

A Study on the Relationship between Foreign Language Enjoyment and English Learning Performance in Chinese Context: the Mediating Role of L2 Grit

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Abstract: Foreign language learning is a complex process that can be influenced by internal, external and other variables. However, studies that focus on language learners' emotions such as foreign language enjoyment and learners' personality such as L2 grit are still in its infancy, especially in Chinese context. With the development of positive psychology, it is crucial to explore the relationship between positive emotions and learners' foreign language learning performance. Therefore, the study attempts to investigate the relationship between foreign language enjoyment and learners' English learning performance in Chinese context. The data were collected from 766 senior high school students in China. Findings of this study revealed that there existed positive and significant correlations among foreign language enjoyment, English learning performance and L2 grit but at different levels. Besides, L2 grit played mediating role between foreign language enjoyment and English learning performance. At last, implications and suggestions for future research are also discussed.

1. Introduction

Recently, positive psychology has been a hot topic in academic research and become more popular in foreign language education [1]. With the development of positive psychology, a growing number of researchers have focus on the non-cognitive factor of personality strength because of its predictive effect in facilitating academic and non-academic achievement [2].

With the integration of psychology and linguistics, many studies have focused on the emotions that appear in the process of learning language. Language learners are more likely to have a variety of emotions when they express themselves in a language they have not fully mastered [3]. Pekrun [4] proposed the concept of academic emotions in academic research and divided emotions according to valence and arousal. According to the subdimension of valence, emotions are divided into positive emotions and negative emotions. Many investigations were concerned with boredom and anxiety as two important negative feelings [5-8]. Researches on positive emotions are still in its developing

stage.

As a personality trait, grit has attracted much attention from researchers [9]. Grit not only directly or indirectly predicts academic performance, but also boosts students' sense of self-efficacy [10]. Grit is strongly or weakly associated with other variables that can affect learning performance. In second language acquisition field, grit which can be considered as one of the important personality characteristics can help students maintain gaining progress in difficult situations and achieve better results [11-12]. However, researchers have always paid too much attention to cognitive factors and neglected non-cognitive factors. Depending on these, grit is still in its infancy in second language acquisition.

2. Literature Review

2.1 Definitions of Foreign Language Enjoyment and L2 Grit

With the development of positive psychology, positive emotions have attracted more and more attention in educational research field. Scholars have been focused on enjoyment. Enjoyment is defined as a positive, retrospective, activating emotion generated from learning activities or academic outcomes based on the three-taxonomy approach of the control-value-theory [13]. In second language acquisition, Dewaele and MacIntyre [14] first developed the concept of foreign language enjoyment in applied linguistics by introducing it as the broadest and most commonly experienced emotion in foreign language learning. Since then, there has been an explosion of empirical research into L2 learners' foreign language enjoyment in educational settings.

As a domain-general personality trait, grit is defined as the perseverance and passion for long-term goals by Duckworth et al. [15]. According to Duckworth et al., the concept of grit has two subdimensions, namely perseverance of effort and consistency of interest. At the same time, the measurement of grit was also developed [15]. With the development of interdisciplinary integration, the application of this domain-general measurement of grit might lead to inconclusive findings in the SLA field [16]. Therefore, the concept of L2 grit was developed. L2 grit also consists of perseverance of effort (PE) and consistent of interest (CI) subdimensions but refers to specifically in language learning [17]. However, some scholars also have controversial points on the structure of L2 grit. Some researchers have tended to apply the one-factor grit scale to L2 competence or communicative willingness [18-20]. The concept of L2 grit is also considered to have four dimensions, which highlights the importance of practice and setting learning goals in language learning [21]. In this study, the structure and measurement proposed by Teimouri et al. [17] were adopted for its widely use.

2.2 Relationships among Foreign Language Enjoyment, L2 Grit and English Learning Performance

The relationship between learners' foreign language enjoyment and L2 grit has been cogitated. Positive and significant correlation was found between foreign language enjoyment and L2 grit [9][17][22-24]. Besides, Pawlak et al. [22] found that language learning enjoyment (LLE) was a direct predictor of L2 grit. The relationship between foreign language enjoyment and L2 grit deserves exploring.

Scholars have proved that foreign language enjoyment has a positive impact on foreign language learning [25-27]. In addition, some scholars also have found that foreign language enjoyment can maintain a positive trend in learners' long-term learning of foreign language. Satio et al. [27] conducted diachronic research on 108 high school students in Japan. Results showed that enjoyment can reduce their negative emotions in the process of language learning and improve the proficiency of

second language learning, which is conducive to the stable development of students' language learning ability. In addition, some scholars have investigated the influencing path between foreign language enjoyment and language learning performance. Results found that foreign language enjoyment can improve foreign language learning performance by improving learners' learning motivation, expectation and other factors [28]. In comparison, studies on influencing paths of foreign language enjoyment on foreign language learning are relative scant in China.

In second language acquisition, studies on the relationship between L2 grit and foreign language learning performance are also popular. L2 grit can positively predict students' foreign language learning performance [17][29-30] However, there are also opposite research result. Taspinar, K. & G. Küleki [31] show that there is a significant negative correlation between English learning performance and L2 grit for graduate students. There is also non-significant positive correlation between English learning performance and L2 grit for transfer students. Causes of these differences may due to the different culture background of EFL learners. Especially under the different education systems of the East and the West, students have different learning objectives and learning styles. Therefore, it is necessary and important to study the relationship between student' grit level and academic performance in a specific cultural background. Besides, L2 grit is also been reported to have close connection with learning motivation, mindset, willingness of communication and so on [32-36].

2.3 The Broaden-and-Build Theory

The broaden-and-build theory is one of the authoritative theories in positive psychology, which is used to conduct the researches on positive emotions. The broaden-and-build theory was proposed by Fredrickson [37-38]. The main point of view of this theory is that positive emotions contribute to the expansion of thinking, the broadening of vision and the enhancement of creativity, and can build lasting personal resources, including intellectual resources, psychological resources, physiological resources and social resources. Thus, it can bring long-term and adaptive benefits to individuals. This theory emphasizes the relationship between emotions and thinking. Individuals with positive emotions are more likely to have stronger personal abilities such as thinking, creativity, and coordination. Based on the broadening of cognitive ability, they also have persistent individual resources that will be useful in improving efficacy of solving problems. The broaden-and-build theory provides a good theoretical basis for the relationship and mechanism of positive emotions and other factors or variables.

2.4 The Present Study

The present study aimed to fill the research gaps by investigating the relationship among foreign language enjoyment (FLE), L2 grit and English learning performance (ELP) and verify the influencing path between them. Therefore, under the conduction of the broaden-and-build theory, the following two specific research questions were formulated.

- 1) What are the correlations among FLE, ELP and L2 grit?
- 2) Does L2 grit mediate the relationship between FLE and ELP?

3. Methods

3.1 Participants

In this study, a total of 766 Chinese senior high school students from three schools participated voluntarily with the help of their English teachers. The 766 students are from grade 11 and grade 12.

There are 335(43.8%) students from grade 11 and 431(56.2%) students from grade 12. In addition, there are 312(40.7%) male and 454(59.3%) female students, ranging from 16-18 years old. All the participated students' first language is Chinese and their second language is English, which is a formal foreign subject in their curriculum system.

3.2 Instruments

L2 Grit Scale and Chinese version of Foreign Language Enjoyment Scale (CFLES) were used in this study. Besides, participants' demographic information and their average scores of two monthly tests were also collected. The monthly examination is uniformly issued by the local education department, and the reliability and validity of the examination are guaranteed. The test contains the examination of English listening, speaking, reading and writing skills, which can objectively represent students' level of language learning. Therefore, the average score was used as their representation of English learning performance.

3.2.1 Questionnaire on grit in English learning

To measure students English learning grit, the nine-item L2 grit scale developed by Teimouri et al. [17] was adapted, which was used widely to measure participants' language learning grit. The L2 grit scale contains two sections: consistency of interest (CI) and perseverance of effort (PE). Among the nine items, consistency of interest (CI) has 4 items and perseverance of effort (PE) has five items. All the items are rated on a five-point Likert scale, with response options ranging from "1" (not like me at all) to "5" (very much like me). In this study, the internal consistency of the L2 grit scale was considered good (Cronbach's $\alpha=0.863$). To be more specific, the internal consistency of PE was 0.894 and the internal consistency of CI was 0.723.

3.2.2 Questionnaire on FLE in English learning

The Chinese version of Foreign Language Enjoyment Scale (CFLES) was adopted from Li et al. [39]. This scale has 11 items and was developed specifically to measure Chinese EFL students' enjoyment in foreign language learning. The scale contains three subdimensions: FLE-Private, FLE-Teacher, and FLE-Atmosphere and was rated by a five-point Likert scale ("1" being strongly disagree, and "5" being strongly agree). The Cronbach's α of the Chinese version of Foreign Language Enjoyment Scale (CFLES) was 0.866, which means it has relative high internal consistency. The Cronbach's α of FLE-Private, FLE-Teacher, and FLE-Atmosphere were 0.880, 0.939, and 0.833 respectively.

3.3 Procedure

Before the collection of the research data, permission was got from the school principals as well as participants' teachers. A brief introduction was conducted first and then all the participating students filled the questionnaires according to their actual thoughts or feelings under the guidance of their teachers. The students completed the questionnaires within 25 min and the questionnaires were collected immediately after their completion.

3.4 Data analysis

Before the data analysis, the collected data were cleaned first. The questionnaires of 766 students were remained at last. In order to respond the two research questions, all the cleaned data were analyzed by SPSS 26.0. Firstly, the Person correlation analysis was conducted to explore the

correlations among students' foreign language enjoyment, L2 grit and their English language proficiency. Then, to investigate the existence of the mediating role of L2 grit, the mediation of L2 grit was verified through the multiple mediation analysis.

4. Results

4.1 Correlations among Foreign Language Enjoyment (FLE), L2 Grit and English Learning Performance (ELP)

To answer research question 1, Pearson Correlation analysis was adopted in the study. The findings of the correlations were shown in Table 1 and Table 2. As shown in Table 1, the general correlations among FLE, L2 grit and ELP were analyzed firstly. The results of Table 1 demonstrated that FLE was positively and moderately correlated with ELP ($r=0.63$, $p<0.01$). In addition, there are weak but positive correlation between L2 grit and ELP ($r=0.29$, $p<0.01$) and FLE and ELP ($r=0.225$, $p<0.01$) respectively.

Table 1: Correlations among FLE, L2 Grit and ELP

Variables	1	2	3
1.FLE	—		
2.L2 Grit	0.630**	—	
3.ELP	0.225**	0.290**	—

Note: FLE=Foreign Language Enjoyment; ELP=English Language Proficiency;**indicates that the correlation is significant at the 0.01 level (2-tailed).

To investigate the correlations more specifically, the correlations among subdimensions of these three variables were shown in Table 2.

Table 2: Correlations among subdimensions of FLE, L2 Grit and ELP

Variables	1	2	3	4	5	6
1.FLE-Private	—					
2.FLE-Teacher	0.224**	—				
3.FLE-Atmosphere	0.425**	0.383**	—			
4.PE	0.673**	0.207**	0.358**	—		
5.CI	0.557**	0.145**	0.242**	0.516**	—	
6.ELP	0.376**	-0.048	0.045	0.251**	0.256**	—

Note: FLE=Foreign Language Enjoyment; PE=Perseverance of Effort; CI=Consistency of Interest; ELP=English Language Proficiency;**indicates that the correlation is significant at the 0.01 level (2-tailed).

Results of correlations among subdimensions were shown in Table 2. To be more specific, FLE-Private was found to have moderate and positive correlations with PE ($r=0.673$, $p<0.01$) and CI ($r=0.557$, $p<0.01$). FLE-Teacher was found to have low and positive correlations with PE ($r=0.207$, $p<0.01$) and CI ($r=0.145$, $p<0.01$). Besides, FLE-Atmosphere was also found to have low and positive correlations with PE ($r=0.358$, $p<0.01$) and CI ($r=0.242$, $p<0.01$), but less strong than FLE-Teacher. As for ELP, only FLE-Private was found to have low and positive correlation with ELP ($r=0.376$, $p<0.01$). In addition, both two subdimensions of L2 grit, namely PE and CI, were found to have low and positive correlation with ELP ($r=0.251$, $r=0.256$, $p<0.01$). However, FLE-Teacher and FLE-Atmosphere were found no statistical correlation with ELP ($p>0.05$).

4.2 Mediating role of L2 Grit between Foreign Language Enjoyment (FLE) and English Learning Performance (ELP)

To investigate whether L2 grit mediate the relationship between foreign language enjoyment and English learning performance, collected data were analyzed by SPSS 26.0 and the multiple mediation analysis was conducted.

As displayed in Table 3, FLE has positive and significant effects on ELP. The multivariable correlation ($R^2=0.05$) indicated that 5% of the variation of ELP can be explained by FLE. The model passed F-test ($F=40.63$, $p<0.01$).

Table 3: Model summary

Model	R ²	F	p
FLE→ELP	0.05	40.63	.000
FLE→L2 Grit	0.397	502.912	.000
FLE→L2 Grit→ELP	0.871	36.378	.000

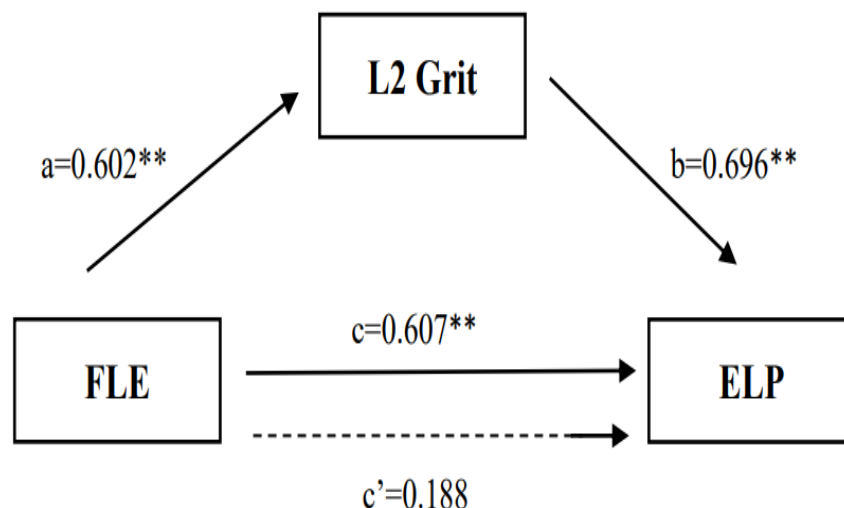
Note: FLE=Foreign Language Enjoyment; ELP=English Language Proficiency;**indicates that the correlation is significant at the 0.01 level (2-tailed).

To test the mediating role of L2 grit between the FLE and ELP, a bootstrap sampling method using 5000 iterations was then utilized. The results were shown in Table 4.

Table 4: Mediating Effects of L2 Grit on FLE and ELP

Path	coefficient	Standard efficient	t	p	LLCI	ULCI
FLE→ELP	0.607	0.095	6.374	**	0.42	0.794
FLE→L2 Grit	0.602	0.027	22.456	**	0.549	0.655
L2 Grit→ELP	0.696	0.126	5.528	**	0.449	0.943
FLE→L2 Grit→ELP	0.188	0.12	1.562	0.119	-0.048	0.424

Note: FLE=Foreign Language Enjoyment; ELP=English Language Proficiency;**indicates that the correlation is significant at the 0.01 level (2-tailed).



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Figure 1: The Model of Multiple Mediation Analysis

When L2 grit is used as a mediating variable to connect the other two variables, as shown in Table

4, the coefficient of FLE on ELP was 0.188, the effect of FLE on ELP was not significant statistically ($t=1.562$, $p=0.119>0.05$). This showed that FLE cannot affect ELP directly when L2 grit was intervened. Besides, the coefficient of FLE on L2 grit was 0.602. The effect of FLE on L2 grit was positive and significant ($t=22.456$, $p<0.01$). The coefficient of L2 grit on ELP was 0.696. The effect of L2 grit on ELP was also positive and significant ($t=5.528$, $p<0.01$). These results showed that L2 grit has total mediating role between FLE and ELP. Based on the findings, the model of relationship between foreign language enjoyment and English learning performance with the mediating role of L2 grit between them is shown in figure 1.

5. Discussion

This study tends to explore the relationship between foreign language enjoyment and senior high school students' English learning performance, especially whether L2 grit could mediate the influencing path of foreign language enjoyment on English learning performance in the Chinese context.

For research question 1, the study found that there was a significant pairwise correlation between the three variables. The correlation between FLE and L2 grit was significant and positive at a moderate level. This suggests that students with higher FLE tend to have greater L2 grit personality. Foreign language enjoyment and L2 grit were found to have significant and positive correlations on English learning performance but a low level. However, the results still showed that students with higher FLE or greater L2 grit tend to have higher level of English learning performance. The findings can be well explained. Learners tend to have better language learning outcomes when they experience foreign language enjoyment [9][17][29][40-41]. Especially in China, senior high school students are under great pressure. When they experience enjoyment from language learning, their stress and negative emotions will be relieved. At that time, the language learning outcomes are always better. Besides, language learning is a long-term learning goal. Learners with high level of L2 grit are always able to persist and achieve their goals. To be more specific, correlations among subdimensions were also analyzed. Findings showed that FLE-Private, FLE-Teacher and FLE-Atmosphere of foreign language enjoyment have positive and significant correlations with perseverance of effort and consistence of interest respectively. Besides, FLE-Private of foreign language enjoyment, perseverance of effort and consistence of interest of L2 grit were all found to have positive and significant correlations with English learning performance.

For research question 2, this study found that foreign language enjoyment could have positive and significant effects on senior high school students' English learning performance. However, when L2 grit intervenes foreign language enjoyment and English learning performance, the influence of foreign language enjoyment on English learning performance became insignificant. At that time, foreign language enjoyment affects students' English learning performance through L2 grit, indicating that L2 grit played full mediating role between foreign language enjoyment and English learning performance. The finding can be explained by the broaden-and-build theory. Foreign language enjoyment, as a positive emotion, can broaden students' behavioral repertoire and builds their skills and psychological resources, which can lead their increased consistency of interests and their perseverance of efforts in their learning. Therefore, the positive emotion (i.e. foreign language enjoyment) and help build students' grit personality. This can also in turn leads to students' greater learning performance in English learning.

6. Conclusion, implications and limitations

The study has explored the relationship between foreign language enjoyment and senior high school students' English learning performance, especially the mediating role of L2 grit on their

interactions in the Chinese context. The results first indicate that there exist positive and significant correlations among foreign language enjoyment, L2 grit and English learning performance, though only the correlation between foreign language enjoyment and L2 grit was at moderate level. Besides, the study found that only FLE-Private could have positive and significant effects on English learning performance, while FLE-Teacher and FLE-Atmosphere didn't find statistical correlation with English learning performance. The subdimensions of grit, perseverance of effort and consistency of interest, were found both had significant and positive effects on English learning performance. On the other hand, the mediating role of L2 grit between foreign language enjoyment and English learning performance was verified.

The present study offers some implications for educators, learners and researchers. Firstly, educators could improve enjoyment emotion of learners by changing teaching methods and so on, so as to promote the development of students' L2 grit personality. Schools can also develop relevant programs and mental health classes to help to release students' negative emotions, boost their positive emotions and build their grit personality. Secondly, learners could adjust their learning emotions through emotional regulation strategies. Therefore, language learners could have more positive emotions in foreign language learning. Thirdly, researches could focus on other academic emotions and the combinations of other variables in the Chinese context from a holistic viewpoint.

Despite implications, this study also has some limitations. Firstly, results of the study were all from quantitative analysis. The present would be more complete if it was supplemented by qualitative research. Secondly, the present study is a cross-sectional study. It would be better to explore the dynamic relationships between foreign language enjoyment and English learning performance from a diachronic perspective. Future studies could proceed from these aspects for more in-depth research and discussion

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