



Bilingualism and Personality Shifts: Different Personality Traits in Persian- English Bilinguals Shifting Between Two Languages

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Abstract

The purpose of this descriptive-internet survey was to examine whether Persian- English bilinguals express different personality traits when they switch language while responding to Big Five Inventory (BFI) as a measure of personality once in Persian and once in English. It has been proposed that language activates cultural specific frames and bilinguals represent different personality patterns in each language. In this research 60 Persian- English sequential bilinguals living in the United States were selected by volunteer sampling method. They were asked to respond to an online version of BFI in both languages. The result demonstrated that, bilinguals had higher levels of Agreeableness, Extraversion, and Openness in English than in Persian where as their scores for Neuroticism were lower in English. These findings support the effect of language on personality and demonstrate the function of language as a strong cue for Cultural Frame Switching (CFS) since language was able to activate CFS for Agreeableness, Extraversion, Openness, and Neuroticism.

Keywords: Biculturalism, bilingualism, cultural frame switching, language, personality

Introduction

“Learning a language is not just about learning words and grammar, but also about taking on a new role and knowing how to behave according to how that role is defined” (Ogulnick, 2000).

Language is not only a means of communication it also has a big impact on the way we think, decide, interact, and perceive the world around us. Language plays an essential role in different aspects of human's life, including the way we express our thoughts, feelings and emotions and how represent different personality patterns. The hypothesis of linguistic relativity presented by Sapir and Whorf make a connection between language and personality which suggests our language has a big impact on our thoughts and our world view (Lucy, 1997). Another theory which confirms this view stated by Vygotsky's sociocultural which proposes our thoughts are dependent on our language (Krajnović & Juraga, 2008). According to Wilson (2008), there might be different connections between different languages and

personality which means different languages shape different personalities. She reanalyzing the data of a research conducted by Dewaele and Pavlenko's (2001-2003) and discovered when introvert's individuals are performing in a foreign language they experience a different feeling. The effect of language on personality is more objective in bilinguals. There are several studies suggest that bilinguals represent different personalities when they speak different languages (Ramirez-Esparza et al, 2006).

Pavlenko (2006) conducted a research by asking questions from 1039 bilinguals such as, “Do you feel like a different person sometimes when you use your different languages”? She also asked them how these perceptions feel when they see their different language selves. The result of interviews demonstrated 65% per cent of bilinguals confirmed that speaking a second language or changing the language change their personality as well. Hull (1996), studied personality changes in Korean, Chinese, and Mexican-Americans immigrants by using California Psychological Inventory (CPI) once in English and once in bilinguals' native languages to measure their different aspects of personalities. As a result, participants had higher scores in the Good Impression in their native

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language than in English while they had higher scores in intellectual efficiency in English which illustrates cross-language differences in bilinguals' personality. In another research conducted by Kučera et al. (2020), they found potential links between linguistic characteristics and particular personality traits. The result showed a significant correlation between Social Skills Index (SSI test), emotional skills and quantity of verbs. The relation between personality and linguistic cues was confirmed regarding the certain songs that people are interested to listen. This could be explained due to specific linguistics cues in the lyrics that may meet human's personality needs or could be congruous with their personality (Qiu et al, 2019).

There are also some social and psychological norms, standards and values that are embedded in each language and are rooted in cultural factors associated with that language which means language and culture are not considered separately. Language is connected to cultural norms, attitudes and scripts significantly (Chen & Bond, 2010). It could be an explanation for personality changes in bilinguals shifting between two languages since they go through cultural frame switching (CFS) spontaneously. In other words, language not only primes its related-culture but also attitudes, values and behaviors attached to that culture. When people start learning a new language they are also influenced by the associated culture with that language since language is able to prime bilingual's responses to a questionnaire (Bond & Yang, 1982; Ralston et al. 1995; Yang & Bond, 1980). Ramirez-Esparza et al (2006) investigated cultural frame switching (CFS) hypothesis in personality domain to see how Spanish-English bilinguals represent different personalities switching to second language and whether these changes are consistent with cross-cultural differences in personality. For this purpose, they applied 4 experiments to predict how cultural differences lead to different personality patterns. In the first experiment, they used an online version of the Big Five Inventory (BFI) in English and Spanish in U.S (English speaking) and Mexican (Spanish speaking) participants. The results revealed that, bilinguals had higher levels of Openness, Extraversion, Agreeableness, and Conscientiousness but lower levels of Neuroticism in English than Spanish. In second experiment, they used a paper version of the BFI among Austin, Texas bilinguals once in English and once in Spanish at a laboratory. In experiment 3 they used BFI in U.S and Mexican bilinguals over the phone in two different occasions and in the last experiment they asked San Francisco, CA bilinguals to response BFI and translate some paragraphs. As a result, bilinguals had higher scores in

Conscientiousness, Extraversion, and Agreeableness in English than Spanish which suggests language activates CFS for these personality traits. Ervin (1964) studied 64 French-English bilinguals responded to English and French version of Thematic Apperception Test (TAT). She asked bilinguals to tell their stories once in English and once in French for all pictures. Accordingly, bilinguals demonstrated more achievement in English than French which supports the effect of CFS due to the fact that, social role is an important part of French culture than American culture. Bilinguals also expressed more verbal aggression and autonomy themes in French stories than English stories since French educational system is focused on oral argument. She also explained the difference in autonomy themes based on the French tendency to withdraw after lack of agreement.

The question that arises here is: what is the main reason bilinguals feel different in different languages? Based on distinction between bilingualism and biculturalism it should be taken into account whether these personality changes are concerned with the effect of translation or should be considered as a result of cultural frame switching? In other words, are these changes based on switching between different languages or are caused by switching between different cultural frames? In this regard, the present research conducted to investigate the effect of language on personality in Persian-English bilinguals since there was no study to examine this phenomenon in Persian-English bilinguals. We examined whether Persian-English bilinguals represent different personality traits shifting between two languages by responding to BFI questionnaire once in Persian and once in English. In second place, that was important whether these differences in bilinguals' personality are consistent with each language-culture. In this research, CFS was expected and we predicted the language of questionnaire is able to prime culture-specific attitudes, values, and standards in bilinguals so that these attitudes, values, and standards would affect the bilinguals' responses in two different languages (Hong et al., 2000).

Method

This research was a descriptive-internet survey.

Participants

The participants were 60 Persian-English (n=60) bilinguals living in the United States selected by volunteer sampling method. (61.6% men and 38.4% women). They were sequential bilinguals who started learning English as a second language in the first grade

of primary school in Iran and moved to the United States later. The method used in selecting samples was volunteer sampling method which is one of the main types of non-probability sampling methods. Participants mean age was 32.17 (men=32.75 and woman= 31.6) which ranged from 22 to 43 years. Participants self-reported education was 15% doctoral degree, 45% master degree, 36.6% bachelor degree, and 3.3% some college.

Instruments

The Big Five Inventory (BFI): The English and Persian versions of Big Five Inventory BFI were adopted as personality measure due to the efficiency and having appropriate psychometric properties (John, 1990; John & Srivastava, 1999). BFI is a self-report inventory designed that measures individuals on the big five factors of personality and each factor is divided into personality facets (Goldberg, 1993). Both English and Persian versions have 44 items with a 5-point Likert scale ranging from disagree strongly to agree strongly. The questionnaire measures five personality dimensions including: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness (BFI; John, 1990; John & Srivastava, 1999). According to an Iranian study, Cronbach's alpha was measured for Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. As a result, $\alpha = .64, .73, .70, .72, .70$, respectively and $\alpha = .80$ for the whole test (Moshirian Farahi et al., 2018). John and Srivastava (1999) also reported the Cronbach's alpha coefficient for Extraversion, Agreeableness, Conscientiousness, Neuroticism, and

Openness and it was .70, .64, .77, .83, and .81, respectively. In our study, the Cronbach's alpha coefficient of instrument for Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness was .65, .71, .73, .71, and .78, respectively.

Procedure

Participants were asked to respond to BFI once in Persian and once in English within an interval of 1 to 2 weeks by means of www.Googleforms.com which contained the BFI in both languages. Therefore, two web pages were used, one for English version and one for Persian version. They both had the same appearance, items, instructions and, questions. There was also an introduction at the start of two versions which explained the aim of study and confidentiality was ensured. Participants received the link of Persian version of BFI and were asked to respond it initiatively and then after 1 to 2 weeks the link of English version was sent. Participants also reported demographic information including age, gender, and education. At the end, they were thanked and their responses were saved to the data base.

Findings

Table 1 shows the means and standard deviations for each of the five factors. The result showed that, bilinguals had higher scores in Extroversion, Agreeableness, and Openness and lower scores in Neuroticism in English than Persian while there were no significant differences in Conscientiousness scores in Persian and English ($P < 0.05$).

Table 1.
Big Five Personality Scores of Persian – English Bilinguals

Factor	Lang	Mean	Min	Max	Std. Deviation
Openness	Persian	34.91	25.00	42.00	4.58
	English	38.35	30.00	48.00	3.98
Conscientiousness	Persian	32.90	27.00	43.00	3.45
	English	31.96	23.00	39.00	3.06
Extroversion	Persian	27.83	19.00	33.00	2.90
	English	29.76	23.00	36.00	2.81
Agreeableness	Persian	30.21	24.00	38.00	2.97
	English	32.26	24.00	40.00	3.41
Neuroticism	Persian	26.68	17.00	36.00	3.40
	English	23.61	16.00	31.00	3.48

For many parametric tests, the assumption of normality needs to be checked. For this purpose, a Kolmogorov-Smirnov normality test was applied as

the first consideration. Table 2 presents the results of Kolmogorov-Smirnov test to check the normality of

the data. Test Kolmogorov-Smirnov findings indicate

that the data are not normal.

Table 2.

Kolmogorov-Smirnov Test to Check the Normality of Data

		Openness	Conscientiousness	Extroversion	Agreeableness	Neuroticism
N		120	120	120	120	120
Normal Parameters^{a,b}	Mean	36.6333	32.4333	28.8000	31.2417	25.1500
	Std. Deviation	4.61261	3.28923	3.00867	3.35315	3.76103
Most Extreme Differences	Absolute	.083	.134	.097	.125	.091
	Positive	.083	.134	.074	.125	.091
	Negative	-.076	-.081	-.097	-.106	-.088
Test Statistic		.083	.134	.097	.125	.091
Asymp. Sig. (2-tailed)		.043 ^c	.000 ^c	.008 ^c	.000 ^c	.016 ^c

As shown in the Table 2, for all variables p-values are less than 0.05 ($P < 0.05$) which indicates distribution of data is not normal but due to a large sample size the analysis of variance (ANOVA) was

applied to test each of the BFI factors (Delavar, 2019). Table 3 presents the comparison of two groups by using the analysis of variance (ANOVA) to test each of the BFI factors.

Table 3.

ANOVA for Comparing Two Groups ($P < 0.05$)

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	Openness	353.633	1	353.633	19.157	.000
	Conscientiousness	26.133	1	26.133	2.445	.121
	Extroversion	112.133	1	112.133	13.711	.000
	Agreeableness	126.075	1	126.075	12.275	.001
	Neuroticism	282.133	1	282.133	23.760	.000
Error	Openness	2178.233	118	18.460		
	Conscientiousness	1261.333	118	10.689		
	Extroversion	965.067	118	8.179		
	Agreeableness	1211.917	118	10.270		
	Neuroticism	1401.167	118	11.874		
Total	Openness	163572.000	120			
	Conscientiousness	127518.000	120			
	Extroversion	100610.000	120			
	Agreeableness	118463.000	120			
	Neuroticism	77586.000	120			
Corrected Total	Openness	2531.867	119			
	Conscientiousness	1287.467	119			
	Extroversion	1077.200	119			
	Agreeableness	1337.992	119			
	Neuroticism	1683.300	119			

The data in Table 3 shows that there is a significant difference between bilinguals' responses in Persian and English for Openness, Extroversion, Agreeableness, and Neuroticism while there is no significant difference for Conscientiousness ($P < 0.05$).

In order to improve the accuracy of results a Mann-Whitney U test which is a non-parametric equivalence of (ANOVA) was applied. Table 4 presents the comparison of two groups by using the Mann-Whitney U test.

Table 4.*U Mann-Whitney for Comparing Two Groups (P<0.05)*

Null hypothesis	Sig.	Decision
The distribution of Openness is the same across categories of Group	0.00	Reject the null hypothesis.
The distribution of Conscientiousness is the same across categories of Group	0.09	Retain the null hypothesis.
The distribution of Extroversion is the same across categories of Group	0.00	Reject the null hypothesis.
The distribution of Agreeableness is the same across categories of Group	0.00	Reject the null hypothesis.
The distribution of Neuroticism is the same across categories of Group	0.00	Reject the null hypothesis.

The results of Mann-Whitney U analysis confirmed the findings of the analysis of variance (ANOVA) which indicate Persian-English bilinguals represent different personality traits in two languages since their scores for Openness, Extroversion, and Agreeableness are higher significantly in English than Persian while they were lower in Neuroticism in English and there was no significant difference for Conscientiousness ($P<0.05$).

Discussion and Conclusion

The main purpose of this research was to investigate whether Persian-English bilinguals represent different personality traits in two languages. In the second place, it was important to see whether these personality changes are associated with each language-culture. The results suggest that Persian – English bilinguals are more Extraverted, Agreeable, and Open but less Neurotic by responding to BFI questionnaire in English than Persian. In other words, language activated CFS for Extraversion, Agreeableness, Openness, and Neuroticism while there are remarkable differences in values, attitudes, norms and standards of Persian-speaking culture in compare with English-speaking culture. Language is able to activate cultural specific frames due to the fact that, all cultures have their own specific frames which are learned along with the language of that culture (Foucault, 1972). Otherwise said, two words in two different languages are likely to have different cultural specific frames while it might seem they have the same meaning (Kroll & De Groot, 1997) which means when bilinguals learn their second language they also learn prototypic perceptions which are relevant to native speakers of that language. Our findings indicate the notion that, Persian-English bilinguals perceived themselves closer to English native speaker in English version of BFI whereas they perceived themselves closer to Iranian group in Persian version. This phenomenon is similar to cross cultural studies which suggest people in Western cultures are more likely to have higher levels in Extraversion and Openness but lower in Neuroticism (Chen, Bond, Chan, Tang, &

Buchtel, 2009). According to numerous studies Iranian culture is considered a collectivistic culture (e.g., Ghorbani, Watson, Krauss, Bing, & Davison, 2004; Joshanloo & Ghaedi, 2009; Hofstede, 2010) while English language is mostly related to individualistic cultures.

When comparing our results to previous studies, this finding that bilinguals' scores in Agreeableness are lower in Persian than English seems to be inconsistent with cultural concepts in collectivism since this trait is more relevant to collectivist cultures. People from collectivist cultures are more likely to be group oriented or give priority to interpersonal relationships and in-groups goals instead of their own goals (Mills & Clark 1982) which contribute to higher levels of Agreeableness. On the other hands, people from individualistic cultures are more likely to focus on independents selves and tend to concentrate on their own goals, attitudes, abilities, and attributes which result in lower levels of Agreeableness. Namely, collectivistic personalities tend to be agreeable whereas individualistic personalities tend to be dominant (Moskowitz et al., 1994). Despite the fact that Agreeableness is mostly related to collectivist cultures which emphasize interpersonal harmony, the independent selves are also able to adjust themselves with others and regulate their behavior when interact with other people which drive Agreeableness scores higher (Markus & Kitayama, 1991). According to Markus and Kitayama (1991) independent self is the main feature of individualist cultures that is focused on uniqueness, assertiveness, being expressive and all these characteristics are found in Extraversion. Independent self is also identified with creativity, adventure, curiosity, and variety of experience which are necessity parts of Openness.

The result of this study is consistent with the findings of Ramirez-Esparza et al. (2006), that examined CFS in Spanish-English bilinguals to find out whether bilinguals represent different personality traits in two different languages. The results showed that, bilinguals had higher scores in Extraversion, Agreeableness, and Conscientiousness but lower scores in Neuroticism in English than Spanish that

confirm the function of language as a cue for CFS effect. A similar pattern was obtained in Chen and Bond (2010) who measured personality by applying BFI in Chinese-English bilinguals. The result demonstrated Chinese-English bilinguals are more extraverted and Open but less Neurotic in English than Chinese. In English bilinguals displayed characteristics which are more consistent with typical personality patterns in native English speakers including Extraversion and Openness whereas, in Chinese with higher levels of Neuroticism they were closer to typical Chinese native speakers. A similar conclusion was reached by McCrae (2004) who administered NEO personality inventory to compare personality dimensions of European cultures with Asian and African cultures. As a conclusion, European had higher levels of Extraversion and Openness than Asian and African. Our result is also in accordance with findings reported by Ożańska-Ponikwia (2013) who investigated emotion perception and expression in Polish-English bilinguals by applying BFI and the Emotional Intelligence (EI) Questionnaires. She studied emotion perception and expression in bilinguals' first and second language to find out whether they were associated with bilingual's different personality traits. The result showed the higher levels of Extraversion and Openness but lower levels of Neuroticism in English than Polish. She suggested higher levels of Extraversion and Openness are connected to feeling different in second language when bilinguals are switching between two languages while Neuroticism is negatively correlated with difficulties in emotional expression in second language. It should be emphasized that, the results of different studies confirm two important phenomenon: Firstly, the function of language as a strong cue for CFS effect which means bilinguals shift values, attitudes and attributions when switching from one language to another in a manner associated with the culture of that language. Therefore, when bilinguals respond to a questionnaire in native language they represent values, attitudes, norms and standards which are associated with that language while their responses to the same questionnaire in second language display values, attitudes, norms and standards of that language.

Secondly, the cross-cultural differences in bilinguals' personality when they shift between languages refers to differences between cultures which affect bilinguals' personality in accordance with each language-culture. We also found that, the cross-cultural personality differences in Persian-English bilinguals were consistent with personality traits in collectivist and individualistic cultures so that

bilingual's responses in Persian were mostly closer to collectivist culture-specific attributions while in English they were closer to cultural prototypes and concepts in individualism.

Our study has potential limitations. The first is the small sample size that was a sample of convenience but not representative. Therefore, the results cannot represent the global population. The sample size plays also an important role in data analysis since it can limit possible statistical methods or even brings some challenges to statistical analysis hence it would be recommended for future research to consider a larger sample.

Secondly, in this study all participants were sequential bilinguals who started learning English as a second language in the first grade of primary school in Iran and then moved to the United States later. Therefore, there would be different results by conducting similar research on simultaneous bilinguals who learnt their two languages at the same time.

Thirdly, the participants who recruited for this study shared some mutual characteristics since they were all Iranian moved to the United States and decided to take part in our on-line survey which require a certain level of extraversion and openness to experience. This could be considered as a possible explanation for different studies with similar results.

Another limitation is participant's different levels of English knowledge as they were sequential bilinguals and we did not take any English test to examine if participants have the same level of English knowledge. This can generate different perception of BFI and affects bilinguals' responses consequently. Therefore, it should be taken into account to measure the level of language knowledge to avoid potential biases regarding bilinguals' different perceptions of questionnaires.

The age of bilinguals is another factor that affects their personality remarkably since the process of biculturalism develops over the experience of given culture values, attitudes, and beliefs when people meet the norms and standards of a new culture. Moreover, the point that whether different community of bilinguals' experience different types of frame switching should be considered in future investigations.

The findings of this research could be understood as the effect of cross-language differences in personality dimensions which confirm the effect of CFS in bilingual's personality. The purpose of study was to examine whether Persian-English bilinguals change their personality when they switch between two languages by responding to BFI in Persian and English. In this study, bilinguals expressed different

personality traits in two languages which supports the effect of language on personality.

The current study also provides evidence for CFS effect which means when bilinguals are switching between languages it is not only switching between two languages but also switching between two cultures. In this way, language is able to activate CFS as a strong cue which means differences in bilinguals' personality should not be considered as an effect of translation or switching between two languages but as an effect of CFS which happens due to the fact that language primes the cultural values, attitudes, norms, and standards associated with that language which affect bilinguals' responses to personality questionnaires. To put it another way, bilinguals' responses to a personality questionnaire in their native language represent the norms and values associated with that native language whereas bilinguals' responses to a personality questionnaire in the second language reflect values and attitudes associated with that second language.

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