

# Big Five Personality Traits and Motivation in Learning Mandarin as Foreign Language

Chen Jung Ku<sup>1</sup>, Lau Yoke Lian<sup>2</sup>, Hamid Rizal<sup>3</sup>, Anath Rau Krishnan<sup>4</sup>, Hanudin Amin<sup>5</sup>,  
Mohd Nasir Samsulbahri<sup>6\*</sup>, Mohd Fahmi Ghazali<sup>7</sup>

<sup>12</sup>Centre for the Promotion of Knowledge and Language Learning,  
Universiti Malaysia Sabah, 87000, FT Labuan, Malaysia.

ku.chenjung@ums.edu.my

yokelian@ums.edu.my

<sup>3456</sup>Labuan Faculty of International Finance,  
Universiti Malaysia Sabah,  
87000, FT Labuan, Malaysia.

mrizal@ums.edu.my

anath\_85@ums.edu.my

hanudin@ums.edu.my

samsul@ums.edu.my\*

<sup>7</sup>Faculty of Economics and Management,  
Universiti Kebangsaan Malaysia,  
43600 UKM, Bangi, Malaysia.

fahmi@ukm.edu.my

\*Corresponding Author

<https://doi.org/10.24191/ajue.v17i4.16180>

*Received: 13 April 2021*

*Accepted: 1 September 2021*

*Date Published Online: 31 October 2021*

*Published: 31 October 2021*

**Abstract:** The present study aims to develop a model illuminating the relationship between student personality traits and motivation towards learning Mandarin as a foreign language. A model framework consisting of five exogenous variables and one endogenous variable of motivation are examined in the present study. Sample of 260 undergraduates taking Mandarin language at public university in East Malaysia was used as respondents for the present work. The path analysis revealed that the big five personality traits significantly influence and explained 52% of the variance in students' motivation. The analysis further indicates that extraversion and conscientiousness produce the strongest correlation with students' motivation. The results inferred that students who enjoy social visibility and self-discipline are also who will be motivated to learn the Mandarin language. Findings also demonstrated that agreeableness positively influence motivation, and neuroticism, as expected, produce negative direct relations with motivation towards learning Mandarin as a foreign language. On the contrary, the present study did not find any correlation between openness and motivation. The implications of this study are also discussed and interpreted within the context of what educators could do to encourage students' motivation.

**Keywords:** Big five, Extraversion, Mandarin language, Neuroticism, Personality traits.

## 1. Introduction

Research on second language acquisition is closely related to study in the fields of linguistics, cognitive science, psychology, and sociology. There are two aspects of research on second language acquisition. First, is the study of learners, which includes learner age, learning motivation, personality, cognitive characteristics, and learning methods. Second, the study of process of language learning, which takes a significant portion in the study of second language learning. The extend researches mostly

focus on teaching techniques and material designs. However, psychological research shows that similar to the analogy of children acquiring their mother tongue, foreign language learners do not passively receive language knowledge but are active creators in the process of language learning. Therefore, understanding the determining factors of learners would provide better insights for teachers or language instructors to improve their teaching in second or foreign languages.

Previous studies indicate that varying degree of anxiety influences the success of foreign languages acquisition (Matsuda and Gobel, 2004). For instance, several studies suggested that individuals' sense of anxiety in the classroom had a significant and positive influence on ones' performance of foreign language acquisition (Park and French, 2013). Studies also suggested that learners' traits of self-confidence and self-esteem are critical contributing factors during foreign language learning. Most importantly, the overview of these studies suggests that personality traits would influence his or her performance of foreign language learning (Liang and Kelsen, 2018).

Although extensive studies have been done to investigate the role of personality traits and foreign language learning; the findings nonetheless have been mixed and inconclusive. For instance, Liang and Kelsen (2018) used the big five personality model and found that only two dimensions of extraversion and conscientiousness are significant predictors of students' motivation and performance. Similarly, Komarraju et al. (2009) suggest that conscientiousness or students that described themselves as disciplined and organized are more likely to be motivated when learning foreign languages. Kirkagac and Öz (2017) also report similar conflicting results and indicate that only personality traits of conscientiousness and openness are significant predictors of performance and motivation.

Despite the growing recognition of Chinese as *lingua franca*, little, however, has been done to examine the context of Mandarin as a foreign language. Review of the literature suggests that most previous studies focus on a multitude of other major languages. For instance, Saito et al. (1999) explore respondents' sense of anxiety that affected their performance when learning Spanish, Japanese and Russian as a foreign language. To a greater extent, the literature seems to suggest that English as a foreign language has been the most widely used as setting for investigation (Liang and Kelsen, 2018; Peng and Woodrow, 2010; Matsuda and Gobel, 2001; Busch, 1982).

Basing on this void, the present study examines the role of personality traits on motivations of learning Mandarin as a foreign language. Specifically, the present study constructed a theoretical model, and we posit that personality traits of conscientiousness, extraversion, neuroticism, openness, and agreeableness played a pivotal role that directly influences students' sense of motivation towards learning Mandarin as a foreign language.

## **2. Literature Review**

### **2.1 Personality traits and motivation in foreign language learning**

Every culture comprises some variation of a lexicon that describes individual personality, and studies have pointed out that there is a proximate connection between language and personality traits (Komarraju and Karau, 2005; Lazear, 1999). The empirical evidence suggests that every individual is unique; thus, making them differ in their learning styles, information processing, and educational strategies. For instance, Liang and Kelsen (2018) indicate that people with the verbal and nonverbal ability of pronunciation fluency and aptitude to use body languages displayed higher performance in the oral presentation. In another study by Abouserie (1996), individuals that possess high self-esteem tend to perform deep processing and more methodological learning style; whereas those with low self-esteem are more improvidence and prefer to employ the surface processing style.

The general term of motivation describes an internal condition that stimulates, configures and maintains the attitudinal-behavioural dispositions; and several studies have documented that motivation is an essential element for foreign language learning. Gardner et al. (1976) offer a more integrative definition of motivation for foreign language learning. The authors describe motivation as a form of high level of drive on the part of the individual to acquire the language of a valued second language community in order to facilitate communication with that group. Correspondingly, studies also indicate a strong correlation between personality traits and motivation. For example, several studies indicate that those with higher verbal ability and a greater level of intelligence are more motivated during the process of learning new foreign languages. Komarraju et al. (2009) further assert that both intrinsic and extrinsic values of accomplishment, stimulation, and enjoyment play a critical role to induce students towards

developing their sense of motivation.

### **3. Conceptualization and Research Hypotheses**

MacIntyre (2002) suggested that some examples from the literature on motivation within psychology will offer to illustrate the effects of the motivational processes proposed. The big five personality traits model offer a systematic description of human personality characteristics and psyche; and the model has been widely tested in various discipline of behavioural studies ranging from human resource management, consumer behaviour, and education research. Specifically, the personality traits model entails five distinct dimensions of extraversion, agreeableness, conscientiousness, neuroticism, and openness. Although prior research has provided pivotal information between personality traits and multitude aspects of motivation towards language learning, only a handful of researches, however, have been done to examine the correlations between the Big Five traits and motives that focus explicitly on Mandarin as a foreign language. We posit that these five dimensions of personality will have a direct and significant influence on students' motivation towards learning Mandarin as foreign language. The following subsection presents the research hypotheses and discusses the theoretical linkage between these constructs and their effect on learners' dispositions toward motivation.

#### **3.1 Conscientiousness and motivation towards Mandarin as a foreign language**

The concept of conscientiousness describes the tendency to display attributes of self-discipline and striving for higher achievement. People who possess a high level of conscientiousness are perceived to be persistent and focused. Previous empirical studies have supported the notion of conscientiousness as a reliable predictor of motivation that leads towards higher academic performance. For instance, De Feyter et al. (2012) uses 375 respondents from Belgium and found students who are persistence and have the ability to produce high levels of self-efficacy throughout the semester weeks are also the ones that highly motivated. We posit that because the Mandarin language is distinct from English in terms of pattern of learning and magnitude of activation process (Boroditsky et al., 2011; Chee et al., 1999), learners are expected to exert a high level of conscientiousness as motivation.

H1: Conscientiousness positively influence motivation towards Mandarin language learning

#### **3.2 Extraversion and motivation towards Mandarin as a foreign language**

Extraversion individuals enjoy the social interaction that often resorts for high group visibility, enthusiasts and perceived to be action-oriented. Nonetheless, the extant studies assert that extraversion has been an inconsistent predictor for both academic motivation and performance. Kirkagac and Öz (2017) for instance, indicate that being socially active and tending for peer proximity to foster learning did not significantly contribute to academic motivation. The authors instead point out that being extrovert may have caused ones to deviate and lose his or her perceived concentration; thus, maintaining to be motivated would become extremely unmanageable. Research also shows that extraversion has often produced a negative correlation with motivation and performance; see Furnham & Monsen (2009) and O'Connor & Pannonen (2007). However, unlike the English language, where the exposure is more readily accessible through various sources of media; the encounter that someone may have with the Mandarin language on a daily basis is somewhat limited. Therefore, practising with colleagues and trying to make an effort to engage more in conversation would seem the plausible way for one to improve his or her ability to acquire the Mandarin language. We therefore hypothesize:

H2: Extraversion positively influence motivation towards Mandarin language learning

#### **3.3 Neuroticism and motivation towards Mandarin as a foreign language**

The personality traits of neuroticism entail someone who is being anxious, tensed, emotional, and nervous. Hakimi et al. (2011) extends the definition and describes neuroticism as one's disposition towards construing, perceiving and feeling realities in negative, threatening, disturbing or problematic ways. Neuroticism has been reported to produce inconclusive results towards motivation and performance. For instance, Komarraju and Karau (2005) discover that neuroticism negatively influences students' perceived motivation. Similarly, studies have also documented the positive (De

Feyter et al., 2012) and non-significant (Kirkagac and Öz, 2017) role of neuroticism. The popular belief construed that neurotic behaviour would lead towards a negative correlation with academic achievements. Perhaps, because students would quickly form the emotion of fear towards failure; it is presumed that this occurrence could induce them becoming less motivated. Basing on these preceding discussions, we therefore hypothesize:

H3: Neuroticism negatively influence motivation towards Mandarin language learning

### **3.4 Openness for experiences and motivation towards Mandarin as a foreign language**

The attributes that commonly associated with openness include being appreciative of art, curious, adventurous, unusual ideas, imagination, and broad-minded. According to Pourfeiz (2015), the notion of openness has a significant influence on individuals' attitudinal-behavioural dispositions. Likewise, a study by Komarraju et al. (2009) using 308 undergraduate students also produces similar results to corroborate the significant path correlation between openness to experience and academic motivation. By basing on Miller's (1990) pyramid of competence, we posit that learning Mandarin as a foreign language would require students to exert a higher level of competency. The present study believes that rather than learning to reproduce knowledge, learning Mandarin as foreign language would require students to involve in the activity that demands them to use the knowledge creatively. Therefore:

H4: Openness positively influence on motivation towards Mandarin language learning

### **3.5 Agreeableness and motivation towards Mandarin as a foreign language**

The notion of agreeableness resembles courteous, flexible, trusting, good-natured, cooperative, forgiving, soft-hearted, and tolerant. Previous findings on agreeableness as antecedents produced mixed and inconclusive results. Komarraju et al. (2009) indicate that agreeableness has no significant correlation with both intrinsic and extrinsic motivation. On the contrary, the authors discovered that agreeableness was negatively associated with the sense of amotivation. In another similar study, agreeableness correlates positively with academic performance, but not with motivation (Liang and Kelsen, 2018; De Feyter et al., 2012). Kirkagac and Öz (2017), however, discover a positive relationship between agreeableness and academic achievement. The present study hypothesizes that learning Mandarin as a foreign language would require multiple interactive activities as part of the learning process, which would involve multiple exchanges between instructor-learner and among colleagues. We posit that mutual and constructive interactions in the classroom are only plausible when the environment is considered cordial for participants. We believe that an affectionate atmosphere could be created when the participants are cooperative and tolerant.

H5: Agreeableness positively influence on motivation towards Mandarin language learning

## 4. Methodology

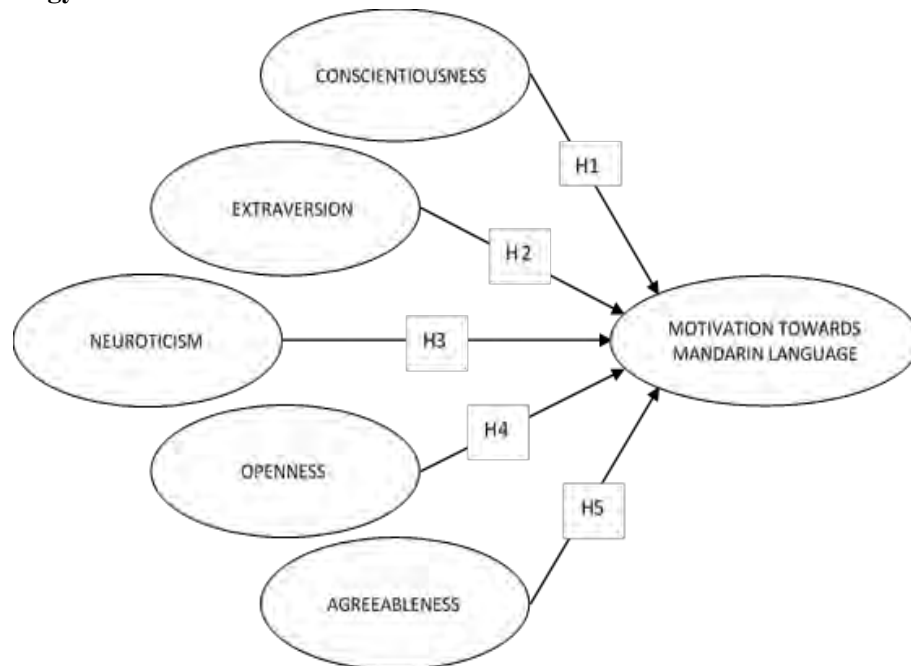


Fig. 1. Model framework

### 4.1. Data collection

The present study uses convenience sampling for data collection, and our questionnaires were distributed using tertiary students as our sample respondents. The sample consisted of 260 second-year undergraduates enrolled in intermediate level (level 2) of Mandarin language classes at a public university in Malaysia. The participants were comprised of students who have already taken Mandarin classes (level 1) in the previous semester as part of compulsory credit requirements. We presume that by selecting respondents who have prior experiences with Mandarin language learning would offer a better explanation on personality traits. However, none of the participants has ever taken the Mandarin language before enrolling into the university. The profile of respondents consisted of 60% female (40% male), and the majority of the participants between 18 and 22 years (95%).

### 4.2. Measurement instruments

The personality traits were measured using Benet-Martínez and John's (1998) Big Five Inventory that consists of 44-battery item (BFI:44). For example, conscientiousness is measured using 9-item that required respondents to rate themselves: "Does a thorough job," "Does things efficiently," and "Perseveres until the task is finished". Likewise, we measured attributes of extraversion with 8-item, neuroticism using 8-item, agreeableness with 9-item, and openness for experience was rated using nine measurement items. The present study used Dörnyei (1990) modified and truncated ten instruments to measure motivation towards learning Mandarin as a foreign language. All these measurement items are rated on a 5-point Likert scale (1 = strongly disagree, to 5 = strongly agree). Table 1 present the battery-item used for the present study.

**Table 1.** Measurements

	<i>Constructs</i>
<b>Extraversion</b>	<b>Neuroticism</b>
Is outgoing, sociable	Worries a lot
Is talkative	Can be tense
Has an assertive personality	Gets nervous easily
Generates a lot of enthusiasm	Is depressed, blue
Is full of energy	Can be moody
Is reserved	Remains calm in tense situations
Is sometimes shy, inhibited	Is emotionally stable, not easily upset
Tends to be quiet	Is relaxed, handles stress well
<b>Conscientiousness</b>	<b>Agreeableness</b>
Does a thorough job	Is considerate and kind to almost everyone
Does things efficiently	Likes to cooperate with others
Makes plans, follows through with them	Is helpful and unselfish with others
Is a reliable worker	Has a forgiving nature
Perseveres until the task is finished	Is generally trusting
Is easily distracted	Tends to find fault with others
Can be somewhat careless	Starts quarrels with others
Tends to be lazy	Can be cold and aloof
Tends to be disorganized	Is sometimes rude to others
<b>Openness</b>	<b>Motivation towards Mandarin Language Learning</b>
Is inventive	Interest in Mandarin as foreign language
Is original, comes up with new ideas	Attitudes towards learning the Mandarin language
Values artistic, aesthetic experiences	Mandarin broadens one's view
Has an active imagination	Malaysians should learn the Mandarin language
Likes to reflect, play with ideas	Mandarin has direct, pragmatic benefits
Is sophisticated in art, music, or literature	No need to be perfect in the Mandarin language
Is ingenious, a deep thinker	Mandarin is needed for better professional reputation
Is curious about many different things	Strong commitment to learning
Prefers work that is routine	Mandarin language is a bridge to other cultures and peoples
Has few artistic interests	Mandarin language is a new challenge

## 5. Results and Analysis

### 5.1. Scale purifications

The study initially computed the principal component factor analysis with varimax rotation to examine the internal consistency coefficients of the proposed constructs. Items that exhibited low item-to-total correlations, low loadings, and substantial cross-loadings were removed and excluded from further analysis. Specifically, several indices were employed for the data purification analysis and discriminant validity: (1) Kaiser-Meyer-Olkin (KMO) values of more than 0.60, (2) composite reliability (CR) >0.70, (3) item-factor loadings >0.5, average variance extracted (AVE) >0.50, (4) Cronbach's  $\alpha$  of more than 0.6 (Wong, 2013; Hair et al., 2010; MacCallum et al., 1999). Table 2 presents the results of the factor analysis iteration.

**Table 2.** Principal component factor analysis

Construct	Loadings	Cronbach $\alpha$	AVE	CR	KMO
Extraversion		0.843	0.766	0.813	0.70
EXT1	0.75				
EXT2	0.88				
EXT3	0.83				

EXT5	0.89				
EXT6	0.63				
EXT7	0.74				
Conscientiousness		0.757	0.811	0.746	0.81
CON2	0.65				
CON3	0.70				
CON4	0.76				
CON6	0.89				
CON7	0.83				
Neuroticism		0.729	0.723	0.755	0.76
NEU1	0.87				
NEU2	0.80				
NEU3	0.73				
NEU5	0.68				
NEU6	0.71				
NEU8	0.74				
Openness		0.706	0.676	0.794	0.73
OPE1	0.77				
OPE2	0.64				
OPE3	0.66				
OPE4	0.71				
OPE7	0.81				
OPE9	0.79				
Agreeableness		0.673	0.757	0.727	0.85
AGR1	0.85				
AGR2	0.81				
AGR3	0.93				
AGR5	0.74				
AGR6	0.90				
AGR8	0.82				
Motivation		0.752	0.788	0.849	0.78
MOT1	0.86				
MOT2	0.72				
MOT3	0.90				
MOT4	0.75				
MOT5	0.83				
MOT7	0.86				
MOT9	0.78				

**Note:** \*deleted item loadings < 0.6: Extraversion (EXT4 & EXT8); Conscientiousness (CON1, CON5, CON8 & CON9); Neuroticism (NEU4 & NEU7); Openness (OPE5, OPE6, OPE8 & OPE10); Agreeableness (AGR4, AGR7 & AGR9); Motivation (MOT6, MOT8 & MOT10).

The study subsequently performed a discriminant analysis. The purpose of the analysis was to test whether the constructs that are not supposed to be related are unrelated. The analysis was performed by comparing the correlations among the latent constructs with the square root of average variance extracted (Chin, 1998; Fornell and Larcker, 1981). The discriminant validity is achieved when the square root of the average variance extracted is larger than the correlation coefficients between any two variables. The results provide evidence of discriminant validity for the constructs. More specifically, these results show strong unidimensional and validity for all of our constructs (Table 3).

**Table 3.** Discriminant validity

Dimensions	EXT	CON	NEU	OPE	AGR	MOT
Extraversion (EXT)	0.875*					
Conscientiousness (CON)	0.346	0.900*				
Neuroticism (NEU)	0.477	0.212	0.850*			
Openness (OPE)	0.331	0.487	0.505	0.822*		
Agreeableness (AGR)	0.462	0.379	0.221	0.545	0.870*	

Motivation (MOT)	0.527	0.303	0.605	0.446	0.377	0.888*
------------------	-------	-------	-------	-------	-------	--------

Note: \*>0.70

## 5.2. Path analysis

The hypothesized relationships were estimated using structural equation modelling in PLS-SEM. The structural model consists of five exogenous constructs (extraversion, conscientiousness, neuroticism, openness, and agreeableness), as well as one endogenous variable of motivation. Our results indicate that the proposed five exogenous variables explained 52% of variability in motivation towards learning Mandarin as a foreign language. The study's parameters were also statistically significant. The analysis suggests that extraversion is a significant and reliable predictor for motivation ( $\beta = .384, p < 0.01$ ). Similar results were also produced by other constructs of personality traits: conscientiousness ( $\beta = .275, p < 0.01$ ), neuroticism ( $\beta = -.166, p < 0.05$ ) and agreeableness ( $\beta = .198, p < 0.01$ ). The openness construct, however, was not significantly correlated with motivation ( $\beta = .110, t = 1.37, p > 0.05$ ). Figure 2 presents the path analysis of the model framework.

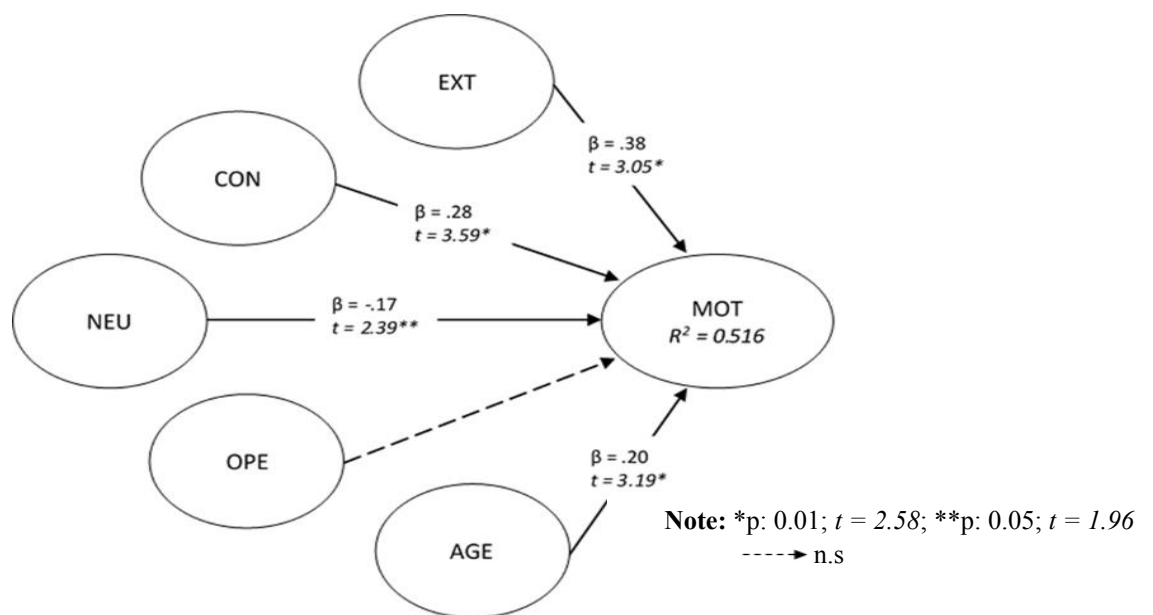


Fig. 2. Path correlations

## 6. Conclusion and Implications

The present study aims to develop a theoretical model of personality traits on motivation towards learning Mandarin as a foreign language. More specifically, we examine the well-established big five personality traits of extraversion, conscientiousness, neuroticism, openness, and agreeableness on motivation. Our results offer strong support of empirical evidence for the role of individual traits in explaining motivation, and these findings add to the emerging body of research that highlights personality differences in foreign language learning. Both personality traits of extraversion and conscientiousness emerged as pivotal factors towards motivation. These results corroborate with earlier studies. For instance, Komarraju et al. (2009), Kirkagac and Öz (2017), and Liang and Kelsen (2018) also suggested that both of dimensions of personality as credible predictors for students' motivation. The results suggest that students who are self-disciplined and organized are also the ones who would be motivated to learn Mandarin. Therefore, Mandarin language instructors should consider creating a structured learning environment and transparent policies of curriculum that would encourage learners to become organized and proactive. Practically, not only the class syllabus should be given in advance, but seat arrangement and clear instructions also will be essential elements for the students with self-disciplined dispositions. Therefore, have learners to fix their seats in the classroom will be more helpful than free seating as well as arrange their learning partners (Wannarka and Ruhl, 2008).

Similarly, the extraversion dimension suggests that students with strong enthusiasts and enjoy social interaction would also lead them to become motivated. Mandarin classes, therefore, should



contemplate having more in-class presentation style of learning, where these extravert students would be able to showcase their capability. The results on agreeableness offer strong credence for earlier studies on individuals' differences and academic motivation. The path analysis suggests that persons who enjoy new experiences and challenges would more likely become motivated with the Mandarin language class. From pedagogy perspectives, learning Mandarin as foreign language should be developed to challenge students' creativity rather than teaching them reproducing knowledge. Task-based learning approach would be the ideal approach to suit the students with characters of extraversion and agreeableness. Task-based learning approach does offer the variable types of learning activities for students to express their feeling in a second language or foreign language. Task-based learning activities has defined as goal-oriented activities, which will offer the learners not only more challenges but also encourage a peer-collaborative atmosphere (Forero Rocha, 2005 ; Mazuin et al., 2020). The negative and significant results for neuroticism on students' motivation offer fresh and new perspectives for the extant literature (Pourfeiz, 2015). For example, previous empirical studies indicate that neurotic behaviour has no significant influence on students' motivation (Liang and Kelsen, 2018; Komarraju, Karau and Schmeck, 2009). Some studies also reported that neuroticism positively influences motivation and academic performance (De Feyter et.al., 2012). The findings on neuroticism suggest that being anxious and emotionally unstable may induce language anxiety, which would create a negative perception towards learning Mandarin as foreign language and ultimately hindered any notion of motivation. Simply put, instructors may want to consider engaging more frequently to build rapport with students. We believe that having constructive teacher-student relationships would help to control and manage the level of anxiety; thus, making the students more motivated.

## 7. Limitations and Future Research

Several limitations should also be highlighted. First, this study uses only one public university as sample respondents; therefore, interpretation of these findings should be used with caution. Future research should seek to use larger data samples to validate whether similar results could be achieved. The work also does not examine the influence of students' cultural backgrounds on personality traits. This creates another possibility that future research may want to unravel since studies have suggested that an individual's ethnicity may play a pivotal role in shaping one's attitudinal-behavioural dispositions (Rizal, Jeng and Chang, 2016). Third, the study only examines one endogenous of motivation as a dependent variable; thus, limiting the work explanatory power. Future research may want to consider expanding the present work by including other endogenous constructs to explicate better students' perception of learning Mandarin as a foreign language. The theoretical model in the present study was also confined within the perspective of five personality traits. Potential work should consider expanding the current study by investigating and including other traits of personality.

## 8. Acknowledgement

This research was funded by *Geran Penyelidikan Bidang Keutamaan* (SPBK) Fasa 1/2021, Universiti Malaysia Sabah: SBK0499-2021.

## 9. References

- Abouserie R. (1996). Self-esteem and achievement motivation as determinants of students' approaches to studying. *Studies in Higher Education*. 20 (1), 19–26.
- Benet-Martínez V., John O. P. (1998). Los Cinco Grandes across cultures and ethnic groups: Multitrait multimethod analyses of the big five in Spanish and English. *Journal of Personality and Social Psychology*. 75 (3), 729–750.
- Boroditsky L., Fuhrman O., McCormick K. (2011). Do English and Mandarin speakers think about time differently? *Cognition*. 118 (1), 123–129.
- Busch D. (1982). Introversion-extraversion and the EFL proficiency of Japanese students. *Language Learning*. 32 (1), 109–132.
- Chee M. W. L., Tan E. W. L., Thiel T. (1999). Mandarin and English single word processing studied with functional magnetic resonance imaging. *Journal of Neuroscience*. 19 (8), 3050–3056.

- Chin, W. W. (1998). The partial least squares approach for structural equation modeling. In Marcoulides G. A. (Ed.), *Modern methods for business research*. Mahwah, NJ: Lawrence Erlbaum Associates. p. 295–336.
- De Feyter T., Caers R., Vigna C., Berings D. (2012). Unraveling the impact of the big five personality traits on academic performance: The moderating and mediating effects of self-efficacy and academic motivation. *Learning and Individual Differences*. 22 (4), 439–448.
- Dörnyei Z. (1990). Conceptualizing motivation in foreign-language learning. *Language Learning*. 40 (1), 45–78.
- Forero Rocha Y. (2005). Promoting oral interaction in large groups through task-based learning. *Profile Issues in Teachers' Professional Development*. 6, 73–82.
- Fornell C., Larcker D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*. 18 (1), 39-50.
- Furnham A., Monsen J. (2009). Personality traits and intelligence predict academic school grades. *Learning and Individual Differences*. 19 (1), 28–33.
- Gardner R. C., Smythe P. C., Clément R., Glikzman L. (1976). Second-language learning: A social psychological perspective. *Canadian Modern Language Review*. 32 (3), 198–213.
- Hair J., Black W., Babin B., Anderson R. (2010). *Multivariate data analysis: A global perspective*. 7th Edition. New Jersey: Pearson Education Inc.
- Hakimi S., Hejazi E., Lavasani M. G. (2011). The relationships between personality traits and students' academic achievement. *Procedia-Social and Behavioral Sciences*. 29, 836–845.
- Kirkagac S., Öz H. (2017). The role of big five personality traits in predicting prospective EFL teachers' academic achievement. *Online Submission*. 4 (4), 317–328.
- Komarraju M., Karau S. J. (2005). The relationship between the big five personality traits and academic motivation. *Personality and Individual Differences*. 39 (3), 557–567.
- Komarraju M., Karau S. J., Schmeck R. R. (2009). Role of the big five personality traits in predicting college students' academic motivation and achievement. *Learning and Individual Differences*. 19 (1), 47–52.
- Lazear E. P. (1999). Culture and language. *Journal of Political Economy*. 107 (6 PART 2).
- Liang H. Y., Kelsen, B. (2018). Influence of personality and motivation on oral presentation performance. *Journal of Psycholinguistic Research*. 47 (4), 755–776.
- MacCallum R. C., Widaman K. F., Zhang S., Hong S. (1999). Sample size in factor analysis. *Psychological Methods*. 4 (1), 84–99.
- MacIntyre P. D. (2002). Motivation, anxiety and emotion in second language acquisition. In Robinson P. J. (Ed.), *Individual differences and instructed language learning*. Philadelphia, PA: John Benjamins. p. 45-68.
- Matsuda S., Gobel P. (2001). Quiet apprehension: Reading and classroom anxieties. *JALT Journal*. 23 (2), 227.
- Matsuda S., Gobel P. (2004). Anxiety and predictors of performance in the foreign language classroom. *System*, 32 (1), 21–36.
- Mazuin Mat Halif, Narehan Hassan, Nur Athirah Sumardi, Aida Shekh Omar, Sharrifah Ali, Rozilah Abdul Aziz, Afiza Abdul Majid, Nor Fazalina Salleh. (2020) Moderating effects of student motivation on the relationship between learning styles and student engagement. *Asian Journal of University Education (AJUE)*, 16(2), <https://doi.org/10.24191/ajue.v16i2.10301>
- Miller G. E. (1990). The assessment of clinical skills/competence/performance. *Academic Medicine*. 65 (9), S63–S67.
- O'Connor M. C., Paunonen S. V. (2007). Big five personality predictors of post-secondary academic performance. *Personality and Individual Differences*. 43 (5), 971–990.
- Park G. P., French B. F. (2013). Gender differences in the foreign language classroom anxiety scale. *System*, 41 (2), 462–471.
- Peng J. E., Woodrow L. (2010). Willingness to communicate in English: A model in the Chinese EFL classroom context. *Language Learning*. 60 (4), 834–876.

- Pourfeiz J. (2015). Exploring the relationship between global personality traits and attitudes toward foreign language learning. *Procedia-Social and Behavioral Sciences*. 186, 467-473.
- Rizal H., Jeng D. J.-F., Chang H. H. (2016). The role of ethnicity in domestic intercultural service encounters. *Service Business*. 10 (2), 263–282.
- Saito Y., Garza T. J., Horwitz E. K. (1999). Foreign language reading anxiety. *Modern Language Journal*. 83 (2), 202–218.
- Wannarka R., Ruhl K. (2008). Seating arrangements that promote positive academic and behavioural outcomes: A review of empirical research. *Support for Learning*. 23 (2), 89-93.
- Wong K. K.-K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*. 24 (1), 1–32.