

A Stereotype or a Fact: Females are Better Second Language Learners

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Abstract: There are some general perceptions which say that “girls have a better language aptitude.”, or “women are better language learners.” Combining considering the women’s dominant position in the field of language education, it is widely known as common knowledge that females are better language speakers and learners. Some pieces of research hold an idea that females are more excelling in their mother tongue (first language/L1) than males^[1]. The scientific community then naturally speculated on a hypothesis, which suggests that female are better language learners in the second language(L2). In order to verify the hypothesis, some studies in Twenty century have investigated the gender differences in the second language acquisition^{[2][3]}. However, the outcomes are either dated or that the number of subjects is sparse.

Keywords: Language aptitude;Language learners;Language abilities

In this article, several latest studies will be introduced to draw on attention about the language proficiency gaps between female and males. Then, the article will carry out some recent research studies of gender differences from the perspective of individual differences. The aim of this article is to look at how the factor of gender are functioning in the second language acquisition and critically review some updated researches. Thereupon then to see if it is a stereotype or not that female are better second language learner. It should be noted that this paper is not intended to be a comprehensive evaluation and analysis of the origins and reason behind this matter. Some extended discussion of social-culture influences of the sex social status and stereotypes is beyond the scope of this paper.

This paper is organized into distinctly four sections. The first part is the theoretical framework, which is based on the general introduction and guideline of the theory of individual differences. In the second section, it will be provided with the literature review of some studies investigated in the gender gaps of language abilities. For the second language reading ability, different studies have yielded different results: male have more advantages than women^[4], or female score higher than male^[5]. In the L2 speaking, reading and learning of grammar, female outperformed their male counterparts^{[6][7]}. Also, additional research shows that women are more vocal in vocabulary than men, and a matter of age was appeared in the same study^[8].

After exploring the differences in language proficiency, our curiosity turned to the reasons behind this gender differences. In order to inquire the factors from the perspective of individual differences, the section three addresses the review of some of the existing literature on individual differences in second language learning between the two different gender. Some personalities are more specific to males and females, which continues to cause effects on individuals’ grammar and phonic imitation abilities in second language learnings^[7]. And for the learning style in L2, different researchers hold opposite views on whether there is a preference difference between different genders. Furthermore, Scholars are also controversial about preferences of different gender for different learning strategies^{[4][9][10]}.The final section is the conclusion of the review, which includes the instructional implication for second language teaching, the analyzing the limitation of the current research and address some future research possibilities and directions.

The use of some key terms and words need to be clarified. Namely, the distinction of “sex” and “gender” has to be notified. Generally, the “sex” refers to the biological and anatomic characters of a human, which is determined from the genetic endowments. However, some individuals’ sexes might not correspond to their identities, then comes the “gender”. “Gender” is the social-cultural role of different sex, which might refer to “transgender, non-binary, or gender-nonconforming”^[11]. What need to mention is that, in our article, we only explore our linguistic gender stereotype from the separation of “female” and “male”.

1 Theoretical framework

As an emerging research direction, the study of gender differences in the second language is a large branch of the theory of individual differences. Scholars explore the gender differences from different aspects of the existing theory. Therefore, the theoretical framework of this paper will briefly outline some of the key subordinates and related principles or models of the theory of individual differences.

Individual’s ego or psychological attitude are suspected to cause varied reactions towards L2 speaking and learning. Researches began to inquiry some specific personalities that are more associated with success in L2. There are three most used personality trait

models. The first is Eysenck's model (1964), it is also called as PEN model because it contains three traits: Psychoticism, Extraversion and Neuroticism.^[12] Secondly, Myers and McCaulley (1985) put forward the Myers-Briggs Type Indicator model (MBTI), which divided the traits into two opposite sides: extraversion/introversion, feeling/thinking, perceiving/judging and intuiting/sensing.^[13] The third one is the five-factor model of personality (FFM or 'the Big Five'), and the five factors are emotional stability, extraversion, agreeableness, conscientiousness and openness to experience. Under the support of the three models and instruments, communicative competence was defined by Verhoeven and Vermeer (2002) as a crucial character to achieve L2 success and was connected to openness to experience.^[14]

Foreign language anxiety is another focus in the field of individual differences. There are two instruments are worth to noted, which are Foreign Language Classroom Anxiety Scale or FLCAS and the Input, Processing and Output Anxiety Scales or IPOAS. Several results from the measurements of FLCAS and IPOAS found that anxiety has a correlation between academic grades and self-evaluation. The study of anxiety spark discussion and study of Willingness to communicate (WTC). Communicative confidence of individual was defined as contributing to one's WTC.

Speaking of the learning-style side of individual difference study, what deserved to be mentioned is the synopsis-ectasis dimension. The model proposed by Ehrman and Leaver (2003) is regarded as the most important instrument. According to the Ortega (2006), "Synopsis refers to the preference to rely on the holistic, at-a-glance perception of information. Synoptic learners...are intuitive learners. 'Ectasis'...refers to the preference to rely on detail and system when processing new information. Ectenic learners...are methodic learners"^[15].

Beyond the cognitive learning style and attitudes towards L2 learning, some learning strategies are engaged in the process of second language learning. In this area, O'Malley and Chamot (1990) are study classified learning strategies into divisions: cognitive, metacognitive and social-affective strategies. This classification was developed into the Strategy Inventory for Language Learning (SILL) by Oxford (1990), which extended to six types: affective, social, metacognitive, cognitive, memory-related and compensatory strategies^[4].

2 The gender differences in second language proficiency

In this section, three parts are provided. The first part comprises the reviewing works of literature of the gender differences in the extent of different language abilities. Some scholars have conducted researches on the gender gap in diverse aspects of second language proficiency. One of the aspects is from the four essentially basic language skills: reading, speaking, listening and writing. And other researchers make the exploration from the angles of phonetic ability, grammar learning as well as lexical ability. The second part of this section will have consisted of the discussion of some factors that have a negative impact on the results of studies of gender differences in the area of language proficiency. In the end, some effecting factors of the researching results will be discussed, including the gender bias in terms of testing formats and evaluation staff.

To begin with, in terms of one of the four basic language skills, In Slik, Hout and Schepens (2015)'s study of gender gaps in the acquisition of Dutch as the second language, there are 27,119 immigrants from 88 countries with 49 mother tongues are investigated. According to the results, male get significantly higher grades in reading than their female counterparts.

However, the study brought by Payne and Lynn (2011) examined second language reading abilities and the results shown that in the L2 learning (Spanish), female has a remarkable advantage in second language reading comprehension. They inquired 73 native English speakers who learn Spanish as a second language. There are four control variates of ages, the quantity of class-taken, working memory capacity and reading comprehension in L1 (English).

Considering the number of the subjects, the absolute opposite conclusion of the reading ability in second language learning in the second study mentioned beyond could be due to insufficient samples. At the same time, the subjects from the first study mentioned beyond have diversified culture and language background, which could be assumed to be more persuasive.

The study of gender gaps in the acquisition of Dutch as the second language has also shown that female outperformed male in speaking and writing abilities in Dutch as L2. Whereas, no gender gap was found in listening proficiency. Moreover, a general educational effect of gender has emerged from the findings: in second language acquisition, female benefited more from higher education than male^[4].

On the other hand, Wucherer and Reiterer's study (2018) searched for the gender language gap from two domains: phonetic imitation ability and grammar learning ability. The second language proficiency (English) of 64 German native speakers as subjects are examined. In the results, female learners outperformed male learners in grammar learning, while an advantage of phonetic speech imitating was found in male learners. There is research also discovered that advantage in grammar tasks have appeared in female learners more than male learners. In Andreou et al.'s research, there are 452 participants (306 females and 146 males) involved in the study and all of their second languages are English. The study concluded that female accomplished better in syntax and semantics in their L2.^[6]

A noteworthy verbal superiority in the second language was found in female compared to the male: female spend much less time on their lexical task.^[8] In Trofimova's study, 1271 subjects from different backgrounds are divided into five groups of ages. The highlight of this research is that age could be an influencing factor in the inquiry of gender gaps. Gender differences are varied in line with the different levels of ages, from which gender factor had more influence on younger groups (especially 17-24 years old) but decaying in older groups.

There are some controversial factors affecting the results of language proficiency studies. Firstly, some believed that the testing format could influence by the gender bias during the process. For example, females are found that they perform better on open format tests but worse in multiple-choice format tests. Ryan and Demark (2002) put forward that comparing with their male counterparts, females are more likely to succeed in the tests of constructed response item rather than selected response test formats.^[16] Generally,

tests with an open format or constructed response format (e.g. writing an essay) were usually used in the evaluation of listening and writing, while the multiple-choice format or selected response item of tests (e.g. true or false) are frequently found in measuring speaking and reading. Then it could be inferred that the performance of females and males in language tests could probably reflect the true level thanks to the interference of the test forms.

However, consequences from other research cannot match the view of item formats. Engine and Ortaçtepe (2014) organized their study containing 303 students (140 females and 163 males) and they investigated the students' language from five experimental modalities: reading, writing, listening, grammar and vocabulary.^[17] The five sections are distributed into two different testing formats, which are selected response and constructed the response. according to the tests results, females in this study outperformed males in writing, grammar and vocabulary significantly, in where constructed-response questions are used in writing exam while grammar and vocabulary examination employing selected-response questions formats. Males scored higher in listening tests with multiple choices item formats. In this way, the results from this study are not in line with the claims argued that some specific types of testing items formats favoring each gender and causing damage to the fair conclusions.

Secondly, some unconscious gender bias could influent the results of language tests, especially some face-to-face modality of testing like speaking exams. The possibility is that male raters have an inclination of scoring higher for female testers or female raters preferring male test takers. This kind of tendency may cause the results to be inconsistent with the real situation. Therefore, in future research, it is necessary to guarantee the average gender distribution of experimental participants (including test takers and raters) and to emphasize the avoidance of this negative tendency.

3 Factors of gender differences via individual differences

This section provides a brief reviewing of some recent research outputs on gender differences in the individual differences, to present some

Above all, the influence of personality is one of the factors in L2 language-acquisition gender differences. In their 2018 article, Wucherer and Reiterer revealed that the trait of openness to experience (self-confident) significantly corresponds with MLAY III score (Modern Language Aptitude Test III), in which males performed better than females and indicated the superiority of phonetic imitation ability for males. The article then suggested that because of the characters of "extrovert, open to (new) experiences, proud and committed"^[7] (p.128) in the males' personalities, the males' advantage in speaking imitation abilities are prominent. Rather, female learners' personality of self-control, neurotic, conscientiousness could cause them less likely to act greatly in phonetic imitation. However, under the detecting personality traits by the big five, the "agreeable, conscientious self-controlled and neurotic"^[7] (p.128) characters in female learners are associative with their outperforming in the grammar learning than males.

Secondly, some gender differences have been spotted in learning style, which usually contains female learners are more interested in using auditory in second language learning, while the least likely adopt learning style is kinesthetic.^[18] However, the study brought also found that kinesthetic learning is preferred by males, but for male learners, the least preferred L2 learning style is tactile learning. Nevertheless, Shuib and Azizan, in their study in the same year (2015), pointed out that no significant gender differences have been found in second language learning styles.^[19]

In order to preliminarily compare the two different experimental results, here is a brief introduction of the basic situation of the two studies. In the study of Ramezani et al. (2015), 40 Iranian high school students (20 females and 20 males) are been investigated. Since the number of subjects in this study is namely sparse, the conclusion of this study might be premature. In contrast, the study of Shuib and Azizan's study (2015) has subjects of 211 Malaysian students (174 females and 37 males) who learn English as their second languages. Given the larger sample size, the results of Shuib and Azizan's experiment (2015) may be more persuasive comparing to the study of Ramezani, Dehgahi and Hashemi. However, in the Shuib and Azizan's study (2015), because there was such a large gap between the proportion of males and females in the experiment (17.5% are males, 82.5% are females), more studies are needed to confirm the results of the data from this research.

Furthermore, the collections of information are different in the two studies. In the study Ramezani, et al.(2015) used the method of a structured interview to collect information on the 40 interviewees' English as their second language. Based on three learning styles: auditory, kinesthetic and tactile, a set of five questions was asked. Unlike the Ramezani, Dehgahi and Hashemi, Shuib and Azizan's study (2015) gather their data of learning style from their participants by employing the Index of Learning Styles (ILS) questionnaire (Felder & Soloman, 1991) developed from Felder-Silverman Learning Style Model (FSLSM) (Felder & Silverman, 1988). The dimensions of learning styles are including four aspects: active/reflection, sensing/intuitive, visual/verbal, sequential/global. The results appeared a balance of distribution in all pairs of dimensions, from which the authors defined that no significant gap in preferences of learning styles has been found among female and male second language learners. The analysis of the study based on ILS is more authoritative than the other one because of the usage of the method. So that the conclusion indicated from the second study could be more valid.

Finally, there are some discussions about learning strategies in the researches of L2 gender differences. In a study of gender differences in the acquisition of Dutch, the authors pointed out that as the time of education increases, the advantage of females in verbal abilities is more obvious.^[4] The article then ruled that this increase in strengths might be owing to the learning strategies. The assumption was based on some previous research findings suggested that the females' frequency of using cognitive and meta-cognitive learning strategies are more than males.^[9]

Nevertheless, different opinions are proposed by some other scholars. Nhan and Lai (2013), in their study of gender comparison on the usage of second language learning strategies by Vietnamese students, argues that females prefer indirect learning strategies instead of direct strategies in the comparison of males. The article adept a model called Strategy Inventory for Language Learning (SILL) raised by Oxford (1990). At the same time, the authors divided the six types of Language learning strategies (LLS) into

the categories of direct and indirect strategies. Which is that, the direct category is consist of memory, compensation and cognitive strategies and affective, metacognitive and social strategies are included in the indirect classification. Under this category, it suggests that with the comparison to males, female have more favor in memory, compensation and cognitive strategies but not in affective, metacognitive and social strategies.

In the work of Nhan and Lai (2013), a slightly different frequency has been found in the use of language learning strategies between different gender. The males use language learning strategies more frequently than females. However, because the participants of the study are 100 Vietnamese students (50 males and 50 females) learning English as L2, it is indicated that the quantity of the participants is not sufficient to distinguish the gender difference in the frequency. Plus, In the case of such a sample size, such a small difference (females: $M=3.1$; males: $M=3.2$) is not enough to draw the difference in the frequency of use of learning strategies between men and women. As well, the conclusion of this article that the females' preference in indirect learning strategies and males' favoring in direct strategies in L2 might require further prove.

4 Implication and conclusion

There is a long-standing idea that females are more adept at learning second language than males. To enable us to have a more rational and clearing understanding of this idea, this paper has stressed the importance of exploring the gender differences in the second language learning by reviewing some current researches. Males was found have advantages in reading and pronunciation/phonetic imitation by some studies, while female learners shown better performance in speaking, writing, grammer learning and lexical tasks. According to the findings, both males and females have distinct superiorities in second language performances. As for individual differences, variety in personality between males and females may lead to different advantages in language learning ability. Besides, in terms of learning styles and strategies, no explicitly significant preferences in L2 learning was defined by linguistic communities. Therefore, it is untenable to think that females are more excelling in second language learning than males. In conclusion, the saying that females are better language learners in L2 could be identified as a stereotype.

Some limitations have been aware from our research review. Firstly, in order to draw more defendable proving for the conclusion, some discussions of genetic factors in the second language learning is needed. The conclusion of this paper would be supported by containing some researches about gender differences in language learning nature and some related topics including the phycological-linguistic researches, cognitive and language aptitude. Secondly, it has to admit that gender differences in motivation is a widely studied field, from which indicates its significance. However, due to the space limitation of this paper, discussion on this topic is not included in the scope of this article.

In addition, some possible applications and implications for second language teaching instruction could be raised from our paper. In the first place, the stereotype saying females have more advantages in second language learning could cause negative effect on students' language learning attitude and motivations. Meaningfully, our work highlighted the elimination of a linguistic stereotype and has gone some way towards enhancing our understanding of gender differences in second language learning. For second language teachers, casting light on this myth of language learning could help no matter female or male learners establish a positive and healthy view of learning. Which is that, Language learning ability and preference have little to do with gender. Secondly, teachers should pay attention to the individual differences of students, rather than considering the language ability of students from a gender perspective. some differentiation of students could be introduced towards individual differences. For example, for students with different personalities, second language teachers could support them by using targeted teaching methods and strategies. Other elements include the willingness to learn, learning styles and learning strategies.

In the end, for the problem of gender stereotype in the field of second language learning and teaching, we recommend that future research should be undertaken in the following areas: a) For the social-culture reason behind the formation of the gender stereotype, as well as the impact of the stereotype on second language teaching and learning, more research analysis and summary are needed. b) At present, the number of empirical experiments for the comparison of individual differences between the two gender is too small to establish a final conclusion. The results should be validated by a larger sample size. c) current study of gender differences on learning strategies/styles only focus on the frequency of using different types of them, which was not enough to generate a comprehensive understanding of the topic. Therefore, we call for more connection established between the learning strategies/styles and the consequent effect on different gender.

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