought To L2 Self were the controlling factors, positive positioning in terms of integrative and intrinsic orientation help learners move towards self-determinism, while negative positioning contribute to resistance, or non-participation within the group. Since different positionings impact how learners exercise agency, instructors may need to treat L2 learners' first language and multicultural knowledge as valuable resources to promote greater self-confidence, positioning, and investment. L2 learners will continue to invest in the learning process, if they see English as bringing different forms of capital and access to resources. Language instructors must consider the different forms of capital that English language learners possess, and encourage learner participation to help learners construct positive identities, and value the learning process.

1 Introduction

Theoretical developments in second and foreign language motivation research over the past five decades have contributed to better understanding of the complex nature of second language (L2) motivation and learning. Presently, various theoretical frameworks and approaches provide directions for teaching and learning, but teaching conferences and workshops continue to address issues related to learner differences in terms of differences in the speed of acquisition and ultimate achievement. Currently, research exploring individual differences (henceforth ID), and the L2 impact of isolated ID variables (e.g. aptitude, motivation, personality, beliefs, or learning styles) rely on self-reported questionnaires, and data analysis using complex statistical procedures such as correlation, factor analysis, as well as structural equation modelling. While such analysis deepens the understanding of various cognitive and affective factors influencing learners, research dealing with how different factors can

be combined in learners to achieve specific *learner types* remain scarce (Csizer & Dornyei, 2005). Meanwhile, cluster analysis is a useful analytical technique that offers both theoretical and practical insights into a wide range of issues within L2 acquisition (Alexander & Murphy, 1999; Kojic-Sabo & Lightbrown, 1999; Skehan, 1986), and educational psychology. The rationale for using cluster analysis in L2 motivation research is that in spite of multiple factors shaping L2 learning success within a community of L2 learners, there is always a smaller number of distinct subcommunities that share similar cognitive and motivational patterns (Csizer & Dornyei, 2005). Cluster analysis as an exploratory technique, however, is dependent on technology to uncover grouping patterns based on mathematical configurations. This makes it necessary for research using cluster analysis to have a strong underlying theoretical basis in substantiating emerging learner profiles through a series of validating procedures. The present study aims to use an L2 motivation construct to explore group differences in relation to L2 motivation components as well as to analyse group differences in terms of intrinsic, and extrinsic learning variables. It aims to integrate features from *Self Determination Theory* as an effort to determine successful, and self-regulated learners. The assumption of this study is that certain L2 learners will differ from their subgroups, and the exploration of learner types can be a useful means for understanding the reality of multilingual and globalised classrooms.

1.1 Background

Given the global status of English, the ability to use English well is a means of gaining access to global resources, participation, and negotiation of identity in multiple communities (Norton & Gao, 2008; Norton & Toohey, 2011). Language learners need to assume new identities, which often differ from their daily identities to function as global citizens. As informed consumers, L2 learners may be willing to invest in the language learning process when they have more to gain, even if this is in conflict with their other social identities such as national, or ethnicity pride (Gu, 2010). Such negotiated identities make the understanding of ID in L2 learning important, since it enables researchers, and practitioners to determine the trait dimensions of an enduring learner, and uncover the archetypal patterns in L2 learning (Csizer & Dornyei, 2005).

With identity being multifaceted and dynamic, individuals either will position themselves, or be positioned by the others (Nero, 2015). Systematic understanding of identity profiles will therefore establish the connections between learner confidence, and willingness to invest in the learning process. A large number of factors contribute to language mastery with individuals' differences within small communities, with smaller subcommunities sharing similar abilities, propensities, cognitions, and actions (Ellis, 2004) worthy of our attention. Cluster analysis is used in this study, since there are different learner types within the L2 context (Skehan, 2002), and there is the need to reassert the relative value of various ID variables in the complex configurations of multidimensional motivational models.

1.2 Theoretical framework

The theoretical framework for this study draws from the constructivist's perspective that "identities are not given but developed and sustained or transformed through interaction" (Hopf, 2000, p. 370; see also Wendt, 1999). Prior to this is the poststructuralist's perspective that identity is not static, but historically and social constructed (Gee, 2014; Norton, 2001). In other words, the multifaceted identities are dependent on how individuals position themselves, and how others position them (Nero, 2015). This notion is explored through dual positioning, namely reflexive and interactional (Davies & Harre, 1990). With learning being an accumulative process, where learners accumulate linguistic features (Ellis & Shintani, 2013), as well as a socially constructed process where learners master culturally valued activities and practices (Nero, 2015), differences can be manifested through interactional positioning, and reflexive positioning of the subject to local, societal, and global contexts (Achugar, 2009; Gu, 2010). Reflecting on Bourdieu's sociocultural theories of capital and symbolic power, investment is another metaphor for describing learners' commitment to learning the target language (Norton, 2001). Investment refers to why learners invest in the learning as opposed to the

psychological explanation of motivation (Kim, 2014; Norton, 2001). A highly valued language like English is, therefore, a form of investment in linguistic capital in return for other forms of capital in the classroom (Block, 2007; Norton, 2001).

1.2.1   The motivation framework applied to this study

L2 motivation as a dynamic and multifaceted construct has attracted the attention of more re-searchers, and teachers, than any other ID factor. This is a reflection that L2 motivation is not merely important for understanding language learning, but also for maximising learner success (Ellis, 2004). There are several theories for conceptualising the intricate construct of L2 motivation, and address its relationship with other learning processes, (Dornyei, 2005; Gardner, 1985; Pintrich, 1990). The short-comings in some early L2 motivation models have resulted in SLA scholars reformulating the concept of L2 motivation with additional theoretical substitutes (e.g. Dornyei 2005; Noels, Clement, & Pelle-tier, 2003; Ushioda, 2001) based on evidence from theories of different camps, including mainstream psychology. In spite of these developments, the socio-psychological perspectives in the model have been criticised as being too deterministic. Motivation is mainly construed as something students bring to the task of L2 learning, and not something learners develop through the process of learning. As a result, the rich data on classroom factors are expected in researching learning motivation. Subsequent attempts to address these shortcomings have led to two different frameworks, namely Dornyei's (2001) process model of learning for the L2 classroom, which is able to account for the changes in motivation over time, and Noels et. al.'s (2003) model of extrinsically motivated behaviour, and in-trinsic motivation (Ellis, 2004).

The L2 Motivational Self System (henceforth L2MSS) model proposed by Dornyei comprises three main components, namely the Ideal L2 Self, Ought to L2 Self, and L2 learning experience. Within this, the Ideal L2 Self is defined as "the L2 specific facet of one's ideal self" (Dornyei, 2009, p. 27). Traditionally interpreted as integrative motivation, the Ideal L2 Self is said to have strong motivational functions, as L2 learners try to become the ideal person by lessening the discrepancy between their actual selves and their ideal selves (Higgins 1987; Markus & Nurius, 1986). A sample item for this component being "I can imagine myself speaking in English with foreign friends." Sec-ond, the Ought to L2 Self denotes the attributes that one believes one ought to possess in order to meet expectations, and avoid possible negative outcomes (Dornyei, 2009, p. 29). This self is present when learners try to avoid possible failures (e.g. failure in examinations). A sample item for this component would be "I consider learning English as important because the people I respect think I should do it." Lastly, the L2 learner experience concerns the context-dependent impact of learners' perception of the atmosphere of the learning environment (e.g. classroom, teacher, and syllabus) on their attitudes. This component is believed to possess a strong executive function on mediating the impact of future self-guides (Papi, 2010). A sample item for this component being "Do you like the atmosphere of your English classes?"

The study in Noels et. al. (2003) distinguishes three types of externally motivated behaviour: a) external regulation – motivated by tangible benefits and costs, b) introjected regulation – behaviour resulting from some kind of pressure on self, and c) identified regulation – behaviour stemming from some personally relevant reasons. Under intrinsic motivation they distinguish three types of motiva-tion: d) knowledge (derived from exploring new ideas, and knowledge), e) accomplishment (pleasant sensation following accomplishment), and f) stimulation (fun due to involvement). The third motiva-tional construct, amotivation, is described as referring to individuals, who lack motivation to engage in the learning process (Deci & Ryan, 1985). The *Self Determination Theory* (SDT) analyses moti-vated behaviour through three major types of motivation, namely intrinsic motivation, extrinsic mo-tivation, and amotivation. A comparison of L2 learners motivated behaviour through the L2MSS, and SDT for a specific context should provide rich data about the learners' future selves.

Currently, both the L2MSS and SDT have been applied in EFL and education (e.g. Dornyei & Chan 2013; Magid & Chan, 2012; Taguchi, Magid, & Papi, 2009; You, Dornyei, & Csizer, 2016), and the findings suggest the Ideal L2 Self and intrinsic motivation to be strong predictors of various criterion measures (Dornyei & Chan, 2013; Ellis, 2005). While assessing the relationship between the

components of the L2MSS, and other motivational, and emotional variables, Ryan and Deci (2000) as well as Taguchi et. al. (2009) found positive relationship between the Ideal L2 Self and the integrative model. Papi (2010) proposed a model of relations encompassing the facets of the L2MSS, English anxiety, and motivated behaviour. With L2 learner identity being entangled with learning experience, propensities, and cultural beliefs, a combination of these factors may exert an influence in the L2 self-guides. Furthermore, the stimulating power of attitude, cultural interest, milieu, and linguistic confidence could offer a better explanation for learner's motivated behaviour, their future selves and self-determinism. One context where there is the need to understand ID in English language learning is Malaysia. Below is a brief account of how language learning is carried out in Malaysian universities.

1.2.2   The Malaysian English learning context

As Norton (2001) mentions, the university classroom is a place for developing content knowledge and language skills as well as the site for inclusion and exclusion, where learners negotiate identities, and power relations. The Malaysian university culture differs from Eastern and Western cultures due to its historical and multicultural settings. English may be the second language, but it is a foreign language in many rural areas. The English results in most undergraduates entering universities are Band 3 (average), and below. These students will need to take additional compulsory language courses before progressing to a required English course at the university, while students with above-average proficiency can take the required course upon entry. Similar to China, Hong Kong, India, and Thailand, there is a mix of collectivism and individualism with high power distance. The language spoken at home is a factor influencing learning styles in Malaysian universities (Mohamed & Yusof, 2010). While English is the medium of instruction, the use of Malay or local dialects is not discouraged. Competent students generally dominate classroom discussions, and the discipline of the students has an influence on their learning styles. Whilst technology is used in class, students in the social sciences tend to work in groups due to the nature of assignment, and coursework are used to raise overall grades. While females tend to work in groups, male students tend to work alone. Additionally, the masculine-feminine cultural dimensions with each sex preferring to work with their own gender exist as an additional factor.

2   The study

2.1   Participants and procedure

The population for this study was 1200 undergraduates. The participants in this study were 673 undergraduates (323 males, or 48%, 350 females, or 52%) from twelve language classes at a university in East Malaysia. In selecting the population, a stratified sampling approach was adopted to keep the gender and students even in terms of East and West Malaysian students. The majority of the students were majoring in Engineering, Resource Science and Information Technology, and they were aged between 19 to 25 years. At the time of this study, all participants were enrolled in the required second year English course, which placed more emphasis on speaking, reading, and writing skills. All students had studied English for 11 years (during the primary, and secondary school years) when the data were collected in 2018. The students in this study had an above average score (Band 4–5) for their Malaysian University Entrance Test (MUET), which signified good and very good users of the language, respectively. Due to the fact that the participants' field of study was specific to the sciences, the findings cannot be generalised to a larger set of disciplines globally. However, the reported data would not be too far from university students' responses in other EFL context in Asia. In terms of proficiency, almost 54, or 8%, self-rated their proficiency level as above average, 484, or 72%, as intermediate, and 134, or 20%, rated themselves as satisfactory users of the language.

2.2   Instrument

The English versions of the motivation questionnaire from Taguchi et al. (2009) were used for the study. Sixty items were extracted from the combined item pool made available on Dornyei's website and measured on a five point *Likert Scale*. The instrument was organised around 7 subscales generally found in L2MSS frameworks. The 7 subscales were categorized as Motivated Learning (ML), Ideal L2 Self (IL2), Ought to L2 Self (OL2), Social Goals (SG), Mastery Goals (MG), Performance Goals (PG), and Attitudes Toward the L2 (Att). These factors were seen as key antecedents of the L2 motivational self-perceived future vision of the L2 learner; and motivated learning was the target variable.

The Ideal L2 Self (IL2S): The Ideal L2 Self-subscale comprised 8 items, but the stems were modified by adding in a *Malaysian university* to make the items suitable for situated learning. Islam, Lamb and Chambers (2013) found a close relationship between the learning environment and Asian learners' Ideal L2 Self.

The Ought to L2 Self (OL2): The perceived responsibilities subscale comprising 5 items, and referred to the less internalised aspect of the L2 self (e.g. duties, obligations and responsibilities) needed to avoid future negative outcomes (Csizer & Dornyei, 2005).

Social Goals (SG): This subscale comprised 7 items. This factor assumed a positive view of the language. Economic success was considered to be a powerful tool, and the students responded to the items (e.g. I think that English speaking countries play an important role globally).

Perceived autonomy: This was divided into two subscales. Four items were for mastery goals developed by Clement, Dornyei and Noels (1994), and Taguchi et. al. (2009), and four items for performance goals (Taguchi et. al., 2009). The students' responded to the items (e.g. "I have to learn English because it is compulsory to obtain my degree") for the performance goals, and (e.g. "Studying English is important for me to broaden my outlook of the world") for the mastery goals.

Perceived relatedness: This was measured using the subscales for attitude towards the language (6 items).

Two additional subscales were developed to investigate extrinsic and intrinsically motivated behaviour. Twelve items were selected from the existing items (e.g. attitude, OL2, and ML) for exploring: i) external regulation, ii) introjected regulation, and iii) identified regulation. An additional twelve items (e.g. IL2S, ML, MG, & PG) were combined for exploring intrinsic motivation. The latter include iv) knowledge, v) accomplishment, and vi) stimulation. Two additional components to investigate learning experience in terms of teacher support and classroom environment were selected as well. The means (standardised scores) for the items from each motivation category were computed to identify motivation regulation profiles, and the overall scores were used for the L2 motivation index. Positive scores (above +3) were treated as reflective of motivated behaviour, whereas lower scores (below 3) were reflective of lack of motivation.

2.3   Data analysis procedure

One-way multivariate analysis of variance was used to determine if there were any differences between the independent factors on the overall scores. Screening for univariate, multivariate, and outliers was conducted, and the internal consistency of reliability (Cronbach's alpha) was assessed for the construct as well. Descriptive statistics (e.g. means, and standard deviations), and bivariate correlations were calculated to provide a description of the sample. To identify motivation profiles, cluster analysis was conducted using four motivation components, namely the Motivated Learning Behaviour, the Ideal L2 learner, the Ought to L2 learner, and the Social Goals. Owing to the data-driven nature of the study, two approaches were used to assess the stability of the motivation profiles as described in the results section. We conducted a series of group difference analyses to test for profile differences to determine the utility of the motivation profiles. To determine if there were profile groups differences for the L2MSS, one-way ANOVA was conducted using the profile groups as the independent variable, and the learner's overall ratings for questionnaire (Motivation Index). This enables the analysis of the data to progress along a continuum. Next, one-way MANOVA was conducted using the main factors (i.e. Ideal L2 learner, Ought to L2 learner, and Social Goals) as the dependent

variables. A second one-way MANOVA was conducted using profile groups as the independent variable (i.e. external, introjected, and identified regulation), and constructs representing intrinsic motivation (i.e. knowledge, accomplishment, stimulation, teacher support, and classroom) as dependent variables. Significant multivariate effects were analysed further with the univariate tests, and the analysis was completed with SPSS 24.

3 Results

The mean, standard deviation, Cronbach's α, and the correlations among the seven factors of the study are reported in Table 1. The seven factors demonstrated good reliability (Cronbach α = .848–.644). While the data screening procedures did not identify any variables as non-normal (skewness/kurtosis > 2), there were no univariate outliers (z +3.0), and only three cases were identified as multivariate outliers (Mahalanobis D^2 meeting a $p < .001$ criterion).

Table 1. Correlation of main factors

	Factors	1	2	3	4	5	6	7
1	Motivated Learning	.79						
2	Ideal Learner self	.515**	.81					
3	Ought To L2 self	.272**	.368**	.64				
4	Social Goals	.408**	.602**	.619**	.85			
5	Mastery Goals	.403**	.496**	.488**	.672**	.72		
6	Performance Goals	.276**	.321**	.442**	.531**	.515**	.79	
7	Attitude to language	.400**	.332**	.239**	.307**	.327**	.249**	.76
	Possible range	1-5	1-5	1-5	1-5	1-5	1-5	1-5
	N	673	673	673	673	673	673	673
	M	4.04	4.18	3.71	4.11	3.93	3.93	3.99
	SD	0.54	0.59	0.78	0.65	0.72	0.78	0.81

Note: Alpha values on diagonal, correlation values below diagonal.
*$p<.05$ **$p<.01$(2 tailed). Correlations using pairwise deletion of missing data.

Since outliers tend to have significant impact on the results (Hair, Anderson, Tatham, & Black, 1998), subsequent analysis was conducted after excluding some of the outliers. However, the results were nearly similar with the cases reinstated to ensure the various groups in the sample were represented (Hair et. al., 1998; see Table 1). The bivariate correlations results were consistent, significant ($p < .05$) at $> .2$, and $< .5$), which is similar to other L2 motivation research.

3.1 Cluster analyses

Standardised scores for the seven factors (z scores) were used for the cluster analyses. A hierarchical cluster analyses were conducted using Ward's linkage method, and squared Euclidean distance as the similarity measure was first taken to obtain the most appropriate number of clusters represented in the data. Agglomeration coefficients from the hierarchical analysis were examined. The options explored included the two- to five-cluster solution. The five-cluster solution was selected, since it had a good sample representation (15–24%) in each profile. For descriptive purposes, the likelihood ratio chi-square analysis was conducted, and it was possible to confirm that the profiles did not have uneven representation of gender distribution, $x2(4) = 10.046$, $p > 0.05$, and separate ANOVAs for region, F (4,668) = 1.152, $p > .05$, and age F (4,668) = 1.063, $p > .05$. It was therefore possible to confirm no difference in terms of distribution of cluster membership based on gender, region, and age.

Table 2 reports the means, standard deviation, and z scores for each profile based on 4 main motivation factors. The labels are used to characterise the profiles in accordance to their counterparts, and do not necessarily correspond to high, and low levels of motivation regulation in absolute terms.

Fig. 1 represents each profile using standardised scores. The first profile was labeled as *high extrinsic regulation* (n = 189) since the means scores for the factors were above 4.4 for the main factors, and the mean scores for the Ought to L2 learner was 4.4. The second profile was labeled as *extrinsic regulation* (n = 133) since the ideal L2 learner self-image while the Ought to L2 learner were 4.3–3.6. The third profile was labeled as *amotivation* (n = 56) due to the lower mean scores (3.3–2.6) for the various components.

Table 2. Distribution of means, standard deviations and standardized scores for motivation profiles based on K-means analysis

Cluster									Ought To L2 Learner					
		Motivated Learning				**Ideal Learner**						**Social Goals**		
	N	M	(SD)	Z	M	(SD)	Z	M	(SD)	Z	M	(SD)	Z	
High extrinsic regulation	189	+4.5	(.31)	.875	+4.6	(.36)	.702	4.4	.(48)	.903	+4.7	(.29)	.937	
Extrinsic regulation	133	3.6	(.36)	-.802	+4.3	(.31)	.236	3.9	(.52)	.315	4.3	(.36)	.430	
Amotiva-tion	56	3.3	(.47)	-1.324	3.1	(.52)	-1.840	2.6	(.53)	-1.151	2.9	(.45)	-1.735	
Intrinsic regulation	151	3.85	(.36)	-.337	3.6	(.33)	-.823	3.6	(.48)	-.026	3.7	(.38)	-.524	
High intrinsic regulation	144	+4.29	(.36)	.461	+4.4	(.35)	.439	2.9	(.52)	-1.001	3.8	(.49)	-.402	

The fourth profile was *intrinsic regulation* (n = 151) characterised by relatively stable levels of scores for all four factors for Ought to L2 learners (3.6–3.85). The fifth profile was labeled high *intrinsic regulation* (n = 141) due to high mean scores for Motivated Learning and Ideal L2 Self (4.4 and 4.29). In addition, the lower mean scores for Ought to L2 learner (2.9) and Social Goals (3.8) suggest the likelihood of students being independent, and less concerned over inter group identities, and parental wants.
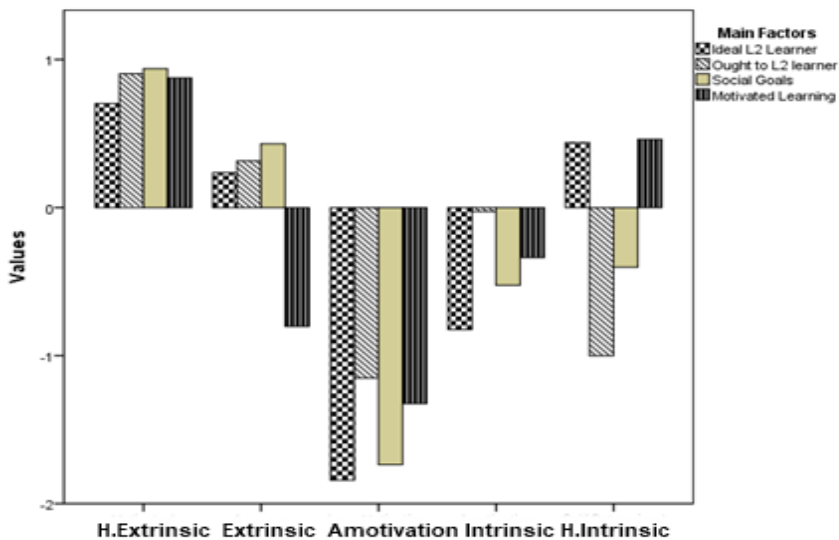

Fig. 1. Results of K-means cluster analysis (N = 673)

3.2   Group difference analyses

One-way ANOVA with the overall scores (MI) as the dependent variable was significant, $F_{(4,668)} = 368.87$, $p < .001$, $\eta p^2 = .78$. Post hoc comparisons using Tukey HSD test means indicated the mean scores for three profiles to be significantly different. However, the high intrinsic regulation profile ($M = 196.81$, $SD = 15.18$) did not significantly differ from the extrinsic regulation (see Table 3).

Table 3. Means and standard deviation for motivated learning behaviour based on profiles (N = 673)

	Cluster	N	Mean	SD	Min	Max
1	High Extrinsic	189	223.31	*13.23*	182	250
2	Extrinsic	133	198.32	*11.68*	*167	**230**
3	Amotivation	56	151.93	*16.52*	115	176
4	Intrinsic	151	184.85	*12.01*	152	217
5	High Intrinsic	144	196.81	*15.18*	*164	**231**

Very High (300-261), High (260-211), Average (210-171), Medium (170-131), Low (< 130)
*almost similar profiles

One-way MANOVA for learner scores for life-long learning, in group support, and grades were significant (Pillai's trace = .087, $F_{(4, 2004)} = 4.991$, $p < .005$, partial $\eta p^2 = .29$). The follow-up univariate analysis indicates that the group profiles had a significant effect on lifelong learning skills at $F_{(4,668)} = 205.96$, $p < .0005$; partial $\eta p^2 = .55$), and grades at $F_{(4,668)} = 48.413$, $p < .005$; partial $\eta p^2 = .22$ (see Table 4). In terms of multiple comparisons, the mean scores for lifelong learning were statistically significant for all profiles. However, the mean grades scores were not statistically significant for the self-determined profile and amotivation profiles ($p = 0.12$ and $p = 1.0$), and the z-scores were below average. Figure 2 contains the graphic representation.
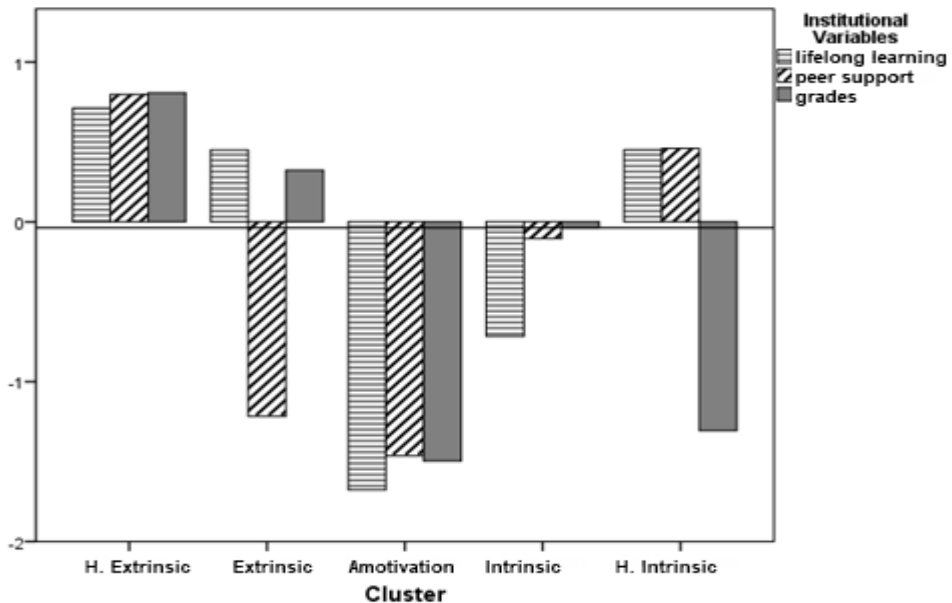

Fig. 2. Profile differences for extrinsic regulations identified from the MANOVA analyses using standardised scores (horizontal line denotes median)

Table 4. Univariate F, effect size, and profile means, standardised deviations and standardised scores for the extrinsic variables

			Motivation Profiles									
			High Extrinsic (n=189)		Extrinsic (n=133)		Amotivation (n=56)		Intrinsic (n=151)		H. Intrinsic (n=144)	
Variable	F(4,668)	Ŋp²	M(SD)	Z	M(SD)	Z	M(SD)	Z	M(SD)	Z	M(SD)	Z
Lifelong Learning	205.96**	0.55	27.39(2.26)	.71	25.18(2.11)	0.44	18.61(3.61)	-1.67	22.36(2.06)	-0.71	26.16(2.38)	-.45
Grades	48.41**	0.81	17.87(2.49)	.81	16.39(2.91)	.32	12.75(3.02)	-1.46	15.21(2.32)	-.03	15.20(3.16)	-1.3
Peer Support	39.89**	0.19	21.76(3.08)	.79	19.39(3.38)	-1.21	16.39(3.74)	-1.46	20.81(3.10)	-.10	20.06(3.47)	1.45

Note: **$p<.01$; Cluster differences ($p < .05$) based on pairwise comparison of estimated marginal means. Analysis are based on participants with complete data ($n = 673$)

Table 5. Univariate F, effect size and profile means, standard deviation and standardised scores for intrinsic variables

			Motivation Profiles									
			High Extrinsic (n=189)		Extrinsic (n=133)		Amotivation (n=56)		Intrinsic (n=151)		High Intrinsic (n=144)	
Component	F(4,668)	Ŋp²	M(SD)	Z	M(SD)	Z	M(SD)	Z	M(SD)	Z	M(SD)	Z
Knowledge	158.88**	0.43	23.59 (1.5)	-1.99	21.23 (2.3)	-.87	16.61(3.7)	.42	20.27 (2.3)	.25	21.56 (2.9)	.60
Accomplishment	97.48**	0.63	23.01 (1.8)	-1.94	21.47 (2.2)	-.43	14.73 (2.7)	.60	18.65 (2.1)	-.67	19.53 (2.7)	.74
Stimulation	93.85**	0.31	20.62 (3.2)	-1.26	18.02 (3.5)	-.20	13.96 (3.1)	-.10	16.85 (3.1)	-.76	16.58 (3.4)	.86
Learning style	128.61**	0.52	20.14 (4.2)	-1.02	17.57 (3.7)	-.41	15.11(3.3)	-1.11	17.57 (3.3)	.36	19.38 (3.7)	.80
Uni environ.	10.73**	0.34	23.47 (1.7)	-2.07	21.48 (1.7)	-.54	16.05 (2.6)	.34	19.92 (2.1)	-.29	21.01 (2.3)	.76

Note: ** $p <. 01$

Cluster differences ($p <. 05$) based on pairwise comparison of estimated marginal means. Analysis are based on participants with complete data ($n = 673$)

One-way MANOVA for learner scores for integrative consequence in terms of knowledge, accomplishment, stimulation, teaching style, and nurturing environment were significant (Pillai's trace = .058, $F_{(20,2668)}$ = 4.991, p < .005, partial ηp^2 = .45). A follow-up univariate analysis indicated that the group profiles had a significant effect on knowledge at $F_{(4,668)}$ = 2.299, p <. 0005; partial ηp^2 = .42), accomplishment at $F_{(4,668)}$ = 2.08, stimulation at $F_{(4,668)}$ = 1.22; partial ηp^2 = .26; learning style, and caring environment at $F_{(4,668)}$ = 1.01; partial ηp^2 = .49 (see Table 4). In terms of multiple comparisons, the mean scores for stimulation was not statistically significant for the amotivation, and intrinsic profiles at (p = 0.67) and (p = .97). Figure 3 contains the graphic representation.
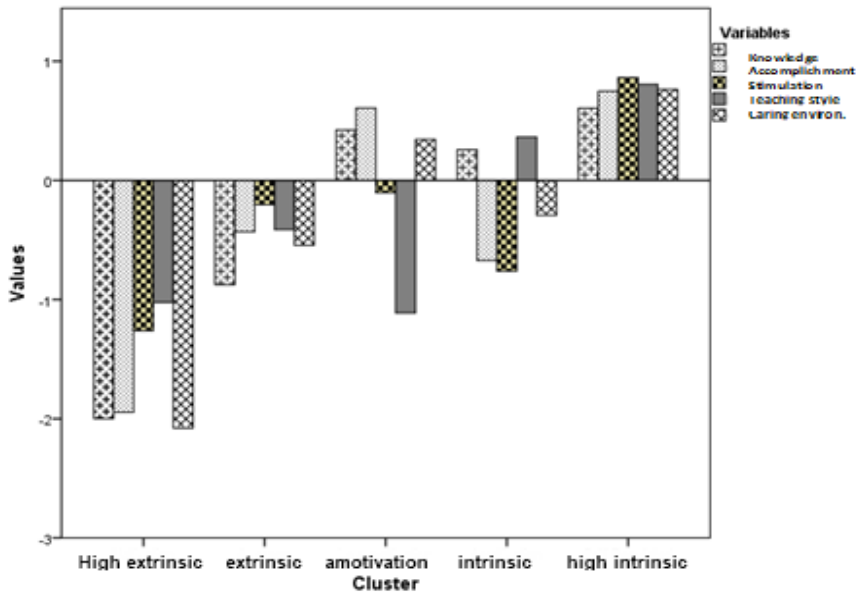

Fig. 3. Profile difference identified from the MANOVA analyses using standardised scores for curriculum and instructor variables (horizontal line denotes median).

The extrinsically motivated groups perceived almost all the dependent variables associated with language negatively, while the amotivated group perceived both stimulation and teaching styles negatively. In contrast, the highly intrinsic groups rated all variables positively.

4 Discussion

Despite the fact that the ideal L2 learner factor, though positively positioned, were quite low for the highly intrinsically motivated group compared to the highly extrinsically motivated groups (+4.4 vs. +4.6), the results of the externally regulated variables, and intrinsically regulated variables confirmed that highly intrinsically motivated behaviour contributed to self-concept beliefs including self-confidence, self-competence, and self-worth.

4.1 *Main factors affecting language learning*

The main factors influencing learning outcomes for both the intrinsic and highly extrinsic group profiles were the ideal L2 learner and motivated learning behaviour. While the mean differences for motivated learning were higher for the highly extrinsically motivated group compared to all other groups, the differences were not significant. It was obvious that Social Goals and Ought to L2 Self factors play a stronger role for the extroverted learner in this study. Nevertheless, motivation research have generally found extroverted learners as having an advantage when the criterion measure happens

to be "natural communicative language" (Ellis, 2011). The mean scores for highly extrinsic and extrinsic group were strong and positive compared to the highly intrinsic group. The intrinsically motivated learners appeared less dependent on social groups resulting in them placing more effort in the classroom factors. This helps to explain the positive positioning of classroom factors by the intrinsic and highly intrinsic groups. The amotivation profile suggests negative positioning for almost all the factors. It is possible that this cluster did not have a pleasing experience in the classroom, or were not competent enough to participate in the class activities. MacIntyre and Blackie (2012) suggest that L2 learning efforts that revolve around communicative activities, which exclude hesitant learners, can discourage learners from investing in the process.

4.2   Externally motivated variables

The findings on causal attributes and classroom factors can be explored in terms of causal attributions of past successes, and failures (i.e. inferences about the reasons of the outcomes), which have behavioural consequences for future self-guides. As mentioned by Dornyei and Otto (1998), a L2 learner's self-concept and beliefs, including one's established level of self-confidence, self-competence, and self-worth influence post-actional evaluations. Learners with high self-perceptions are more likely to heighten and sustain effort in the face of failure while mobilizing new strategies. Internally motivated individuals tend to perceive a direct link between their ability and classroom reinforcement; these individuals are not dependent on authority or social groups (see Table 6). This would explain the increase in positive positioning of classroom attributes for the intrinsic and highly intrinsic groups. Their intrinsic cluster can be reflective of self-determined learners who are field independent, thus, viewing the classroom as purposeful. Externally motivated learners meanwhile tend to rely on external attributions. The latter group can acquire 'learned helplessness' over time, which refers to an acquired resigned state that friends and people of authority will help or hinder in their learning ability (including task difficulty, luck, mood, and resources). There were similarities between the intrinsically regulated cluster and the amotivated cluster. Learners' positioning of their selves will influence their learning, or they can be influenced by the social context in which they exist. Positive positioning in the language classroom such as viewing the knowledge and the teaching style as useful can help build confidence in using the language, and provide agency leading to active participation in the learning process (Norton & Gao, 2008). As for the amotivated group, lack of self-confidence, marginalisation and poor strategies could have contributed to their negative positioning for almost all the variables.

4.2.1   Positioning

In the study, the highly extrinsic learner, extrinsic learner, and highly intrinsic learner groups were motivated to learn further, and enroll for similar language courses in the near future, while the amotivation group and the intrinsic group rated lifelong learning negatively. These results highlight two seemingly contradictory characteristics of science majors learning English in a Malaysian university setting reflecting Norton's (2016) concept of social inclusion and exclusion. As proficient English language learners aim to graduate from science programs, the highly extrinsically motivated and highly intrinsically motivated groups were confident in using English. This enabled them to participate actively in their learning. They took pride in their multilingual competence, and saw value in using their cultural and linguistic knowledge in their community; therefore, they are willing to invest in the language in future. As mentioned by Lee (2008), positive positioning in the L2 community inspires English language learners to draw on their L1 identity, and negotiate other desirable identities (Lee, 2008). The negative positioning of the intrinsic, and amotivated groups could be due to the positioning of themselves as marginalised members with limited interaction skills, which resulted in them being labeled as less competent members. The exception is the intrinsic group, which rated both knowledge and teaching style positively, but viewed stimulation and the university learning environment negatively. This is unlike the amotivated group, which rated knowledge, stimulation, and university environment positively, but viewed the teaching style and stimulation negatively. In this setting, the power distance and social context of the university environment could have contributed to

their resistance to invest in the language in future. Forbidding the use of the learners' first language to chat with one another could have contributed to the learners feeling that their first language and cultural backgrounds were being held against them. This could have resulted in the group remaining silent, and being disinterested in developing their language further. These findings are in alignment with Gu's (2010) observation that L2 learners will be willing to invest in the language when they have more to gain. The findings support Morita's (2004) perspective that when L2 learners feel that others are imposing certain undesirable identities on them, they may not develop positive positioning at many levels.

Self-confidence, self-competence, and self-worth in different domains can also influence learners' post-action results. The highly extrinsic and highly intrinsic groups rated their peer support positively, indicating that they were more comfortable with their social standing compared to all other groups. The other significant finding from this study is that grades appear to be a strong motive for the extrinsically motivated group. The results coincide with Khany and Amiri's (2018) view that obsession with good grades, previous learning failures, and fear of repeating can deter learners from focusing or engaging in the instructional environment. These students may resort to short cuts, or fall back on authorities to help them in the event of a failure. In the worst scenario, it may hinder further learning efforts that learners plan to devote in future.

Table 6: Positioning and investment in the Malaysian L2 university classroom

	Highly extrinsic	Extrinsic	Amotivation	Intrinsic	Highly intrinsic
L2 Components					
Ideal L2 learner	+	+	-	-	+
Ought To L2 learner	+	+	-	-	-
Social goals	+	+	-	-	-
Motivated learning	+	-	-	-	+
Antecedent behaviour					
Lifelong learning	+	+	-	-	+
Peer support	+	-	-	-	+
Grades	+	+	-	-	-
Causal attributes					
Knowledge	-	-	+	+	+
Accomplishment	-	-	+	-	+
Stimulation	-	-	-	-	+
Teaching style	-	-	-	+	+
University environment	-	-	-	-	+

4.2.2 Investing

As mentioned by Brophy (2005), failure ascribed to stable and uncontrollable factors such as low ability can hinder future achievement behaviour more than failure ascribed to unstable but controllable factor such as effort. Poor learners seldom spontaneously attribute their failures to insufficient effort, but often attribute them to insufficient information or strategy knowledge (Brophy, 2005, p. 168). These students are putting in effort, but their efforts are not paying off, because they lack key knowledge on how to overcome their limitations, or they are relying on ineffective strategies (e.g. parents and friends) to address the task. In line with these arguments, the extrinsically regulated learners in this study were negatively impressed with the classroom outcomes (see Table 6). It is possible that being better language learners, and extroverted learners, the learning process was not challenging or engaging. The amotivation group, being more introverted, probably valued the knowledge, accomplishment process, and university environment positively. Instead of increasing student's workload, or questioning their efforts, which would further depress struggling students, instructors can focus on attributions to insufficient information or strategy knowledge (Robertson, 2000).

4.2.3 *Internally motivated behavior*

With reference to the relationship between the various dependent variables in class, knowledge, accomplishment, stimulation, teacher style, and classroom environment, it is possible to refer to two significant but weak pieces of data derived from the graphic representation. The degree of positive positioning for the intrinsically motivated group is highly obvious compared to the highly extrinsic group with low positioning for the various variables. It is possible that the extrinsically motivated group resorted to short cuts in the process of acquiring knowledge, and adopted shallow practices to complete their task given that their social goals and group support were high. Learners who have problems in maintaining their focus, or are unable to demonstrate consistency tend to alternate between several actions (Jaramillo, Locanter, Spector, & Harris, 2007). It is possible that the learners, in their rush to obtain As, lessen the difference between the Ideal L2 Self and their actual self in similar fashion as observed by the Iranian researchers, Khany and Amiri (2018). This overlap helps to explain the picture that the extrinsically regulated group had of themselves as the ideal L2 learners, and the conditions of the learning environment, loss in sense of accomplishment, stimulation, and knowledge.

There were five learner profile groups with near equal representation for all profiles except the low motivation group. However, upon closer examination of the overall scores, it became clear that students were not extremely motivated to take English language courses, but there was some level of interest and general motivation due to grades, national interest, and the university course. There were similarities between the various L2 learner groups, except for the amotivated group. It was difficult to explain the features of the amotivation profile, since their scores fell between both the average and low motivation category. The low motivation student had the lowest scores suggesting the possibility of students dropping classes, not completing their assignments, or falling out. Overall, the profiling as tested out within the Malaysian university context has corroborated the findings found in previous L2 motivation studies that explored the motives for learner taking English courses in the Asian context (Gan, 2007). English language learners invest in learning English further, because they believe English as a linguistic capital that entails more social, cultural, and symbolic capital, thus, developing positive positioning, while others resist when they find classroom instruction as not contributing to negotiating, thus, failing to develop positive positioning. As for the proficient learners, given that English courses are easier to pass compared to their science courses, grades appear to be an important motivation factor.

5 Conclusion

This study has shown that while the integrative factor and ideal L2 learner component serve as the primary factors motivating learners, the learners can be divided into intrinsically and extrinsically motivated learners, and sometimes amotivation. In addition, within these different L2 communities are smaller numbers of distinct subcommunities who share similar cognitive and motivational patterns but perform differently on a given criterion. These smaller subcommunities' needs cannot be overlooked. Cluster analysis is useful as it enables researchers to determine individual differences in terms of learner types and learning outcomes. The present study has highlighted the challenges faced by language instructors in terms of interpreting the motivational flux of the L2 learners. The ideal learner may not always perceive the course to be meaningful, and may be motivated by external regulations such as grades and social goals. Similarly, amotivation might not be a static construal, and with the right integrative attributes and encouragement, learners may find the course interesting when their self-worth, and self-confidence is reinstated. In assisting the struggling learners to stay on track and view the course as interesting (Reeve, 2006), the instructors need to provide emotional support through relevant opportunities and empowerment, and help the learners use their existing knowledge to develop their language skills. Such integrative attributes may contribute to good learners seeing beyond grades and authority, and become lifelong learners. The study has provided an alternative perspective to the multidimensional nature of L2 motivation in Malaysian university classrooms, and explored the factors and perceptions that promote, and hinder, successful learning outcomes in the

university language classrooms. Our findings confirmed that motivation profiles may provide unique insights that cannot be gleaned from extensive interpretations of different types of regulations using unified motivation model.

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