ETHNICITY PERCEPTION ON SELF-EFFICACY, SELF-EFFICACY ENCOURAGEMENT, ACHIEVEMENT MOTIVATION AND SELF-LEARNING STRATEGIES

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Abstract: This paper examines ethnicity perception on self-efficacy, self-efficacy encouragement, achievement motivation, and learning strategies of UKM undergraduate students. *The Factor Analysis and Confirmatory Factor Analysis were used to validate all instruments and* to establish model fit of the research. At the same time, *ANOVA was used to answer* the following research Question: Is there any significant difference between the self-efficacy beliefs, self-efficacy encouragement, achievement motivation, and self learning strategies according to ethnicity of the UKM undergraduate students? *The PCA results show* that the research instruments were statistically established. The results of CFA's fit indices suggested that the collected data persistently fits the separated hypothesized models of self-efficacy, self-efficacy encouragement, achievement motivation, and learning strategies of UKM undergraduate students. The combined hypothesized model was significantly correlated. Additionally, the *result of ANOVA shows* that there were significant differences between ethnicity of respondents and their self-efficacy beliefs, self-efficacy encouragement, the achievement motivation, and the self learning strategies.

Keywords: achievement motivation, ethnicity, self-efficacy beliefs, self-efficacy encouragement, self learning strategies

I. INTRODUCTION

This article presents undergraduate students' ethnicity perception towards self-efficacy, self-efficacy encouragement, achievement motivation, and self-learning strategies.

Related literature review
It is common for the researchers of efficacy, achievement motivation, and self-learning strategies to investigate gender differences and view of them take ethnicity into consideration. Also, research findings on gender differences in the above three components are not stabled. For example, some results yield no gender differences. some showed slight difference in favoring girls, while others reported high differences for boys [15], [16], [11], [19], [7].

Traditionally, people do believe that White Americans are more confident of their academic ability than African Americans. Nevertheless, there is no sufficient support to show that African American students are associated with low perception of efficiency when compared to White American, even with social, political, and economical suppression towards African Americans they frequently uphold and enjoy a common sense of hope and competency [9]. Further, literature found that African Americans' sources of self-efficacy information are related to greater access to past performance accomplishments and social persuasion than Asian Americans [1]. Some researchers [12] found that a sense of efficacy among African American Youths was related to academic self-efficacy rather than self-esteem. The findings suggest that highlighting the importance of education may lead to improvements of efficacy beliefs among African American Youths.

Furthermore, other research [21] assessed self-efficacy and motivational orientation among Hispanic and Caucasian students to predict their mathematics achievements, and their ' plans to take additional mathematics courses. Path models confirmed Bandura's theory that self-efficacy predicts motivational orientation and mathematical performance, also, it was found that Hispanic students were significantly less confidence in their ability to use their skills and knowledge to complete mathematics problems effectively when compared to

Caucasian students and also that prior mathematics accomplishment had a stronger affect on Hispanic students than on Caucasian students. A study [18] investigated whether English language performance of 1,146 students from eight secondary schools in the Petaling district, Selangor is determined by their English language efficacy. The majority of students (51%) indicated high self efficacy while 48% showed low self efficacy. Significant differences between the ethnic groups was found, higher academic self efficacy was reported for Indians than the Malays and Chinese. However, the researchers concluded that students' English academic achievement will improve when their language self efficacy increased. Another study [8] examined the impact of sensation seeking and cultural orientation on the effects of fear appeal messages in four countries, namely, Malaysia, Singapore, U.S. and England. The finding reported that the collectivistic participants had greater increase in posttest scores for perceived severity, perceived response efficacy, perceived self-efficacy, and knowledge about gonorrhea than individualistic participants. It was also reported that personal involvement with the topic were found to have moderated the outcomes of the fear appeal messages.

II. METHOD

The researcher used three different questionnaires for data collection namely, Motivated Strategies for Learning Questionnaire (MSLQ) by Pintrich and others [17], Achievement Goal Questionnaire (AGQ) developed by Smith [20], and self-efficacy encouragement questionnaire (SEEQ) developed by the researcher [14]. The self efficacy construct included 3 sub-scales: control self-efficacy, performance learning efficacy, and self efficacy encouragement. The achievement motivation construct contained 3 sub-scales namely; mastery goals, performance goals, and avoidance goals. The learning strategies construct comprise 6 sub-scales: rehearsal strategies, elaboration strategies, organizational strategies, metacognitive self-regulation strategies, time and study environment management strategies, and help seeking regulation strategies. Three hundred respondents from the Universiti Kebangsaan Malaysia (National University of Malaysia) participated in this study. All of respondents were Malaysians 300 (100%). The respondents were from three different ethnic groups, Firstly, Malay 169 (56.3%), secondly, Chinese 100 (33.3%), and thirdly, Indian 31 (10.3%). Confirmatory Factor Analysis (CFA) was used to validate all instruments and to establish model fit of the research. At the same time, *ANOVA* was applied to answer the following research Question: Is there

any significant difference between the self-efficacy beliefs, self-efficacy encouragement, achievement motivation, and self learning strategies according to ethnicity of the UKM undergraduate students? Findings of the study were stated bellow:

i) *Separated model fit of the study*

In order to obtain more reliable model fit, the researcher examined the proposed measurement models separately using Confirmatory Factor Analysis before they were incorporated into a joint model [15]. The following omnibus fit indices were used to estimate CFA parameters: the root mean square error of approximation (RMSEA) value of .05 to .08, the less the better, the CMIN/DF (chi-square degrees of freedom) of 5. or bellow, the Tucker-Lewis Index (TLI) of .9 or greater, the comparative fit index (CFI) of .9 or greater than, the adjusted goodness-of-fit (AGFI) of .9 or above, the root mean residual (RMR) of less than .05, the goodness-of-fit index (GFI) of .9 or larger, the Hoelter' s critical number (CN) of 200 or greater. The Hoelter's .05 and .01 indexes were purposely and directly designed to estimate adequate or sufficient sample size for the model fit rather than focusing on model fit [5]. The above statistical requirements were considered as indicatives that the models "fit the input data well" [17], [3]. Adequately, result of each separated measurement model met the above mentioned benchmark. For example, the CFA's fit estimations testified that the 300 participants' data fit the achievement motivation hypothesized model (11 items). The minimum overall model fit was achieved. The chi-square value was 1.636, degrees of freedom was 39, and probability of $p \leq 0.007$. Due to sensitivity of the likelihood chi-square, other statistical fits were checked, findings indicated that the model is adequately estimated; the root mean residual (RMR) .046, the Hoelter critical number (CN .05) 196, Hoelter critical number (CN.01) 224, the root mean square error of approximation (RMSEA) .046, the goodness-of-fit index (GFI) .95, the adjusted goodness-of-fit (AGFI) .91, the Tucker-Lewis Index (TLI) .95, and the comparative fit index (CFI) .96.

ii) *Combined model fit of the study*

The CFA statistical good fit results of the above separate and evaluated models to be combined. Also, the confirmatory factor analysis method was used to explore good fit of the combined hypothesized model, namely, the self-efficacy beliefs (2 indicators), the self-efficacy encouragement (1 indicator), the achievement motivation (3 indicators), and the learning strategies (6 indicators). According to figure 1, the covariance between indicators of the achievement motivation and the learning strategies were the highest .84 followed by the covariance

between the achievement motivation and the learning strategies .82 while the covariance between the self-efficacy beliefs and the achievement motivation

indicators was 80. The results of CFA's fit indices suggested that the collected data fits the combined hypothesized model.

FIGURE I:
COMBINED HYPOTHESIZED MODEL OF THE STUDY

CIMNDF	1.880
AGFI	.926
GFI	.955
CFI	.974
TLI	.964
RMR	.035
RMSEA	.054
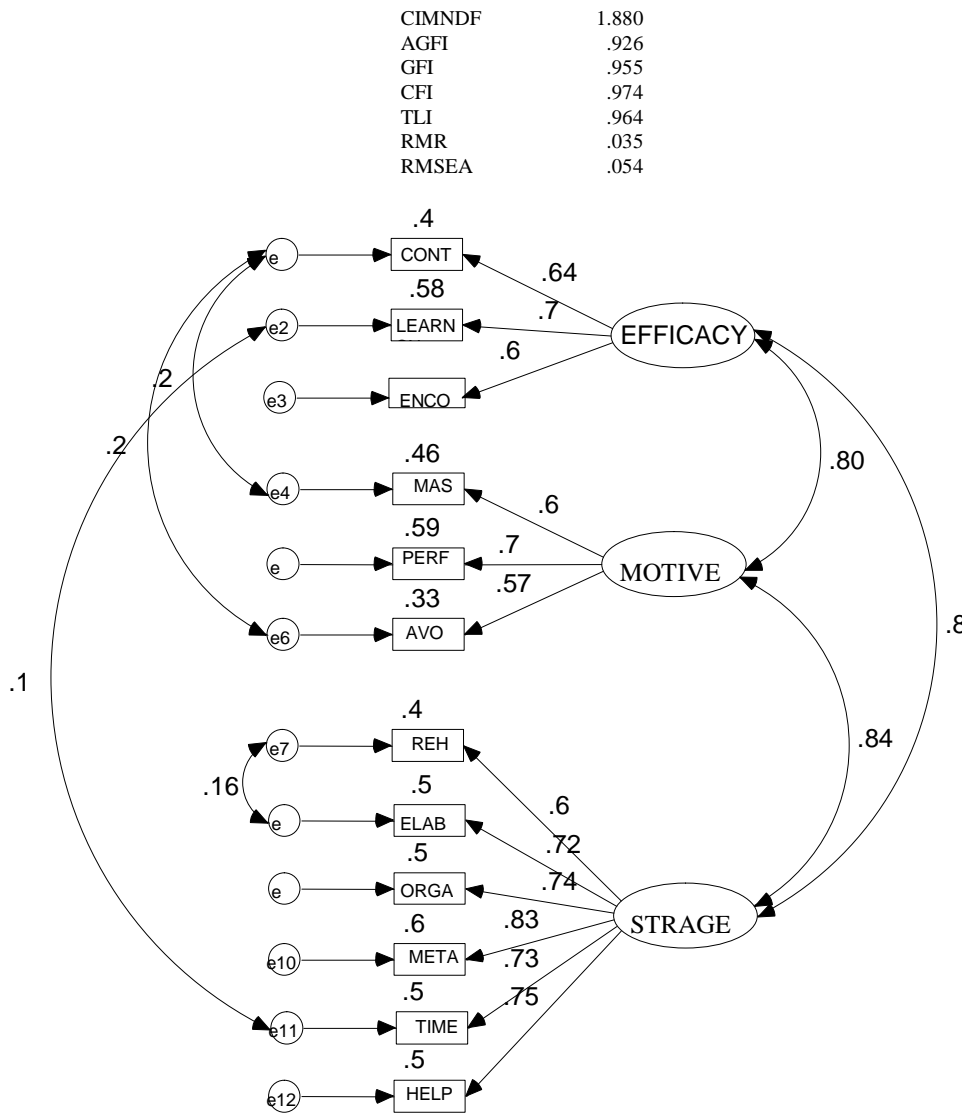
Note. Keywords: efficacy= self-efficacy, motive= achievement motivation, and strage= self-regulation learning strategies.

Table 1 demonstrated that the ration of CIMN value was less than 5 while the degrees of freedom was 47, and with probability of p≤0.001. In addition, the root mean residual (RMR) .035, the root mean square error of approximation (RMSEA) .054, the goodness-of-fit index (GFI) .95, the adjusted goodness-of-fit (AGFI) .92, and the comparative fit index (CFI) .95.

Results of the standardized regression indicators were also statistically significant at 0.001 proving the combined hypothesized model to be valid and reliable.

TABLE I:
COMBINED HYPOTHESIZED MODEL FIT INDICES

CIMN	DF	P	GFI	AGFI	CFI	RMR	RMSEA	CN
1.880	47	0.001	.955	.926	.974	.035	.054	217
								&
								246

Respondents' perception on **self-efficacy according to ethnicity**

A One-way ANOVA statistical technique was used to examine the respondents' self-efficacy perception differences based on *ethnicity*. Table 2 shows that there were statistically significant differences between ethnic of the respondents and their control learning efficacy and self-efficacy encouragement. The results indicate (F= 18.5, $p \leq$ .001) for learning self-efficacy and (F= 13.12 $p \leq$ .001) for self-efficacy encouragement. The results also show that there was a statistical significant difference between ethnic of respondents and their control self-efficacy (F= 5.01, $p \leq$ .007). Tukey's HSD Multiple Comparisons' results indicated that Malay and Chinese respondents have a significant and higher perception of control self-efficacy, learning self-efficacy, and self-efficacy encouragement than Indian respondents. Regarding learning self-efficacy perception, (mean= .505, $p \leq$ .001), was found for Malay respondents and (mean= .505, $p \leq$ .001) for Chinese respondents. Also, (mean= -.454, $p \leq$ .001) was found for Malay respondents and (mean= .454, $p \leq$ .001) was found for Chinese respondents on self-efficacy encouragement. Although the mean (mean= -.458, $p \leq$ .007) of Indian respondents on self-efficacy encouragement also considered high and significant.

TABLE II:
SELF-EFFICACY ACCORDING TO ETHNICITY

Self-efficacy		Sum of Squares	Mean Square	F	Sig.
Control	Between Groups	6.314	3.15	5.01	.007
	Within Groups	186.898	.629		
Learn	Between Groups	16.078	8.03	18.54	.000
	Within Groups	128.775	.434		
Encour.	Between Groups	13.802	6.90	13.12	.000
	Within Groups	156.198	.526		

n=300
note. keywords: control= control of learning belief, learn= self-efficacy for learning and performance, and *encour*= self-efficacy encouragement.

Respondents' perception on achievement motivation according to ethnicity

Table 3 demonstrated that there were statistically significant differences between the achievement motivation and ethnicity of the respondents. The results show (F= 8.16, $p \leq$ .001) for mastery goals, (F= 20.8, $p \leq$ .001) for performance goals, and (F= 3.77, $p \leq$ .024) for avoidance goals. The statistical method of Tukey HSD Multiple Comparisons shows that there was a statistical significant difference between the achievement motivation and ethnicity. Malay and Chinese ethnics have recorded higher significant perception on mastery goal than Indian ethnic. Precisely, (mean= -.381, $p \leq$ .001), was found for Malay ethnic and (mean= .381, $p \leq$ .001) for Chinese ethnic while it indicates no statistical significant difference (mean= .091, $p \geq$ .807) for Indian ethnic. Further, Tukey HSD Multiple Comparisons results yield a statistical significant difference between Malay, Chinese, and Indian ethnics on the performance goals. Accordingly, (mean= -.618, $p \leq$ .001), was found for Malay ethnic and (mean= .618, $p \leq$ .001) for Chinese ethnic, and (mean= -.597, $p \leq$ .001) was indicated for Indian ethnic. Finally, the table indicates that there was a statistical significant difference between Malay, Chinese, and Indian ethnics on the avoidance goal.

TABLE III:
ACHIEVEMENT MOTIVATION ACCORDING TO ETHNICITY

Achieve		Sum of Squares	Mean Square	F	Sig.
MAS	Between Groups	9.223	4.61	8.16	.000
	Within Groups	167.726	.565		
PERF	Between Groups	25.226	12.61	20.82	.000
	Within Groups	179.921	.606		
AVOID	Between Groups	5.040	2.52	3.77	.024
	Within Groups	198.108	.667		

n=300
Note. Keywords: achieve= achievement motivation, mas= mastery goals, avoid= avoidance goals, and perf= performance goals.

Respondents' perception on learning strategies according to ethnicity

The One-way ANOVA was used to explore the difference between respondents' ethnicity and their learning strategies. According table 4, there were statistically significant differences between ethnicity and learning strategies, (F= 9.22, $p \leq$ .001) for rehearsal learning strategies, (F= 9.50, $p \leq$ .001) for elaboration learning strategies, (F= 5.14, $p \leq$ .006) for organization learning strategies, (F= 10.4, $p \leq$ .001) for metacognitive self-regulation strategies, and (F= 8.21, $p \leq$ .001) for time and study environment. The

analysis also shows that there was a significant difference between ethnicity and the help seeking learning strategies (F= 4.08, $p \leq$ .018). Consulting Tukey HSD Multiple Comparisons method shows that there were statistical significant differences between ethnicity of respondents and their learning strategies. Malay, Chinese and Indian respondents had a significant perception of rehearsal, elaboration, and time of study learning strategies. Regarding rehearsal learning strategy, (mean= -.363, $p \leq$ .001) was recorded for Malay ethnic respondents, (mean= .363, $p \leq$ .001) for Chinese, and (mean= .375, $p \leq$ .025) for Indian ethnic group. On elaboration learning strategies, (mean= -.359, $p \leq$ .001) was demonstrated for Malay ethnic group, (mean= .359, $p \leq$ .001) for Chinese ethnic group, and (mean= .360, $p \leq$ .026) for Indian ethnic group. The result of Tukey's HSD Multiple Comparisons also shows (mean= -.3059, $p \leq$ .001) for Malay respondents, (mean= .305, $p \leq$ .001) for Chinese, and (mean= .340, $p \leq$ .026) for Indians on time and study environment learning strategies. The finding also indicated that Malay and Chinese had a significant perception on organization and metacognitive self-regulation strategies as compared to the selected Indian ethnic group. Finally, Tukey HSD Multiple Comparisons shows that there was a statistically significant difference between Malay and Chinese ethnic groups and their help seeking learning strategies.

I. DISCUSSION AND CONCLUSION

Confirmatory Factor Analysis results demonstrated satisfactory statistical model fits for the combined measurement models. It shows acceptable goodness-of-fit for the correlations between the models of self-efficacy beliefs, the achievement motivation, and the learning strategies. The existing literature emphasized on observable relationship between self-efficacy beliefs, the achievement motivation, and the learning strategies [4], [2], [6]. The relationship between the above research components influenced self-regulatory mechanisms and complex decision making of business graduate students [23].

According to One-way ANOVA statistical result, there were statistically significant differences between ethnicity of the respondents and their self-efficacy control, learning self-efficacy, and self-efficacy encouragement. Generally, it was observed that the most tough and significant differences were between learning self-efficacy, self-efficacy encouragement and ethnicity. This finding is related to what is been found about African American youth sense of efficacy [23]. Also, it confirmed a search reports about Hispanic and Caucasian students' self efficacy [24]. The Tukey's HSD Multiple Comparisons' results individually explained the above One way

findings that Malay and Chinese respondents have a significant and higher perception on self-efficacy control and learning self-efficacy than Indian ethnic respondents, though a significant and observed difference was found for all three ethnics on self-efficacy encouragement dimension suggesting that the participants received remarkable self-efficacy encouragement from their respective lecturers. In line with this finding, a mediational role of Self efficacy on some Malaysian women professors was reported [13]. Similarly, a study found high relationship between eight Malaysian universities grades in Web-based and self-efficacy [22].

TABLE IV:
LEARNING STRATEGIES ACCORDING TO ETHINICITY

LEST		Sum of Squares	Mean Square	F	Sig.
REH	Between Groups	9.892	4.94	9.22	.000
	Within Groups	159.285	.536		
ELA	Between Groups	9.534	4.76	9.50	.000
	Within Groups	148.987	.502		
ORG	Between Groups	5.770	2.88	5.14	.006
	Within Groups	166.417	.560		
MET	Between Groups	8.875	4.43	10.43	.000
	Within Groups	126.336	.425		
TIM	Between Groups	7.304	3.65	8.21	.000
	Within Groups	131.975	.444		
HE	Between Groups	4.344	2.17	4.08	.018
	Within Groups	157.917	.532		

n=300

Note. Keywords: learn= learning strategies *reh= rehearsal, lest= elaboration, org= organization, met= metacognitive self-regulation strategies,* tim= time and study environment, he=help seeking.

Generally, it was observed from One-way ANOVA's results that statistically significant differences existed between the ethnicity of the respondents and their achievement goals. According to Tukey's HSD

Multiple Comparisons results, it seems that Malay and Chinese respondents obtained higher significant perception on mastery goal than Indian respondents while Malay, Chinese, and Indian respondents enjoyed statistical significance differences on performance goals. This finding could be justified that each ethnic may perhaps want to show their learning superiority or incomparability to others thus leads them to adopt performance goals. According to the result, there was no statistically significant difference between Malay, Chinese, and Indian respondents on the avoidance goal, which means they are not avoidance goal learners. Regarding learning strategies, there were statistically significant differences between ethnicity and learning strategies, namely, rehearsal strategies, elaboration strategies, organization strategies, metacognitive self-regulation strategies, and time of study and environment strategies. The analysis shows that there was a significant difference between ethnicity and the help seeking strategies. The Tukey's HSD Multiple Comparisons show that there were statistically significant differences between ethnicity of respondents and their learning strategies. Malay, Chinese and Indian respondents had a significant perception on rehearsal strategies, elaboration strategies, and time of study and environment strategies. The analysis also shows that Malay and Chinese had a significant perception on time of study and environment strategies, metacognitive self-regulation strategies, and the help seeking strategies when compared to the selected Indians, though, the numbers of Indian respondents are much more less compare to Malay and Chinese ethnics. This could influence the findings of this study.

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